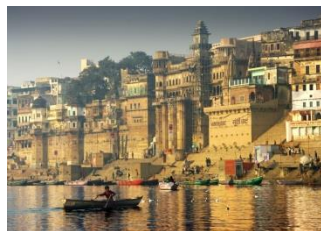


Enhancing India's readiness to access and deliver international climate finance



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Table of contents

Acknowledgements.....	v
Executive summary.....	vi
Abbreviations	xviii
1 Introduction	1
1.1 Context	1
1.2 Purpose of the report	1
1.3 Approach	2
1.4 Scope of the report.....	2
1.5 Structure of the report	3
2 The landscape of international climate finance	4
2.1 The complex landscape of international climate finance.....	4
2.2 Important multilateral sources of climate finance	5
2.3 New sources of international climate finance.....	8
2.4 Expected trends on the future landscape of climate finance (2014 – 2020)	10
3 India's climate finance track record.....	11
3.1 Institutional governance of climate change in India	11
3.2 India's experience accessing international climate finance.....	12
3.3 Comparison with peer countries	16
3.4 India's climate finance performance: High-level trends.....	17
4 Development of a climate finance Readiness Framework	19
4.1 What is climate finance readiness?	19
4.2 Readiness Framework overview	20
4.3 The climate finance Readiness Framework.....	20
4.4 Evaluation criteria for the Readiness Framework	22
5 Assessment of India's climate finance readiness.....	27
5.1 Methodology	27
5.2 India's climate finance readiness scorecard	28
5.3 Political & Strategic functions	29
5.4 Financial function	32
5.5 MRV function	35
5.6 Readiness Gaps	36
6 Lessons from peer developing countries.....	38
6.1 Lessons & options for India to address its readiness gaps	38
7 Recommendations to improve India's climate finance readiness	47
7.1 Recommendations	47
7.2 The future climate finance delivery structure in India	55
References.....	57
Annex I – Selection criteria for detailed analysis of multilateral funds	61
Annex II – List of multilateral and bilateral funds analysed for the report	62
Annex III – Bilateral CF received by India, 2012	63

Annex IV – GEF Profile.....	64
Annex V – CTF Profile.....	67
Annex VI – Adaptation Fund Profile.....	70
Annex VII – German bilateral assistance	72
Annex VIII – Detailed responses for Tier 2 CF readiness indicators	75

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Executive summary

Context

In 2008 India released its National Action Plan on Climate Change (NAPCC), which outlines eight 'National Missions' that will help the country to achieve development objectives while also addressing the threat posed by climate change. The Expert Group on Low Carbon Strategies has stated in its Final Report that aggressive action on mitigation cannot be achieved without substantial international financial support.¹ India already receives a substantial volume of international public climate finance compared to other developing countries. However, there is consensus among government, civil society, and the private sector that India could do more to attract international climate finance – from both public and private sources.

This Policy Summary provides guidance on how India can attract further funding for the implementation of the NAPCC, through **an analysis of India's climate finance readiness**. Climate finance readiness has been defined by the UNDP as:

"The capacities of countries to plan for, access, deliver, and monitor and report on climate finance, both international and domestic, in ways that are catalytic and fully integrated with national development priorities and achievement of the Millennium Development Goals."²

Five reasons why India should improve its climate finance readiness

1. **India faces a multi-billion dollar funding gap to implement the NAPCC.** The Economic Survey of India estimates that it will cost \$38 billion to meet the climate goals of the NAPCC. Existing climate finance volumes are insufficient to meet this goal, and will need to be supplemented with budget revenue, international climate finance and private investment.
2. **Green Climate Fund is expected to be one of a range of funding channels to deliver on the long-term climate finance goal to mobilise US\$100 billion per annum in climate finance by 2020 from a range of sources, both public and private.** In May 2014, the GCF Board agreed on the final decisions to operationalise the Fund, and it is expected that the first \$10 billion will be available by November 2014 to begin project funding. Countries with strong capacity to access and deliver climate finance will be best placed to access this funding.
3. **Readiness for climate finance goes beyond accessing the Green Climate Fund (GCF).** UNDP estimates that there are more than 50 international public funds, 6,000 private equity funds, and 45 carbon markets providing climate finance. Each of these public, private, bilateral and multilateral sources provides India with new opportunities for climate-related investment³.
4. **Readiness activities can support India to use scarce public funds to attract private climate finance.** The International Energy Agency has estimated that by 2020, 40% of global climate investment will come from private households, 40% from businesses and 20% from government⁴. The ability of countries to leverage private climate finance will therefore become instrumental in delivering major national policies such as the NAPCC.
5. **Greater climate finance readiness can improve national ownership of climate-related**

¹ Planning Commission of India (2014). Final Report of the Expert Group on Low Carbon Strategies for Inclusive Growth.

² UNDP (2012) Readiness for Transformative Climate Finance

³ UNDP (2011) Blending Climate Finance Through National Climate Funds

⁴ Catalyzing Climate Finance: A Guidebook on Policy and Financing Options to Support Green, Low-Emission and Climate-Resilient Development.

strategies and projects. With greater institutional capacity, more countries are adopting the role of fund manager and implementing agencies for climate finance (which traditionally were done by multilateral and bilateral actors). This, in turn, is providing countries with ownership over the implementation of their own climate change strategies and policies.

Assessing climate finance readiness

One of the main goals of this summary report is to understand how countries can improve their readiness to access and deliver climate finance. But how can a country's 'readiness' be evaluated? As a first step, the project team has developed a climate finance Readiness Framework. The Readiness Framework is a diagnostic tool that can be used to analyse a country's climate finance readiness. It provides an overview of the key elements of a country's national response to climate change – focusing on the functions, institutions, and competencies needed to effectively respond to the challenges posed by climate change. Using this Framework as a reference point, analysts can assess the degree to which the key readiness functions – political, strategic, financial, and measurement, reporting and verification (MRV) – have been implemented in a country. They can also assess the degree to which a country's institutions have developed the core readiness competencies necessary to plan for, access, deliver, and monitor and report on climate finance. Together this analysis can provide a snapshot on a country's overall climate finance readiness.

The climate finance Readiness Framework is a combination of key functions and the competencies required to deliver these functions by key agents and actors.

Readiness functions	Readiness actors	Readiness competencies
Political & Strategic – Design national policies, mainstream climate in development plans, provide policy guidance, allocate resources, overall coordination	Executive/legislative branch of Government, national committees on climate change, sectoral Ministries & Departments, Planning Agencies.	
Financial – Coordinate access, manage funds, develop new instruments, deliver finance	Development Finance Institutions, National Implementing Agencies, Ministry of Finance, etc.	
MRV – track and report, build capacity for M&E of programmes	Ministry of Finance, executing agency, fund managers, project partners, etc.	

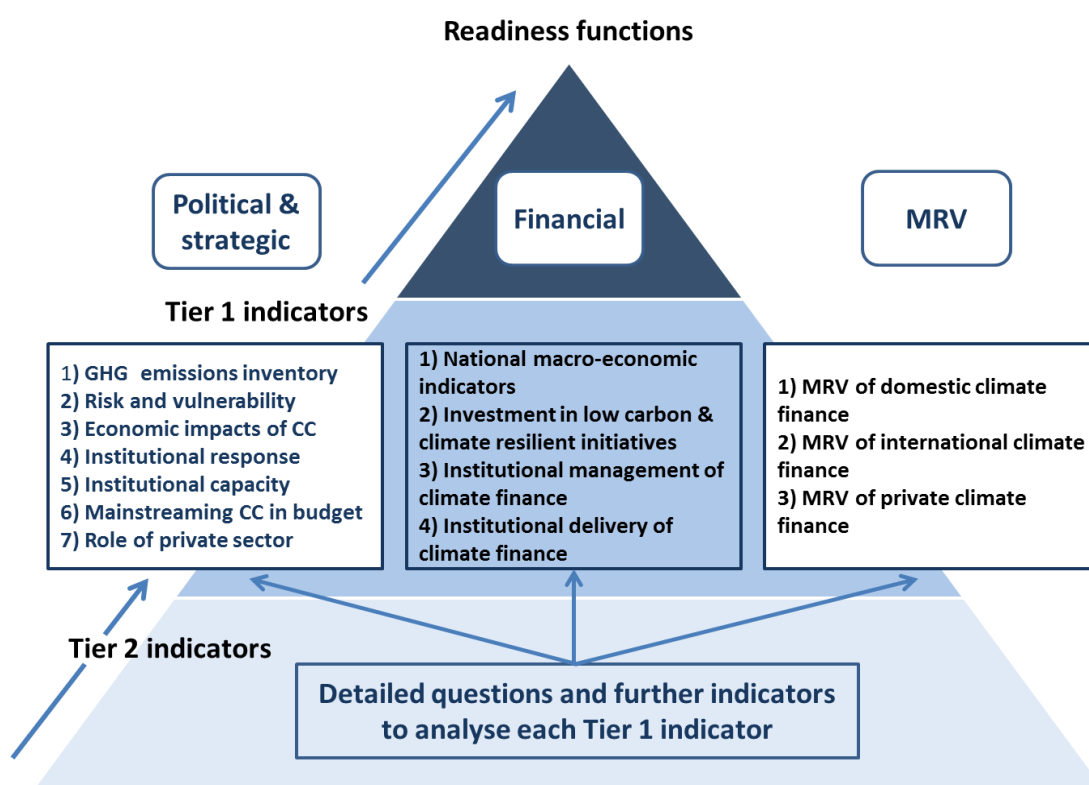
Principals: *Relative* to national circumstances, *Responsive* to country needs, *Reasonable* in identifying priority responses.

Source: Modified from Nakhooda, S., & Watson, C. (2013) and The Nature Conservancy (2012)

The Readiness Framework builds on a number of frameworks that have been developed in recent years – most notably the work of UNDP, Overseas Development Institute and The Nature Conservancy – borrowing the strongest elements of each and amalgamating them into a cohesive whole. Importantly, it also adds the next step that has been missing in readiness analysis – the evaluation criteria used to analyse functional and institutional readiness in a specific country. Working with experts who designed the GIZ Clif Reflect tool, the study team developed a series of headline

indicators for each of the Framework's readiness functions. Each of these headline indicators are backed by a detailed list of Tier 2 indicators, which take the form of questions that can be used to assess a country's performance in that category. The questions have been designed to highlight the extent to which the key readiness competencies – planning, management, and implementation – are present in a country's main agencies and institutions. These questions can be applied by researchers and analysts (through stakeholder consultations, expert interviews, literature reviews, etc.) to identify the strengths and weaknesses of a country's readiness to access and deliver climate finance for each of the main readiness functions.

A series of Tier 1 and Tier 2 indicators were developed to analyse national climate finance readiness under each of the main readiness functions.⁵



India's climate finance readiness performance

Over the past decade, India has successfully accessed climate finance from a number of sources – most notably the Clean Technology Fund, the Global Environmental Facility, bilateral donors like Germany and Japan, and private sector finance channelled through the Clean Development Mechanism (CDM). Yet as the GCF prepares to open its doors for funding proposals and as the private sector becomes increasingly engaged in investing in climate-related activities, how ready is India to access and deliver these funds?

This study analysed India's climate finance readiness, based on the application of the Readiness Framework to the Indian context. It is clear from this analysis that India has taken important steps in recent years to improve its national response to climate change. For example, there is high-level political commitment to the National Action Plan on Climate Change from the Prime Minister's Office (PMO). However there is still no coherent national financing strategy to raise the necessary finance

⁵ A full list of the Tier 2 indicators can be found in the main report

(from the national budget, private investors, or international donors), and use this funding to deliver priority actions under the NAPCC's eight National Missions and the state action plans on climate change (SAPCC). As such, climate finance in India has been delivered unevenly across sectors, themes, and regions – which has affected the overall effectiveness of the climate change response in the country.

Headline messages on India's readiness performance:

- Overall, India's performance on the political and strategic readiness functions is relatively stronger than for the financial and MRV functions.
- There is a high-level political commitment to the NAPCC in India, although the implementation of the NAPCC has been slow, due to a lack of coordination and regular communication.
- The NAPCC is not backed by a coherent national climate finance strategy, which means there is limited coordination in accessing climate finance and delivering it to priority interventions.
- There has been limited engagement with the private sector to develop funding mechanisms or regulatory policies that could see greater private investment in climate-related activities in India.
- India has experience in accessing, managing and delivering finance for renewable energy – mostly wind and solar – and to some extent for energy efficiency.
- Development finance institutions (DFIs) have experience delivering climate finance, but they face capacity constraints to scale-up existing programmes and broaden their sectoral and geographic coverage.
- DFIs have limited experience to blend finance from different sources and use innovative financing instruments to target this finance to priority sectors, themes, and regions.
- There are no systematic MRV systems to measure, track and report the quantity of climate finance being delivered in India, or the impact of finance on mitigation and adaptation actions.

Methodology:

The first step in analysing India's climate finance readiness consisted of a series of consultations with experts from government, public sector agencies, civil society, donors, the private sector, research institutions, think tanks, etc. operating in India and internationally. These one-on-one consultations were guided by the Readiness Framework's Tier 2 indicators, with the project team asking questions and probing experts on issues relevant to their particular field of expertise. The answers from these interviews were then processed to generate key findings for each Tier 1 indicator of the Readiness Framework. These findings have been aggregated below, to highlight the strengths, challenges and weaknesses of each of the main readiness functions in India.

Findings: India's readiness performance, by readiness function

Political & Strategic Functions

STRENGTHS

- India has appropriate systems in place to estimate GHG emissions.
- Climate change awareness has improved in India; National plans, such as the 12th FYP, have given attention to the impacts of climate change.
- There is strong knowledge of international climate finance opportunities from traditional sources.

CHALLENGES	<ul style="list-style-type: none"> • Key vulnerabilities have been identified but the link between environmental damage and socio-economic impact needs to be made clearer. • The Government of India has provided regulatory mechanisms and economic incentives (e.g. PAT, FITs, RECS⁶) for engaging the private sector, but actual deployment of programmes has been slow due to enforcement and early stage implementation issues.
WEAKNESSES	<ul style="list-style-type: none"> • Climate change planning and financing at the State level is at a very early stage of development. It is difficult to mainstream climate due to limited capacity and coordination within ministries. • Investment requirements have been assessed for major climate change programmes though the quality of the assessment can be improved. Furthermore, a full scale costs-benefit analysis between business as usual (BAU) and climate change plans has not been undertaken. • Government initiatives to engage with the private sector on climate finance have been limited. • There is a limited understanding of climate risk in private sector investments.
Financial Function	
STRENGTHS	<ul style="list-style-type: none"> • Indian institutions have clear structures in place to access and manage international climate finance. Bi-lateral and multilateral access is very streamlined and consultative. • There is clear alignment of donor plans and GOI priorities and targets as priority areas for funding are jointly decided by Department of Economic Affairs (DEA) and line ministries.
CHALLENGES	<ul style="list-style-type: none"> • There has been less investment in forms of renewable energy beyond wind and solar, as well as in energy efficiency and sustainable transport. • DFIs (e.g. SIDBI, NABARD) have experience accessing climate finance, but they face challenges in scaling-up existing programmes and broadening their sectoral and geographic coverage. • Efforts to identify bankable projects have been initiated, but significant scale-up of capacity and removal of barriers are still required to create a strong pipeline of investible projects; • DFIs have some capacity to meet international accreditation requirements, fiduciary, environmental and social standards to be accredited as national implementing entities (NIEs), but additional capacity-building is required.
WEAKNESSES	<ul style="list-style-type: none"> • The climate-related management experience of DFIs is limited to small and medium size projects. • There has been limited use of innovative financing mechanisms and blending of finance instruments for low carbon projects in India. • DFIs have delivered some climate related programmes that have leveraged private finance, but capacity to deliver complex projects involving multiple financing instruments & institutions is limited.
MRV Function	
STRENGTHS	<ul style="list-style-type: none"> • The Ministry of Environment, Forestry and Climate Change (MOEFCC) is well versed with MRV norms under the UNFCCC for nationally appropriate mitigation actions (NAMAs). • International climate finance is tracked by DFIs on a project-basis as per donor requirements.
WEAKNESSES	<ul style="list-style-type: none"> • There is no systematic tracking of domestic budget allocations for the NAPCC's national missions. • Tracking the impact of domestic revenues on climate change outcomes is limited to specific programmes or projects, covering emission reductions but not vulnerability reduction. • There is no systematic publically available national MRV system for international climate finance. • There has been no systematic effort to track and quantify private sector climate finance in India. Estimates of the climate-related impact of private investment have been limited to CDM projects.

⁶ PAT – Perform and Trade, FITs – Feed-in Tariffs, RECs – Renewable Energy Certificates

These consultations were followed by a round-table workshop in May 2014 where experts gave their views on the study's initial results, and helped generate a list of key gaps that India must address in order to improve its climate finance readiness. One of the most important messages to come out of this workshop is that India has room for improvement in all elements of the national climate change response, and the role of climate finance in that response. Thus, despite the fact that India's political and strategic readiness functions are more developed than the financial or MRV functions, there are critical gaps for all functions which India must address.

In total, there are seven readiness gaps which India must address in order to improve its ability to access and deliver climate finance in the future. In the section that follows, each of these seven readiness gaps are outlined, along with recommendations and practical actions that India can take to address these gaps. Each of these recommendations are underpinned by evidence and learning from a number of peer developing countries, who have developed innovative solutions to overcome similar challenges in the past.

Recommendations

1. **Readiness Gap:** India does not have a coherent national climate finance strategy, or a central institution with a mandate to coordinate the access and delivery of climate finance in the country.

Recommendation #1:

India should designate or create an independent coordinating agency with the mandate to strategically plan, access, mobilise, disburse, and track climate finance at the national level.

Actions:

- Explore options to create an independent climate finance agency, e.g. through an act of Parliament, executive order on the recommendation of the PM Council on Climate Change, or under the Environmental Protection Act of 1986.
- Ensure agency is empowered with executive, advisory and governance and secretariat functions to strategically align climate finance actions with development plans and priority policy actions
- Incorporate key design features such as: guiding principles and mandates; the coordination of climate finance access (including leveraging capital from the private sector); a streamlined delivery structure (especially scaling up the role of DFIs); and implementing MRV standards.
- Provide appropriate technical, administrative and financial training and capacity building to various executing agencies, particularly development finance institutions.
- The MoEFCC has been nominated as the national designated agency (NDA) for the GCF. However, it does not fulfil the above design features and functions of an independent climate finance agency. India should therefore explore the option of delegating MoEFCC's NDA role to the independent coordinating agency once it has been established,

India can learn from the experiences in Indonesia, where legal mandates to implement national climate change plans have led to greater accountability in planning, financing, coordination, and implementation structures. Indonesia's National Council on Climate Change (NCCC) is legally mandated to formulate strategies, programmes and activities on climate change. In parallel with the

NCCC, the Indonesian Climate Change Trust Fund (ICCTF) aligns international financial resources and domestic budgets with Indonesia's climate change and development priorities.

2. Readiness Gap: There have been limited efforts to assess the impact of climate change on the national economy, and to prioritise climate-related investment within national and/or sectoral budgets, based on a detailed needs assessment.

Recommendation #2:

India should undertake detailed quantitative needs assessment and cost-benefit studies to prioritise mitigation and adaptation actions, and provide detailed cost estimates for their implementation.

Actions:

- MoEFCC, PMO, Ministry of Finance (MoF), and NAPCC Missions should undertake needs assessment and CBA to develop a detailed list of priority climate-related intervention.
- Undertake Climate Public Expenditure and Institutional Review (CPEIR) analysis to estimate national financing of climate-related activities.
- Develop sectoral roadmaps for low carbon development and climate resilience.
- Develop mandatory environmental targets for development projects.

Brazil has mainstreamed climate actions into sectoral plans, which has helped to prioritise policy actions and investment to meet funding gaps. A Federal Decree has mandated that mitigation plans for Brazil's main sectors are included in the national action plan on climate change. Each of these plans include emission reduction targets to 2020; implementation activities; monitoring and evaluation (M&E) indicators; proposed regulatory tools and incentives for implementation; and a cost benefit analyses of the mitigation plans' impact on sectoral competitiveness.

3. Readiness Gap: The private sector has had limited engagement with the Government of India in climate change decision-making, and in coordinating a national financing strategy that encourages private sector investment in climate-related activities.

Recommendation #3:

India should step up private sector engagement in national climate change policies, strategies, coordinating committees, and national financing bodies (e.g. Partial Risk Guarantee Fund (PRGF), Venture Capital Fund (VCF), and National Clean Energy Fund (NCEF)).

Actions:

- Promote greater public-private dialogue on climate finance through regular forums and institutions (e.g. sectoral associations, investor platforms, public consultations).
- Involve the private sector in the design & implementation of schemes such as PAT and PRGF.
- Develop public-private financing structures and launch pilot projects to showcase viable business models and attract further climate investment.

India can learn from China, where experience shows that actively engaging the private sector has boosted investment in climate-related activities. China's CDM Fund – the main climate finance coordinating body – provides advisory and financial services for the private sector, which has successfully attracted private sector investment into low-carbon initiatives such as feed-in tariffs and

emission trading scheme pilots. While India has attempted to implement similar initiatives, they have suffered from weak uptake and lower compliance – mainly due to a lower level of engagement with the private sector when designing these schemes than in China.

- 4. Readiness Gap: DFIs in India have limited capacity to implement climate-related projects beyond a narrow range of themes, sectors, and geographies. India therefore faces challenges in developing a pipeline of bankable projects, which could help remove barriers for project financiers and increase climate-related investment in the country.**

Recommendation #4:

India should strengthen the capacity of DFIs to design, select, coordinate and fund national and state-level climate change projects and programmes, in order to increase the coverage of climate-related activities and to develop bankable projects to attract further investment.

Actions:

- Provide DFIs with formal mandates to allocate funds for climate-related activities under the NAPCC and SAPCCs
- Create new DFIs to promote low carbon development actions in carbon-intensive sectors e.g. transport, energy intensive industries, forestry, waste, and water management.
- Create a climate finance group within each DFIs with a clear mandate to develop investment criteria to deploy climate finance.
- Promote greater collaboration between DFIs, research institutions and the private sector to develop bankable projects.
- Explore how other financial institutions like State Bank of India (SBI), Infrastructure Development Finance Company (IDFC), Infrastructure Leasing & Financial Services Limited (IL&FS), etc. can also allocate climate finance
- Design capacity building programmes at the sub-national level to assist DFIs, national banks, project developers, local government, etc. in developing bankable projects.
- Apply for GCF Readiness support for DFIs to improve climate finance access and delivery.

Experience from China shows that focusing on capacity building at sub-national levels can help improve project development, design, and implementation that are the necessary first steps to developing a pipeline of bankable projects. The Chinese CDM Fund provides capacity building and training for the private sector, which has helped to remove market and technical barriers for project developers to design good quality projects.

In Mexico, the central role of DFIs in delivering the national climate change strategy has led to the development of programmes and projects across a broader range of sectors, themes and regions. This has led to increased investment by the private sector in climate-related projects.

The GCF has received requests from fourteen countries⁷ for readiness support and has already started to review them. Requests range from support to create strategic frameworks for engagement with the fund, programme and pipeline development, identification of implementation arrangements as well as requirements for accreditation of national implementing entities.

⁷ Antigua and Barbuda, Belize, Cook Islands, Dominica, Eritrea, Ethiopia, Indonesia, Mali, Mauritius, Mongolia, Namibia, Palau, São Tomé and Príncipe, Rwanda (Source: Green Climate Fund. Readiness and Preparatory Support Programme Update July 2014 - http://www.gcfund.org/fileadmin/00_customer/documents/Readiness/Readiness_Newsletter_July_2014_FI_NAL.pdf)

5. Readiness Gap: Climate finance delivery institutions (e.g. DFIs) have limited ability to match finance needs with a blend of climate finance sources and instruments.

Recommendation #5:

DFIs should develop the capacity to blend different sources and instruments (grant, loan, equity, debt) of finance when allocating funds to implementing entities. This should include the use of public funds to leverage private finance for climate-related activities.

Actions:

- Undertake research on new financing instruments in an effort to increase project implementation capacity across a wider range of themes, sectors, and geographies.
- Pilot new approaches based on innovative financing models, to develop capacity in DFIs.
- Improve existing procedural requirements in DFIs, such as financial procedures and risk mitigation strategies to safeguard investments, project investment criteria, and standard M&E indicators
- Create sector specific focal points in DFIs to provide support for project developers working with different types of private investors and different instruments.

India can learn from Indonesia, where a dedicated National Climate Fund provides overall financial management of the climate change response. The Indonesian Climate Change Trust Fund was created with a mandate to pool resources from a variety of international funds, national sources and domestic budgetary allocations, for the implementation of national climate change plans. The ICCTF is made up of two funding windows – the 'Innovation Fund', which directs bilateral and multilateral grant funding to climate activities, and the 'Transformation Fund' which will blend domestic funds, loans, equity and other types of investment to deliver project-level investment in low-carbon and climate resilient economic development.

6. Readiness Gap: Indian DFIs have capacity constraints in meeting international fiduciary standards (sound financial management, transparency, independence, and professional standards) and social & environmental safeguards.

Recommendation #6:

Indian DFIs should develop minimum accreditation standards for accessing and delivering climate finance from international funding streams.

Actions:

- Apply for GCF readiness funding to support DFIs to meet GCF accreditation standards.
- Build project management capacity in DFIs that will play a major role in climate finance delivery.
- Improve credit ratings in DFIs by improving governance, operational, and risk control systems.

International experience shows that an important first step is for NIEs (e.g. DFIs or National Climate Funds) to build fiduciary standards to meet international requirements. For example in Brazil, the national development Bank (BNDES) has been instrumental in managing the Amazon Fund, providing financial management with strong fiduciary standards, low administration fees, and a transparent management process for the dispersal of funds to the project level.

7. **Readiness Gap:** India has limited experience in measuring, reporting, and verifying domestic, private, and international climate finance. Systems for tracking volumes of climate finance have not been systematically applied, and estimates on the impact of climate finance spend are even more limited.

Recommendation #7:

India should set up a central system for monitoring all climate flows – coordinated by the main climate finance agency/institution outlined in Recommendations #1. This system can be used to determine the total volume of climate finance in India, and more importantly, the effectiveness of that finance in supporting the goals of India's NAPCC and SAPCCs.

Actions:

- Designate a team or working group within the central climate finance agency to develop and manage the climate finance MRV system, and to provide capacity building support.
- Develop standard methodologies and key performance indicators (KPIs) for the MRV system.
- Introduce regular reporting on climate activities for DFIs, NIEs, National Missions, line Ministries, etc., using standard KPIs to ensure data comparability
- Develop a central tracking system that allows users to input data in standard templates.
- Process and analyse data on an annual basis, delivering findings in a report that can be used to guide the strategic thinking of the central climate finance agency.

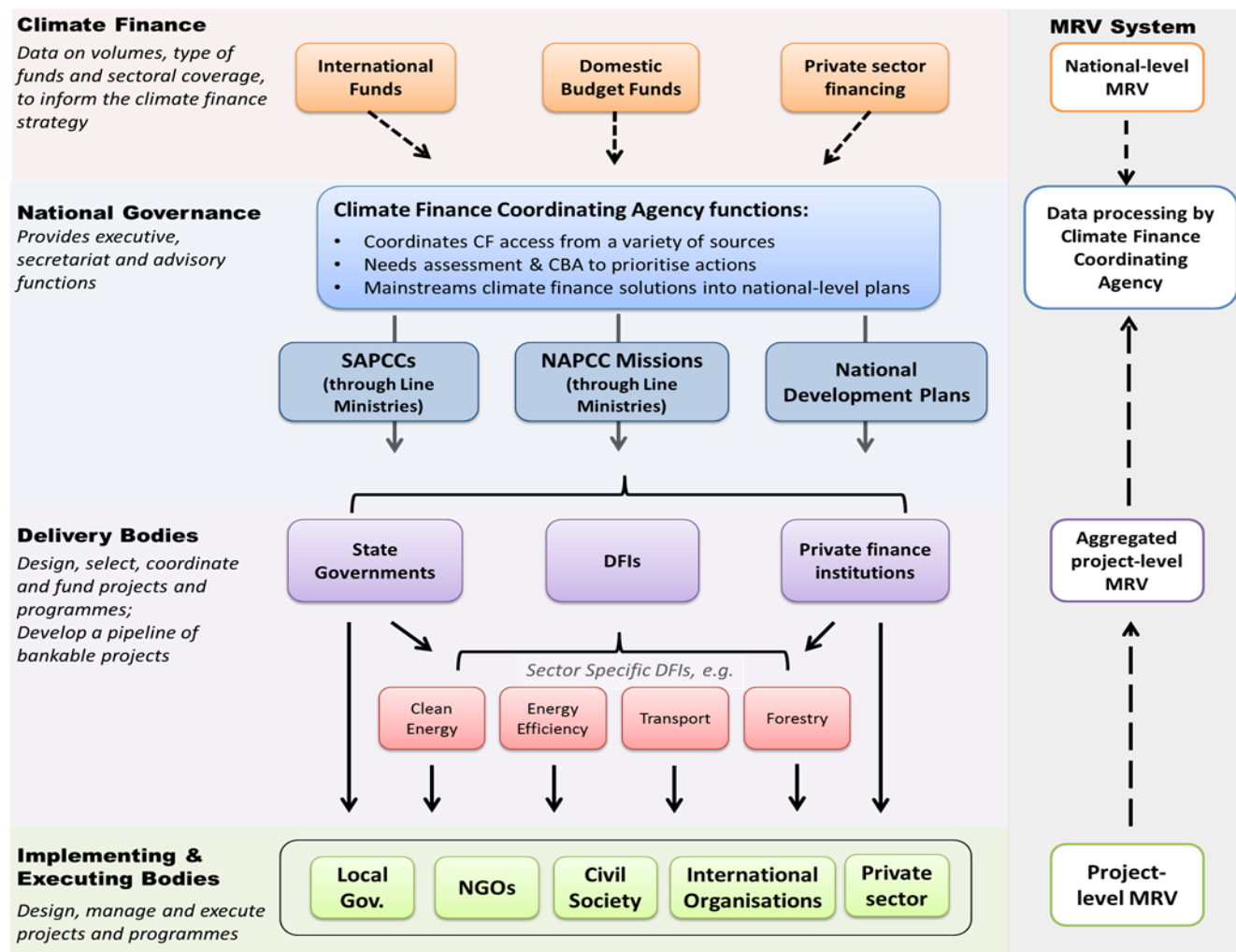
Experience from South Africa shows that countries are beginning to develop systematic MRV systems to track climate finance. South Africa has designed a national MRV system which will track all actions (mitigation, adaptation, and financing) under the country's National Climate Change Response Strategy. This data will feed into a central decision-making body that can process and analyse the data to determine the effectiveness of climate finance in meeting national climate priorities.

The future climate finance delivery structure in India

If India follows the recommendations of this report to address its seven readiness gaps, the institutional structure for accessing and delivering climate finance would look different than it does today. The Figure below provides an overview of how the new institutional structure would look if India followed the recommendations above. In particular, it highlights how the new climate finance coordinating agency would manage the overall national climate finance response – providing overall direction to accessing climate finance; coordinating a needs assessment and cost benefit analysis to prioritise interventions; and directing the delivery of climate finance in line with the NAPCC, SAPCCs, and other national development plans (**Recommendations #1 and #2**).

The Figure also highlights a number of other points from the recommendations section. It outlines how climate finance delivery bodies (particularly DFIs) will have increased capacity to deliver climate finance in a coordinated way under the NAPCC Missions and SAPCCs, and to develop bankable projects with implementing and executing bodies (**Recommendations #4 and #5**). At all levels of the delivery and implementation process, there will be an important role for the private sector to play (**Recommendation #3**). An underlying feature of this new coordinated delivery structure is that DFIs will have greater ability to access funds directly from international sources. This would start with capacity building support to improve fiduciary standards, project management and environmental & social safeguards, (**Recommendation #6**). Finally, the Figure highlights the importance of conducting MRV of climate finance, at both the national level and project level (**Recommendation #7**). This data

can be collected by the central coordinating agency, and then analysed and processed to help guide the agency in improving future climate finance strategy in India.



Abbreviations

AF	Adaptation Fund
BAU	Business as Usual
BEE	Bureau of Energy Efficiency
BNDES	Banco Nacional de Desenvolvimento Econômico Social (Brazil)
BRI	Bank Rakyat Indonesia
CCDMF	China's Clean Development Mechanism Fund
CFU	Climate Finance Unit
CDM	Clean Development Mechanism
CPEIR	Climate Public Expenditure and Institutional Review
EE	Energy Efficiency
CER	Certified Emissions Reduction
CIF	Climate Investment Funds
COP	Conference of the Parties
CPEIR	Climate Public Expenditure and Institutional Review
DAC	Development Assistance Community
DEA	Department of Economic Affairs
DFI	Development Finance Institution
DFID	Department for International Development (UK)
EESL	Energy Efficiency Services Limited
EU	European Union
FIT	Feed in Tariff
GCF	Green Carbon Fund
GEF	Global Environmental Facility
GHG	Greenhouse Gas
GoI	Government of India
ICCTF	Indonesia Climate Change Trust Fund
ICI	International Climate Fund (UK)
ICI	International Climate Initiative (Germany)
IFC	International Financial Corporation
IFCI	International Forest Carbon Initiative (Australia)
IGIF	Indonesia's Green Investment Fund
IREDA	Indian Renewable Energy Development Agency
KPI	Key Performance Indicator
LDC	Least Developing Country
LDCF	Least Developing Country Fund
LEDS	Low Emissions Development Strategies

LSS	Large Substitutes for Small Programme (China)
M&E	Monitoring and evaluation
MNRE	Ministry of New and Renewable Energy
MoEFCC	Ministry of Environment and Forests
MoF	Ministry of Finance
MoP	Ministry of Power
MRV	Measurement, Reporting and Verification
NABARD	National Bank for Agriculture and Rural Development
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NAPCC	National Action Plan on Climate Change
NBFC	Non-Banking Finance Companies
NCF	National Climate Funds
NCCCC	National Coordination Committee on Climate Change (China)
NCEF	National Clean Energy Fund
NDA	National Designated Authority
NDRC	National Development and Reform Commission (China)
NGF	National Green Fund
NGO	Non-Governmental Organisation
NIE	National Implementing Agency
OECD	Organisation for Economic Co-operation and Development
PAT	Performance, Achieve and Trade Scheme
PMO	Prime Minister's Office
PRGF	Partial Risk and Guarantee Fund
PSF	Private Sector Facility (of the GCF)
RDB	Regional Development Banks
RE	Renewable Energy
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RIE	Regional Implementing Entity
SAPCC	State Action Plan on Climate Change
SCCF	Special Climate Change Fund
SIDBI	Small Industries Development Bank of India
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCF	Venture Capital Fund

1 Introduction

1.1 Context

In 2008 India released its National Action Plan on Climate Change (NAPCC), which outlines eight 'national missions' that will help the country begin a low carbon and climate resilient transition. According to the recent Economic Survey of India, the country needs approximately \$38 billion to meet its climate goals under the NAPCC.⁸ Yet at present, existing budgetary support instruments for climate related expenditure, such as the National Clean Energy Fund (NCEF), will be insufficient for mobilising this volume of funds.

The Expert Group on Low Carbon Strategies has stated in its Final Report that aggressive action on mitigation cannot be achieved without substantial international financial support.⁹ India already receives a relatively large volume of international public climate finance compared to other developing countries (see Chapter 3.3). However, there is consensus among government, civil society, and the private sector in India that India could improve its capacity to access international climate finance and increase the amount of international support that the country receives – from both public and private sources.

One of the main challenges that countries face in accessing international climate finance is that the climate finance landscape is fragmented and difficult to navigate. The complex sources of climate finance – multilateral climate funds (e.g. Clean Technology Fund), bilateral climate funds (e.g. Germany's International Climate Initiative), bilateral development assistance with environmental co-benefits, private sector investment, green bonds, etc. – make it difficult to coordinate a unified national climate finance response, particularly since each source has its own access requirements and bureaucratic structures to follow.

The international community is slowly attempting to move from a fragmented climate finance delivery structure, to one that is more streamlined and efficient. In 2010, at the 16th Conference of the Parties to the UNFCCC (COP 16), the Green Climate Fund (GCF) was formally established. The GCF is expected to be the main delivery vehicle for the \$100 billion per year of climate finance that the international community has committed to mobilise for developing countries by 2020. In May 2014, the GCF Board agreed on the final decisions necessary to operationalise the fund, and it is now hoped that at least the first \$10 billion will be available by November 2014 to begin project funding.

The establishment and operationalisation of the GCF is just one of many examples of the growing importance of climate finance for developing countries, along with others such as private sector climate finance and the green bond market, listed above. The challenge that lies ahead is for countries to translate these opportunities into meaningful projects and programmes that contribute to national sustainable development and climate change priorities.

1.2 Purpose of the report

For developing countries attempting to capitalise on emerging sources of climate finance, an important first step is to improve national *climate finance readiness*. Climate finance readiness can be described as "the capacities of countries to plan for, access, deliver, and monitor and report on climate finance, both international and domestic, in ways that are catalytic and fully integrated with national development priorities and achievement of the MDGs". The importance of 'readiness' is based on the logic that countries with strong political commitment to tackling climate change, strong

⁸ Ministry of Finance, Government of India. *Economic Survey 2012-2013*, p.264. Estimates for NAPCC implementation are INR 230,000 crore, equivalent to \$38 billion.

⁹ Planning Commission of India (2014). Final Report of the Expert Group on Low Carbon Strategies for Inclusive Growth.

institutions, and proven financial management capacity will receive greater volumes of climate finance in the future.

The purpose of this report is to identify opportunities for India to strengthen its ability to effectively access and deliver increasingly large volumes of climate finance from international public and private sources, in order to meet its national climate change policy objectives under the NAPCC. The report examines the international climate finance landscape, India's experience in accessing international climate finance, national policies to address climate change, and the effectiveness of India's institutional management of climate change. Specifically, the report uses a climate finance 'Readiness Framework' which analyses these main topics, in order to make an assessment of the strengths, barriers, and gaps in India's ability to access international climate finance. This analysis provides the basis for a series of constructive recommendations that will guide policymakers and other stakeholders in how to improve India's ability to access and deliver future flows of climate finance.

In conducting this analysis, the report is driven by the following research questions:

- What main trends will drive climate finance flows (in India, and more broadly in the international arena) over the next 5 years?
- What funding streams will be particularly important for India (focusing on easy wins in the short-term and longer-term funding streams that can catalyse transformative change in India)?
- Where has India performed well, and how can these successes be replicated and scaled-up?
- What capacity gaps remain in accessing and delivering international climate finance?
- What institutional changes or new requirements are needed for accessing future international climate finance?

1.3 Approach

The report was developed over four complementary stages to ensure that feedback was integrated into the final report.

1. Conducting desk research on topics that included:
 - India's performance in accessing international climate finance.
 - Donor priorities for climate finance spending in developing countries.
 - Existing climate finance readiness frameworks, and their appropriateness for India
 - Lessons from peer countries.
2. Individual interviews with key experts and stakeholders representing the Government of India, multilateral financial institutions, bilateral funding agencies, the private sector within India, Indian research organisations and think-tanks, and climate finance readiness researchers working at the international policy level. These interviews were essential in validating the climate finance readiness framework that was developed through desk research, and applying it to the Indian context through expert analysis.
3. Discussion and validation on the interim project findings on India's climate finance readiness with a wide stakeholder group in Delhi on 2nd May 2014. This input was integral in developing the report's main recommendations outlined in Chapter 7.
4. Follow-up interviews with key Indian experts to validate the report recommendations in June and July 2014.

1.4 Scope of the report

The report is structured around the following parameters:

- The report will focus on climate finance for mitigation – targeted at low-carbon development policy options such as renewable energy, energy efficiency, transport, etc.

- Examples from climate finance for adaptation will be provided where they are deemed appropriate for the study (e.g. understanding the roles of accreditation for direct access under the Adaptation Fund, which is relevant to potential GCF access modalities).
- For the analysis of India's climate finance readiness, the report highlights:
 - Where India is already successful in accessing international climate finance.
 - The main opportunities for India to improve its capacity to access and deliver international climate finance.
 - How India can use policy signalling and leveraging of public finance to boost investor confidence & create an enabling environment for long-term climate-related investment.
- Readiness lessons are generated from countries with similar political, institutional, economic, social, environmental, and geographical characteristics as India. The majority of lessons come from Brazil, China, Indonesia, Mexico, South Africa & Thailand.

1.5 Structure of the report

The report is structured as follows:

Chapter 2 provides background on the landscape of international climate finance, summarising the main existing sources of climate finance and outlining the emerging international sources that are likely to play a major role in the period 2015 to 2020, particularly focusing on the GCF.

Chapter 3 then turns to India's experience accessing these funds – providing an overview of India's experience accessing multilateral and bilateral sources of climate finance, as well as Clean Development Mechanism investment – and comparing this access performance with India's peer countries.

In Chapter 4 we introduce a 'Readiness Framework', which can be applied to assess how ready a country is to access and deliver climate finance. The 'Readiness Framework' is an analytical tool built on the work of several complementary climate finance tools – most notably The Nature Conservancy's 'functional' analysis of readiness and GIZ's Clif Reflect tool – through which we can assess whether a country has the institutional capacity to plan and implement an effective financing strategy to respond to the challenges posed by climate change.

In Chapter 5 the 'Readiness Framework' is applied in the Indian context, outlining India's readiness to access and deliver climate finance. The high-level lessons from this analysis focus both on areas where India has performed well, and areas where gaps must be addressed to improve climate finance performance in the future.

Chapter 6 focuses on the readiness indicators where India shows room for improvement, and examines how peer countries – particularly Brazil, China Mexico, and Indonesia – can provide lessons that are relevant in the Indian context.

Finally, Chapter 7 synthesises the project findings and provides a series of recommendations and associated actions on how to improve institutional readiness in India, by building on the country's strengths and addressing the gaps and barriers that persist.

2 The landscape of international climate finance

2.1 The complex landscape of international climate finance

It has been widely reported that efforts to limit global temperature increases to 2°C will require scaled-up climate finance – particularly in developing countries like India, where there is huge potential for transformational. Estimates suggest that decarbonising the global energy system will require \$36-42 trillion between 2012 and 2030, or approximately \$2 trillion per year.¹⁰ At present, global climate finance flows are significantly lower, totalling \$359 billion, of which 15% - or \$54 billion – are transfers of public climate finance from OECD countries to developing countries.¹¹

Since the Rio Conventions were signed in 1992, the international landscape has grown increasingly more complex. In the 1990s, the World Bank's Global Environmental Facility (GEF) was the chief multilateral agency funding projects and programmes relating to climate change, and the Clean Development Mechanism (CDM) under the Kyoto Protocol was the main source of private climate investment. Over the past decade, however, the international 'architecture' of climate finance has become increasingly fragmented. At the international level, new funding instruments such as the Adaptation Fund (AF) and the Climate Investment Funds (CIFs) have been created to direct funding to important international priorities. At the bilateral level, initiatives such as the UK government's International Climate Fund (ICF) and the German government's International Climate Initiative (ICI) have been at the forefront of Annex I country efforts to scale-up climate finance in the fast start period between 2010 and 2012. At both of these levels, funding is fragmented across a growing number of streams targeted at specific regions of the world (e.g. least developed countries, the Congo Basin); themes (e.g. adaptation, renewable energy, forestry); and new policy agendas (e.g. such as National Adaptation Plans (NAPs), Nationally Appropriate Mitigation Actions (NAMAs), and low-emission development strategies).

There are also a number of private sector actors increasingly involved (or being enticed to be involved) in low carbon and climate resilient investment. New private sector platforms and networks of institutional investors signal that there is an increasingly large role for private capital to play in promoting climate-compatible development in developing countries. In addition, the concept of 'leveraging' – using public climate finance to attract large investment from the private sector – has grown increasingly important in the climate finance policy space. It is expected that leveraging private sector finance will play a major role in closing the financing gap for climate-related investment over the next decade.

With more than 50 international public funds and 6,000 private equity funds already providing "green" finance¹² across such a wide variety of themes, many developing countries report challenges in knowing where to target their efforts to access climate finance. The complexity of the climate finance delivery architecture can also pose challenges for project developers, technology providers and private sector investors – as bureaucratic structures and long waiting periods between pledges, approval and delivery slow down the implementation of projects and limit the ability to quickly replicate and scale-up previous successes.

While fragmentation and complexity have been the predominant features of the international climate finance landscape over the past decade, emerging trends indicate that the climate finance policy space is at a crossroads. On the one hand, Parties to the UNFCCC have agreed on the design of the Green Climate Fund – which is expected to be the main financing vehicle for international pledges to mobilise \$100 billion of climate finance per year in by 2020. On the other hand, new initiatives which

¹⁰ Kaminker, Ch., Stewart, F. (2012), "The Role of Institutional Investors in Financing Clean Energy", OECD Working Papers on Finance, Insurance and Private Pensions, No.23, OECD Publishing, p4.

¹¹ Climate Policy Initiative (2013). The Global Landscape of Climate Finance 2013

¹² UNDP (2012) Readiness for Transformative Climate Finance

fill the financing gap in specific policy agendas or themes, such as the NAMA Facility, continue to be unveiled. With the landscape continuing to evolve, balancing between fragmentation and consolidation, it is important to reflect on the existing and emerging sources of climate finance that will play an important role between the present and 2020, when a new global deal on climate change is expected to take effect.

2.2 Important multilateral sources of climate finance

In the short to medium term there are three existing multilateral funds that are likely to play an important role in the international climate finance landscape – the GEF, the Clean Technology Fund (CTF) and the Adaptation Fund.¹³ The GEF and the CTF have been selected for analysis as they are likely to provide the largest volume of funding to India prior to the full capitalisation of the GCF. The Adaptation Fund, on the other hand, has been selected based on its unique institutional structure to deliver climate finance, rather than its expecting funding allocations.¹⁴ The following section provides a general overview of the purpose, funding priorities, operational modalities and future outlook of each of these three sources of climate finance. Further information on India's performance in accessing these three funds is covered in more detail in Chapter 3.2.

2.2.1 The Global Environmental Facility

Purpose, Funding Priorities & Operational Modalities:

The Global Environment Facility was established as a pilot programme in the World Bank in 1991 to aid in the protection of the global environment and to promote sustainable development. Operating as a self-governing financial organisation, the GEF provides grants for projects related to climate change, biodiversity international waters, land degradation, the ozone layer, and persistent organic pollutants. Since its inception the GEF has provided \$12.5 billion in grants and has leveraged \$58 billion in co-financing, for over 3,690 projects in over 165 countries. GEF funding is streamlined through three key Funds - the GEF Trust Fund, Least Developed Countries Trust Fund (LDCF); and Special Climate Change Trust Fund (SCCF).

Historically the GEF has been the most significant multilateral fund for climate change, with replenishments of the funding taking place every four years.¹⁵ The GEF's sixth replenishment (covering the period July 2014 – June 2018) was its largest to date, raising \$4.43 billion from 30 donor countries. The GEF allocates its resources with reference to measures of the global environmental benefits that investments in a country are likely to achieve, as well as by measures of absorptive capacity and development needs.

The Future of the GEF

The agreement to create the GCF has raised questions about the continued role of the GEF in financing climate action over the medium-to-long term. In the immediate term, however, the GEF will continue to play a key role in international climate finance delivery, both globally and in India as well. The fact that the GEF's 6th replenishment exceeded the funding from GEF 5 shows that the GCF will not entirely supplant the GEF over the next five years, despite the increasing importance of the GCF in international climate finance delivery. Over the next five years, GEF 6 is expected to focus on:

¹³ For a detailed selection multi-criteria analysis of why these funds were selected as relevant to the Indian context, see Annex I. Note that there are a number of additional international funds that exist, but which India is ineligible to access due to the Funds' requirements that assistance be targeted to a specific country, region, or country type (usually referring to the level of development in the country). Annex II provides a list of the major international climate funds, highlighting whether India is eligible to access them.

¹⁴ In fact, India has submitted 3 project concepts to the AF but has not received any funding from the Fund.

¹⁵ In comparison to the GEF's \$12.5 billion in funding, the second-largest international fund is the CIFs, which have received \$8 billion in pledges since 2008 (with an expected leveraging of \$55 billion). <https://www.climateinvestmentfunds.org/cif/aboutus>.

- Maximising complementarities between the various environmental agreements that it is involved in funding (for example, complementarities between funding for the Convention on Biodiversity and efforts to reduce emissions from deforestation)
- Returning to its original purpose of providing early stage funding for innovation
- Creating a number of 'signature programmes' including taking deforestation out of the commodities supply chain; rebuilding global fisheries; sustainable cities; fostering resilient production systems in Africa; and a new development path for the Amazon Basin.

2.2.2 The Clean Technology Fund

Purpose, Funding Priorities & Operational Modalities:

The Clean Technology Fund is one of four multi-donor Climate Investment Funds, set up in 2009 to promote scaled-up finance for demonstration, deployment and transfer of low-carbon technologies in developing countries. CTF activities support interventions in the power (mostly renewable energy), transport, and energy efficiency (buildings, industry and agriculture) sectors. The CTF was capitalised through pledges by Australia, Canada, France, Germany, Japan, Spain, Sweden, United Kingdom, and United States, totalling \$5.5 billion. To date, the CTF has approved \$3.18 billion of finance for projects in 15 countries. The funds are by the World Bank and administered through the World Bank Group and other multilateral development banks such as the Asian Development Bank.

The Future of the CTF

The future of the CTF is highly uncertain. The governance framework of the four CIFs includes a 'sunset clause' which stipulates that steps will be taken to "conclude [their] operations once a new financial architecture is effective".¹⁶ In light of the GCF Board's decisions on the eight areas of critical importance to operationalise the GCF in May 2014 (see Section 2.3.1), it is unlikely that the CTF will receive new pledges past 2015. If the CTF does cease to receive new pledges, its active investment portfolio will still need to be managed, and decisions will need to be taken on what to do with the reflows – loans and interest that will be repaid by recipients of highly concessional loans under the CTF's investment framework.¹⁷ Some experts have called for these reflows to be transferred over to the GCF. Others have suggested that management of the entire CIF portfolio be transferred to the GCF, providing the new institution with valuable administrative and financial management capacity as well as early capitalisation.¹⁸ With such a high degree of uncertainty, in the immediate term it is essential that the GCF and the UNFCCC's Standing Committee on Finance send clear signals so that countries with existing CTF (and CIF) funding, as well as those who are waiting for fund approval and disbursement, will understand the future management of the CIFs. In the medium-term, it is important for project developers and investors in developing countries like India to closely watch developments at the GCF Board so that they can understand where future climate finance investment in clean technologies might come from, and attempt to influence the government's position in shaping the GCF and accessing its funds.

2.2.3 The Adaptation Fund

Purpose, Funding Priorities & Operational Modalities:

The Adaptation Fund is an international mechanism of the Kyoto Protocol that became operational in 2009. The AF uses grant funding to finance the full costs of adaptation programmes in developing countries. It is funded through a 2% levy on transactions under the Clean Development Mechanism, a design feature which aimed to strengthen the predictability of finance and decrease the Fund's reliance on voluntary contributions from developed countries. In practice, the AF has still relied substantially on voluntary contributions – a reliance which has increased as the global price of carbon plummeted and the prospects for creating new markets for carbon outside of Europe have diminished.

¹⁶ CTF Governance Framework, paragraphs 53 & 55; SCF Governance Framework, paragraphs 56 & 58

¹⁷ See for example, CTF-SCF/TFC.9/10/Rev.1 October 15, 2012

¹⁸ <http://www.cgdev.org/blog/jump-starting-green-climate-fund>

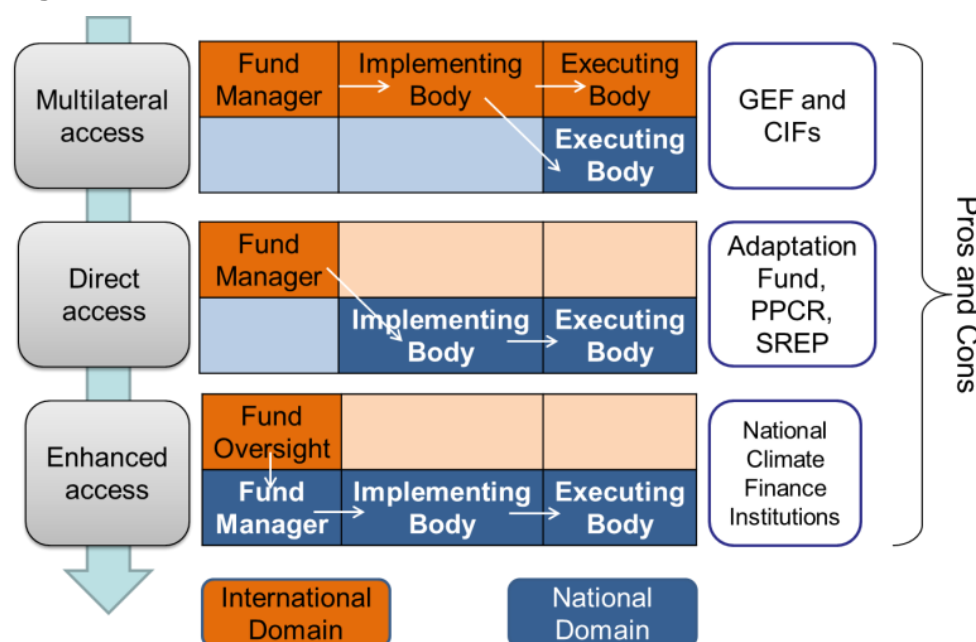
In 2013 the AF reached its \$100 million recapitalisation target, largely as a result of contributions from European countries (notably Germany).

To date, the Adaptation Fund has approved \$211.57 million and disbursed \$69 million in 31 countries. The AF's activities have targeted interventions in the water, land-use, agriculture, health, infrastructure, and ecosystems services focal areas. Funds have also been used to develop early warning systems and support capacity building for disaster-risk reduction.

The Adaptation Fund is unique among existing sources of international climate finance, as it is the first fund to pilot the 'direct access' funding modality. Direct access is a funding stream where the recipient country can access project finance directly from the Fund without going through a third-party intermediary like the Asian Development Bank or UNDP, (a requirement for GEF and CTF projects).¹⁹

Figure 2.1: Climate finance access modalities below highlights the differences between multilateral access and direct access in more detail. To date, national implementing agencies (NIEs) in 16 developing countries have been accredited to the Adaptation Fund, although only five have received funding thus far. Fifty percent of AF funds have been earmarked for NIEs. In a similar fashion, the Adaptation Fund allows for the accreditation of regional implementing agencies (RIEs) based in developing countries. There are currently 4 accredited RIEs, but none have received funding yet.

Figure 2.1: Climate finance access modalities



Source: UNDP/ODI (2011)

The Future of the Adaptation Fund:

In the near term, the Adaptation Fund will continue to be an important (though modest) source of international finance for developing countries. However, the AF allocation framework currently caps the amount of finance that an individual country can receive at \$10 million – meaning the Fund will only play a small role in medium-term climate finance delivery for developing countries unless its rules and procedures are changed. The Fund will remain operational until 2020 when the second commitment period of the Kyoto Protocol comes to end.

The AF's main contribution to the future landscape of climate finance is likely to be in the lessons it generates from its experience piloting direct access. As the Green Climate Fund continues to establish its operational guidelines for accreditation to access GCF funds, the challenges and lessons in promoting NIE accreditation to the Adaptation Fund will be closely studied. It has been proposed

¹⁹ Druce, L., Grüning, C., & Menzel, C. (2014) Direct access to international climate finance and associated fiduciary standards. Frankfurt School & UNEP. p. 2

that the GCF continue using direct access, but improve the support to prospective NIEs where challenges were reported in the AF experience – such as meeting fiduciary standards and environment & social safeguards. These types of lessons will be vital for improving developing country ownership within existing modalities like the Adaptation Fund, as well as emerging sources of international climate finance like the GCF, which is examined in the following section.

2.3 New sources of international climate finance

Climate finance is a constantly evolving policy space. As the previous section has shown, existing sources of finance will continue to play a role between 2014 and 2020 (although in the case of the AF and the CTF, it may be a diminishing role). At the same time, there are changes taking place within the climate finance policy regime that could drastically alter the landscape in the years ahead. This section takes stock of emerging sources of climate finance – highlighting the contradictory trends towards consolidation and fragmentation of climate finance delivery. There are a number of emerging funds that will play important roles in delivering climate finance in the medium-to-long-term. Foremost among these is the Green Climate Fund, which is expected to be the chief vehicle for climate finance delivery in the years ahead and therefore represents an attempt at consolidating the climate finance delivery landscape. On the other hand, new sources continue to emerge. In some cases, such as the NAMA Facility, these funds have recently launched project funding windows – which India has not yet chosen to apply to. In other cases, funding mechanisms are still being proposed and discussed at the international level, for instance to establish dedicated Methane and Black Carbon Funds (beyond the limited funding that has been delivered by the Climate and Clean Air Coalition). However not much is known about the current status of these concepts, and it will likely take time before these concepts are translated into reality.

The following sections turn to two examples of the emerging climate finance landscape. First it will look at the GCF – the fund which is expected to play a leading role in climate finance delivery under a new global deal at the UNFCCC. Following this analysis, the NAMA Facility will be outlined in greater detail, to highlight how emerging funds can continue to support more specialised thematic/policy windows in the years ahead.

2.3.1 The Green Climate Fund

The Green Climate Fund was established in 2010 at COP 16 in Cancun, with a mandate to play a central role in delivering \$100 billion per year in 'new and additional' climate finance to support climate mitigation and adaptation activities in the developing world. It has taken several years for the GCF to agree on operational procedures, but in May 2014 the GCF Board resolved all six outstanding issues relating to the operationalisation of the fund, paving the way for the formal capitalisation of the fund in November 2014. The GCF has a number of innovative features that make it unique amongst existing sources of international climate finance. These include equal Board representation from developed and developing countries; new access modalities to improve developing country access and ownership; balanced funding priorities between adaptation and mitigation; a potentially large role for the private sector; and a strong focus on 'readiness' in the early stages of the GCF funding process.

Access Modalities:

The Fund will allow national institutions and regional institutions that meet its accreditation criteria 'direct access' to its resources, while also allowing countries to work through multilateral development banks and UN agencies as implementing entities. The governing instrument of the GCF also allows, in principle, for sub-national entities including state and municipal governments to have direct access to the fund, although the practical realities of such arrangements for sovereign governments remain to be determined.²⁰ As such, the GCF anticipates a more competitive access model than previous Funds, wherein countries may choose to work through multiple institutions to harness climate finance.

²⁰ Development banks, for example, can only lend to sub-national entities if they have a sovereign guarantee from national governments.

Funding priorities:

The GCF will fund both mitigation and adaptation activities. In February 2014, the Board adopted an allocation framework that will aim for a 50:50 balance between mitigation and adaptation, with a floor of 50% of the adaptation allocation being earmarked for particularly vulnerable countries – including least developed countries, Small Island Developing States and African States. There will be no caps on the amount of funding that individual countries can access. At the outset, the GCF will offer both grants and loans (of higher and lower concession). Over time, it is expected that a wider range of instruments that can address bespoke risks (particularly for the private sector) may be adopted.

Role of the private sector:

One of the main innovative features of the GCF will be the Private Sector Facility (PSF), whose design features are to be elaborated over the coming year in consultation with a newly constituted Private Sector Advisory Group. While the amount of funding to be spent and the types of instruments to be used through the PSF have not yet been elaborated in the GCF Allocation Framework, there is strong interest from many contributors in a prominent role for the Facility. It is likely that the PSF will be the chief vehicle used to blend public climate finance with private sector investment – using the public finance as a signalling tool to 'leverage' increased private sector contributions.

Capitalisation of the GCF:

Prior to 2014, pledges to the GCF were limited to covering administrative costs and launching basic readiness activities in developing countries. However following the decisions made at the GCF Board's 7th meeting in May, the GCF launched its initial contribution process on July 1st 2014 in Oslo, Norway²¹. This dialogue paves the way towards the UN Climate Change Summit in September 2014 and a special GCF pledging meeting in November 2014 which are expected to raise the funds for the initial capitalisation of the GCF. In the immediate term, likely capitalisation will range from \$500 million at the most conservative estimate, up to \$15 billion at the most liberal estimate. Several commentators have suggested that for the GCF to make a material impact on the global climate finance architecture it will need to have a capitalisation that is at least equivalent to that of the Climate Investment Funds (the largest multilateral fund for climate change today). Put in perspective, the CIF was launched with pledges of \$5 billion and now totals \$8 billion.

2.3.2 The NAMA Facility

Unlike the GCF, which has a broad mandate for funding adaptation and mitigation activities in developing countries, the Nationally Appropriate Mitigation Action Facility is a specialised funding stream targeted specifically at raising the ambition and scope of NAMAs in developing countries.

The NAMA Facility is a new source of international climate finance that was launched as a pilot programme in 2012, financed by grants from Germany and the United Kingdom that amounted to \$156 million by early 2014. The Board of the NAMA Facility is made up of representation from the UK's Department of Energy and Climate Change and the German Ministry of Environment. It is supported by a technical secretariat staffed by the German development bank KfW and the German Technical Assistance agency GIZ. The NAMA Facility supports developing countries to implement nationally appropriate mitigation actions that have the potential to catalyse transformational change towards low-carbon development. According to the NAMA Facility's governance documents, the NAMA Facility has no regional or sectoral focus and is open to NAMAs across a range of countries and sectors. The NAMA Facility's operational procedure is to hold an open competitive call for NAMAs seeking support, where the most ambitious NAMAs are selected. Thus far, the NAMA Facility has funded projects in the Mexican housing sector, the Chilean energy sector, the Colombian and Indonesian transport sectors, and the Costa Rican coffee sector. India has not yet sought access to funds from the NAMA Facility.²² Projects generally receive \$9-20 million in grant finance.

²¹ www.gcfund.org/fileadmin/00_customer/documents/Press/GCF_Press_Release_Nr._06_-_1_July_2014.pdf

²² NAMA Facility website: <http://www.nama-facility.org/news.html>

As a pilot programme, the future of the NAMA Facility is uncertain beyond the second call for projects, which closed in July 2014. The NAMA Facility's focus at sectoral-level interventions has been welcomed, as it extends climate finance interventions beyond small-scale projects to ones that are more holistic in nature. Like the CTF, the learning and approaches from the NAMA Facility have been incorporated into the design of the GCF's funding streams (for example on competitive proposal selection process and on emphasising transformative change in project development criteria). It is less clear, however, that the NAMA Facility's projects will be transferred over to the GCF in the same way that the CTF's projects could. There remains a high degree of uncertainty whether the NAMA Facility will merely serve as a bridging Facility prior to the capitalisation and full-scale operationalisation of the GCF, or whether it will take on a more permanent role as another source of climate finance within the already fragmented climate finance landscape.

2.4 Expected trends on the future landscape of climate finance (2014 – 2020)

International climate finance policy is at a crossroad. The previous two sections have encapsulated the tension between the fragmentation and consolidation of international climate finance delivery modalities – outlining both existing and emerging sources of climate finance that are expected to play important roles over the next five years. However, recent decisions by the GCF Board to operationalise the Green Climate Fund throw into question the very existence of several major sources of existing international climate finance. The architecture of climate finance delivery is therefore likely to undergo a major shift in the next few years, as the full ramifications of the Board's decisions become clear. While it is difficult to speculate on the exact design of the future climate finance delivery architecture, there are several high-level trends that can be predicted with a reasonable degree of confidence.

Public sector:

- **In the short-term, the climate finance landscape will remain highly fragmented**, with numerous bilateral and multilateral funds targeting specific themes, sectors, and regions in an uncoordinated manner.
- **In the medium-term, there will be increasing consolidation of the international climate finance architecture** to streamline the channelling of funds to developing countries. The operationalisation of the Green Climate Fund should be watched closely to determine how effective this consolidation will occur in practice.
- **Existing multilateral funds** that are significant sources of climate finance, such as the CIFs, **may be integrated into the GCF** to further streamline international climate finance delivery.
- **In the longer-term, donors are likely to continue using bilateral development assistance and bilateral climate funds in parallel to the GCF**, in order to retain some control in providing funding to sectors and regions that are important national priorities.

Private sector:

- **In the short-term, traditional sources of private sector investment, especially the CDM, will decline**, as tighter regulations of the EU ETS take effect, the price of carbon stays low, and uncertainty over the Kyoto Protocol's second commitment period deters investors.
- **In the medium and long-term, the role of the private sector** in delivering climate-compatible development and co-benefits **will become increasingly important**. The maturation of renewable technologies, efforts to encourage favourable investment climates and use de-risking tools at the national level in developing countries, will facilitate this shift.
- Once it becomes operational, **the GCF's Private Sector Facility is likely to be the main vehicle to engage the private sector** and promote new instruments and financing arrangements for investment by the private sector in climate-compatible development.

3 India's climate finance track record

As the global landscape of climate finance begins to shift, it is important to reflect on how well India has performed in the past when it comes to accessing and delivering international climate finance. This chapter begins with a brief background on India's institutional governance structure for managing the national response to climate change, focusing on the role for international climate finance. Section 3.2 then examines India's performance in accessing international climate finance – focusing on multilateral and bilateral sources of public finance, as well as CDM finance. Section 3.3 follows with a comparison between India's track record in accessing international public climate finance, and that of its peer countries – Brazil, China, Indonesia, Mexico, South Africa and Thailand. Section 3.4 concludes with a summary of high-level trends on India's climate finance access performance.

3.1 Institutional governance of climate change in India

The Ministry of Environment and Forests and Climate Change (MoEFCC) is the lead agency responsible for India's national climate change response – working with the Planning Commission, the Prime Minister's Office, the Ministry of External Affairs, and relevant line Ministries to ensure coordinated national action. The Climate Change Finance Unit (CFU), which is housed in the Ministry of Finance, serves as the focal point on all climate financing matters – advising the MoEFCC and Government of India and representing the MoF in all international forums on climate change.

In 2008, India launched its first comprehensive National Action Plan on Climate Change which aims to promote national sustainable development with considerable climate co-benefits. The NAPCC formally established eight 'national missions' which are responsible for the eight priority sectors/themes that the Government of India will address between 2008 and 2017 – energy efficiency; solar energy; sustainable agriculture; sustainable habitat; water; Himalayan ecosystems; forestry (green India); and strategic knowledge for climate change. In line with the NAPCC, all Indian States have been asked to prepare State Action Plans for Climate Change (SAPCCs). By asking States to prepare SAPCCs, India seeks to adopt a more decentralized approach to managing the climate change response. So far, 22 States have prepared draft Action Plans and MoEFCC has approved 9 of them, with 3 others currently under review.²³

There is a wide variance in estimates on the total cost of responding to climate change in India. In 2013 the Ministry of Finance estimated that the total cost of implementing the NAPCC by 2017 would be \$38 billion (i.e. more than \$7 billion per year).²⁴ At the high end of the scale, the Expert Group on Low Carbon Strategies has concluded that a 'low carbon inclusive growth strategy', in India would cost approximately \$834 billion in investment between 2007 and 2030 (or nearly \$35 billion per year).²⁵ The Government of India recognises that efforts to bridge the funding gap in meeting India's low-carbon development needs must be based on an approach that combines public, private and international sources of finance. However no unified strategy has been developed to raise the necessary funds from these various sources and coordinate the delivery of funds to NAPCC priorities.

At the international level, individual line Ministries and relevant national agencies have been tasked with liaising with major international funds to attract funding for a relevant project, sector, or NAPCC mission.²⁶ Figure 3.1 below provides a general outline of the institutional structures for accessing and delivering climate finance in India.

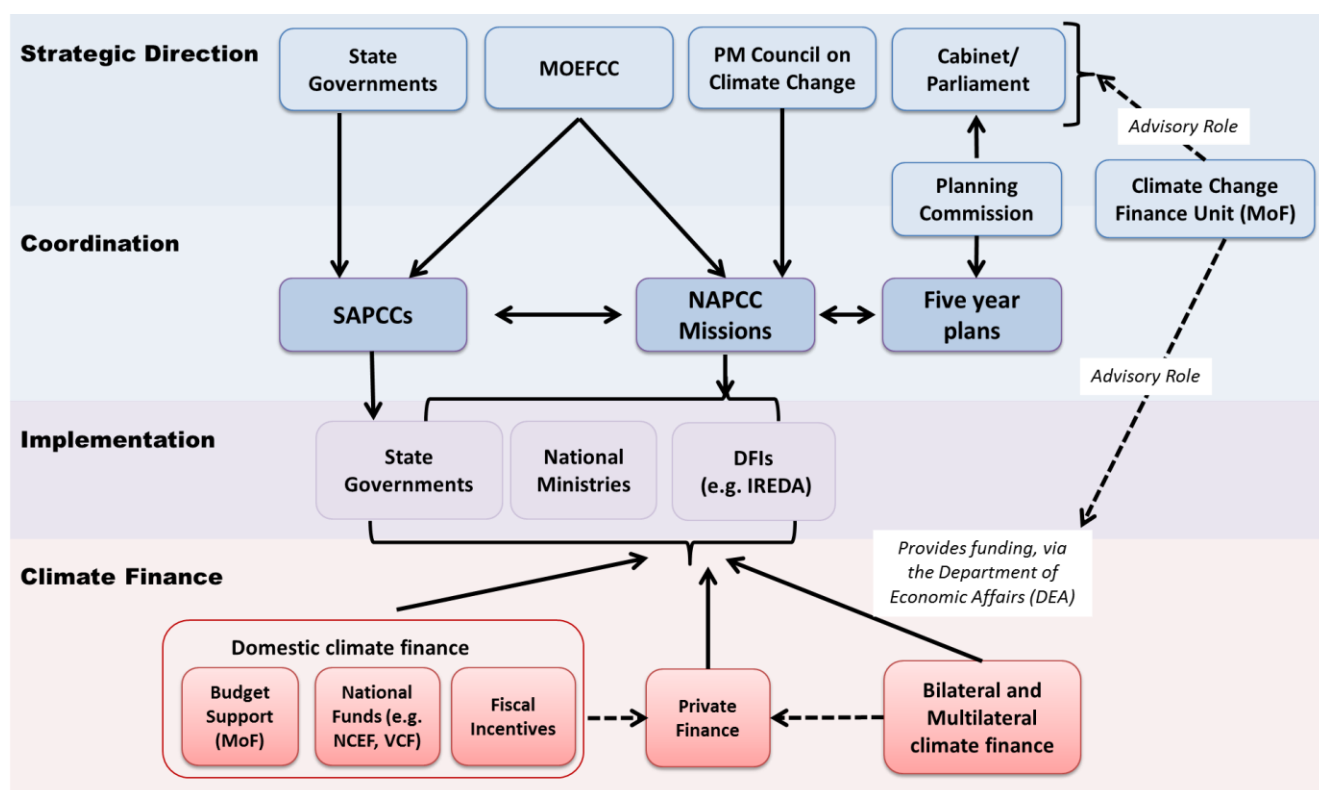
²³ <http://envfor.nic.in/ccd-sapcc>

²⁴ This figure comes from the 2012-2013 Economic Survey, undertaken by the Ministry of Finance.

²⁵ As the latter figure includes activities beyond the NAPCC – including funding for nonconventional climate-related programmes such as clean coal – the report will use the lower estimate of \$38 billion as a reference point for India's climate finance funding gap. Readers must be cognisant that this is a low estimate, and that the needs for climate-related investment in India are likely significantly higher.

²⁶ Annexes IV-VII provides a more detailed examination of the efforts being made by India to target 3 important sources of multilateral climate finance and 1 important source of bilateral funding.

Figure 3.1: India's institutional structure for accessing and delivering climate finance



However, there has been very little analysis of the effectiveness of the efforts to attract international climate finance to India. The following section therefore attempts to quantify the amount of climate finance that India has received in order to assess its performance in accessing funds. In later chapters this data will be used to support an analysis of how India can improve its 'readiness' to access greater volumes of climate finance through funds like the GCF, and to determine how these funds can be directed more effectively to key projects under the NAPCC's eight missions.

3.2 India's experience accessing international climate finance

As Chapter 2 highlights, the current landscape of international climate finance is highly fragmented – with at least 50 bilateral and multilateral climate funds, 29 bilateral donors in the OECD's Development Assistance Committee (DAC), numerous multilateral development banks (e.g. Asian Development Bank, World Bank) and international financial institutions (e.g. International Finance Corporation), and a plethora of private sector investors all providing finance for climate-related activities in developing countries. The crowded climate finance landscape makes it difficult for countries like India to develop an efficient, targeted climate financing plan that can help meet national climate change goals. This section attempts to provide some clarity by analysing India's past experience in accessing international climate finance from multilateral, bilateral, and private sources.

Creating a snapshot of a country's individual climate finance performance from international sources is incredibly complex. It is particularly difficult to capture information on climate finance that comes through unofficial channels, such as through private sector investment and through NGOs, philanthropic organisations, and private foundations who are not required to report to government on their climate-related funding. It is also difficult to attribute the degree to which finance for development projects bring environmental/climate co-benefits. The methodology for the analysis on India's international climate finance performance therefore limits itself to an analysis of all major multilateral funds, bilateral funds, bilateral finance tracked by the OECD/DAC, and funding that has been raised through the Clean Development Mechanism – the latter of which is a proxy for private sector climate finance. Estimates in the following sections are therefore likely to underestimate the total volumes of international climate finance that India receives, particularly from the private sector.

3.2.1 Multilateral climate funds

Of the 28 international climate funds analysed in this report, India is eligible to access 10 multilateral funds.²⁷ However since the GCF is not yet operational and since GEF 4 funding is now completed, in practice there are 8 multilateral funds that India is currently eligible to access. Table 3.1 lists these funds and shows the cumulative volumes of climate finance that India has received from these sources in the period 2003 to 2014, specifying how much funding has been approved and how much has been actually disbursed. The table highlights the strong role that the GEF has played in financing climate-related activity in India. The table also highlights the fact that the Clean Technology Fund is the single largest source of climate finance in India, but that funding has not yet been disbursed due to delays in the project preparation process. A detailed breakdown of project expenditure for the GEF, CTF, and Adaptation Fund – as well as India's institutional arrangements for accessing these funds – can be found in Annexes IV, V and VI.

Table 3.1: Cumulative climate finance from multilateral funds received by India, 2003-2014

Multilateral Fund	Approved*	Disbursed*
Adaptation Fund	0.00	0.00
Clean Technology Fund	349.91	0.00
Carbon Market Initiative**	-	-
GEF Trust Fund 4 (2006-2010)***	118.45	118.45
GEF Trust Fund 5 (2010-2014)	75.23	18.85
Global Energy Efficiency and Renewable Energy Fund	0.13	0.00
Partnership for Market Readiness****	0.5	0.23
Special Climate Change Fund	9.82	0.00
UN-REDD	0.00	0.00
Total:	554.04	137.53

Source: Climate Funds Update.

*Totals approved and disbursed to date, all funds in USD millions

**Data on the CMI's funding is not publically available

***GEF Trust Fund 4 data includes \$4.78 million approved and disbursed under the Strategic Priority on Adaptation (SPA) window

****World Bank PMR website. Report No. [ISDR10877](#).

3.2.2 Bilateral climate finance

Analysis of bilateral contributions from donors using the OECD/DAC Rio Markers shows that India received a sum total of \$927.74 million in 2012, of which \$701 million (75.6%) came from Germany. Table 3.2 breaks down this headline figure for mitigation and adaptation interventions in the main donor countries. A more detailed summary of all OECD countries' climate finance to India in 2012, with data disaggregated by the 'principal' and 'significant' Rio Markers can be found in Annex III. A detailed breakdown of project finance provided by Germany – the main bilateral source of climate finance in India, can be found in Annex VII.

Table 3.2: Total bilateral climate finance received by India for mitigation & adaptation, 2012

²⁷ See Annex II for a detailed list of multilateral and bilateral funds analysed in this report. This list covers all main international public climate funds, as well as several specialised thematic and geographic funds. As mentioned above, there are several funds which India is ineligible to access due to the Funds' requirements that assistance be targeted to a specific country, region, or country type (e.g. LDCs).

Rio Marker	Mitigation*	Adaptation*	Totals
Australia	11.92	12.07	23.99
France	69.41	69.41	138.82
Germany	496.07	205.26	701.33
Norway	0.35	29.15	29.5
Sweden	6.86	7.27	14.13
Switzerland	5.78	3.95	9.73
United Kingdom	2.58	2.58	5.16
Other OECD Donors	1.81	3.27	5.08
Total:	594.78	332.96	
Sum Total:	\$927.74 million*		

Source: OECD StatExtracts Database.

*Mitigation and adaptation funding totals are a combination of 'principal' and 'significant' volumes using the Rio Marker tags. All funds in USD millions, figures are cumulative totals of all OECD donors *excluding Japan*.

Box 3.1: The Japanese Fast Start Finance contribution

Japan and India have an important bilateral cooperation partnership. Japan is one of the largest international donors operating in India, and has provided substantial support to India for climate-related activities in recent years. According to the OECD's StatExtracts database, Japan provided India with \$3.36 billion in mitigation and adaptation support in 2012. However there is uncertainty over how Japan labels its climate-related development assistance and speculation that some of its funding does not meet traditional definitions of 'climate finance'. Figures from Japan's Hatoyama Initiative (2010-2012) – commonly referred to as Japan's Fast Start Financing – are therefore not covered in this study. The omission of these figures does not diminish the important role that Japan plays in India, for example in large cooperation programmes on conventional energy, as well as in smaller programmes on renewable energy. Overall figures for bilateral climate finance in Table 3.2 should thus be treated as conservative estimates.

Of the 28 international climate funds analysed in this report, India is eligible to access 3 dedicated bilateral funds from Australia, Germany, and the UK. However bilateral climate funds are only a small component of the climate-related support that India receives from international donors. Table 3.4 lists these funds and outlines the cumulative volumes of climate finance that India has received from these sources (note that the volumes are included in the total bilateral figures in Table 3.3 above). It is clear from this analysis that delivering finance to the ground remains a critical barrier for bilateral funds operating in India, as no funding that has been approved by the ICI or the ICF have been officially disbursed to date.

Table 3.4: Cumulative climate finance from bilateral funds received by India, 2003-2014

Bilateral Fund	Approved*	Disbursed*
Australia's International Forest Carbon Initiative (IFCI)	0.00	0.00
Germany's International Climate Initiative	57.6	0.00
UK's International Climate Fund	3.63	0.00
Total:	61.23	0.00

Source: Climate Funds Update.

*All funds in USD millions

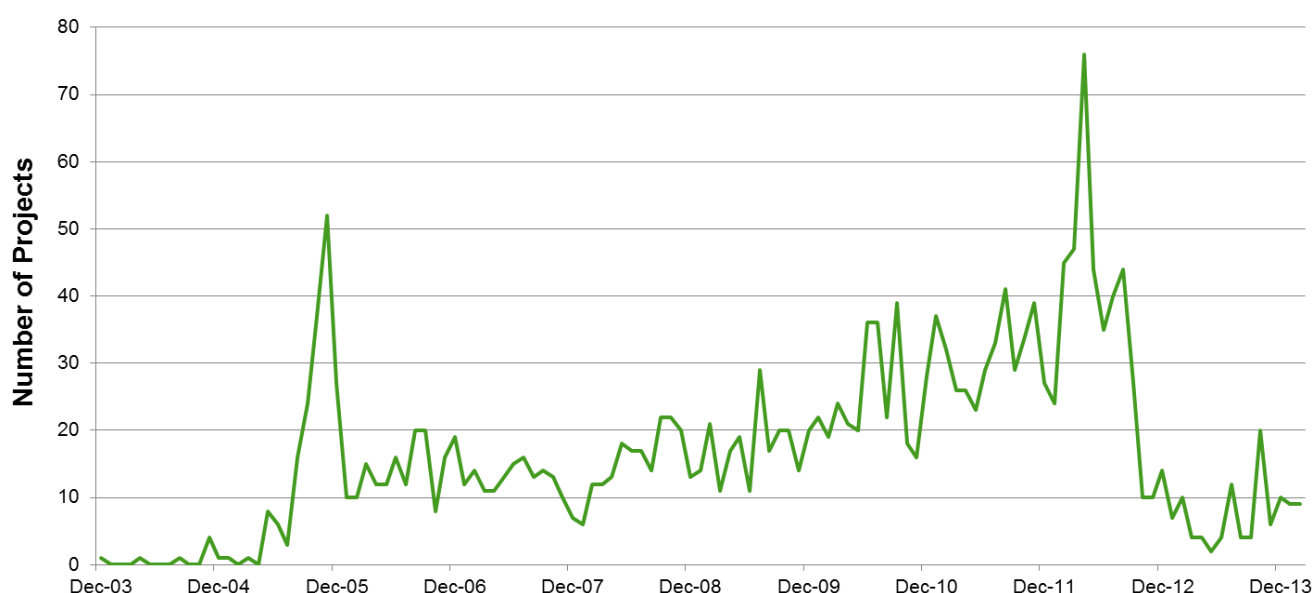
3.2.3 India's experience with CDM finance

The CDM is a flexible mechanism of the Kyoto Protocol aimed at achieving emissions reductions and technology transfer in developing countries, through the generation and trading of Certified Emission Reduction units (CER). The CDM has been one of the largest formal international arrangements to encourage private sector investment in climate-related activities.

India is the second largest recipient of CDM finance, hosting 1497 of 7496 (20%) registered CDM projects.²⁸ This is second only to China, which hosts 3749 (50%) projects. In India, 77% of CDM investment has targeted the renewable energy sector – focusing on wind, biomass, hydro, and solar energy. A further 11% of projects have focused on energy efficiency, while the remaining projects are split across fuel switching, methane emissions avoidance, cement, reforestation, transport, landfill gas, and HFC reductions. Across all of these sectors, it is estimated that India has received \$5-6 billion in private sector financing under the CDM.²⁹ The main destinations for projects have been in Tamil Nadu, Maharashtra, Gujarat, Rajasthan, Karnataka, and Andhra Pradesh, respectively.

While the CDM has played an important role in India in encouraging private sector investment, evidence suggests that India will need to look for new sources of private sector climate finance in the future. With uncertainty over the future of CERs under the second Kyoto Protocol commitment period, new restrictions for CER trading under the EU Emission Trading System, the resulting decline of the global carbon price, and a focus on operationalising the new Private Sector Facility of the GCF, CDM funding has slowed down considerably in India. Figure 3.2 shows the number of CDM projects registered in India from 2003 to 2013. The figure illustrates a sharp decline in the number of CDM projects being registered in India in the second half of 2012, coinciding with the end of the first Kyoto Protocol commitment period. With investment in CDM projects drying up, India will need to look to new and innovative sources of private sector finance to help deliver climate-compatible development. However India can be confident from the CDM experience that private sector investment will flock to the country once new institutional arrangements are set up to incentivise private investors under the GCF, and that this finance will be able to help the country meet the goals laid out in the NAPCC.

Figure 3.2: Decline of CDM investment in India



Source: UNEP Risoe CDM Pipeline Analysis and Database

²⁸ All CDM data from UNEP Risoe CDM Pipeline Analysis and Database, May 1st 2014

²⁹ Estimates based on internal calculations. There is no authoritative source on total volumes of finance and co-finance for CDM projects, even in major recipient countries such as India and China.

3.3 Comparison with peer countries

India has been able to attract large volumes of international public climate finance, and has often been more successful than its peer countries in securing international funding. Table 3.5 provides an analysis of the main multilateral funds operating in India, showing that India cumulatively receives higher disbursements than Brazil, China, Indonesia, Mexico, South Africa and Thailand. A comparison of bilateral climate finance performance between India and its peers yields similar results. Table 3.6 outlines the funding each country received in 2012 using the adaptation and mitigation tags of the OECD/DAC's Rio Markers.

Table 3.5: Comparing climate finance access in India's peer countries

Funding Source ³⁰	India	Brazil	China	Indonesia	Mexico	South Africa	Thailand
CTF	349.91	-	-	324	465.09	450	170
GEF 4, 2006-2010	113.67	34.59	135.78	22.4	41.33	18	14.56
GEF 5, 2010-2014	75.23	20.68	107.06	23.03	21.75	16.33	4
ICF (UK)	3.63	56.41	-	23.66	-	1.03	-
ICI (Germany)	52.18	67.23	73.59	23.95	39.68	30.13	29.41
Total:	594.62	178.91	316.43	417.04	567.85	515.49	217.97

Source: Climate Funds Update

All figures in USD millions. Figures are cumulative volumes of funding *approved* from each fund, 2003-2014 (unless otherwise specified). Pledges for each of these funds to a given country may be higher as these funds only refer to approved funds. Correspondingly, dispersals may be lower as individual projects may not yet be at implementation stage.

Table 3.6: Comparison of bilateral climate finance received by India's peer countries, 2012

Rio Marker	India	Brazil	China	Indonesia	Mexico	South Africa	Thailand
Mitigation	594.78	1176.07	289.71	138.16	352.50	204.96	10.80
Adaptation	332.96	47.62	62.22	106.66	23.86	17.89	6.31
Total:	927.74	1223.69	351.93	244.82	376.36	222.85	17.10

Source: OECD StatExtracts Database.

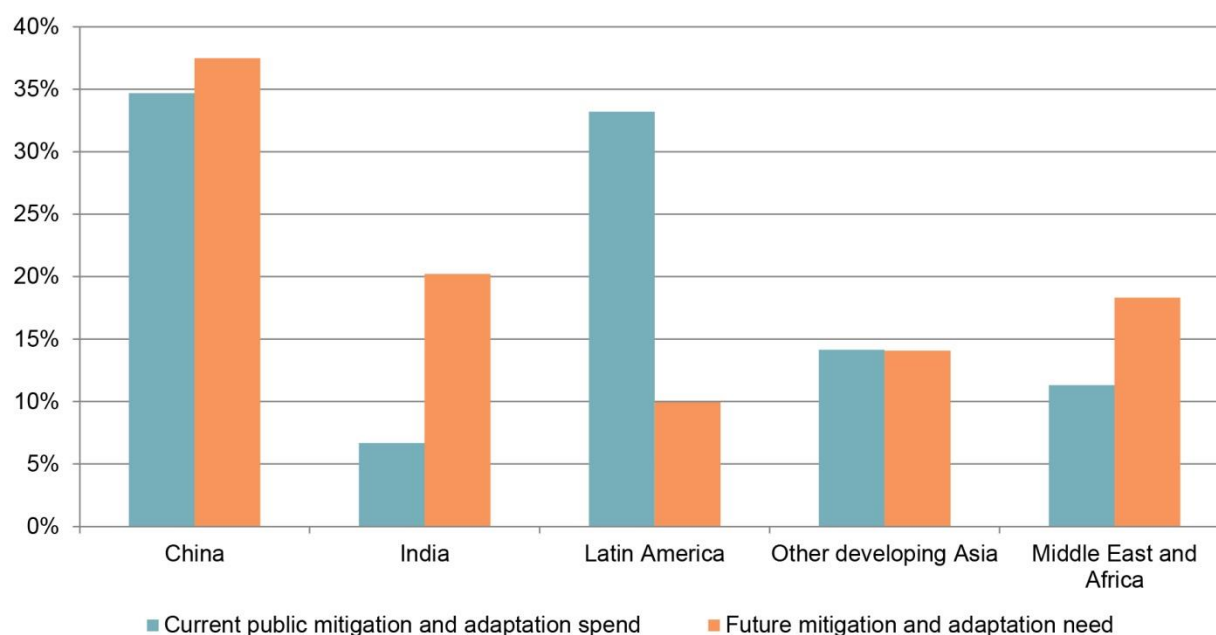
All figures in USD millions. Volumes pertain to flows from all 28 members required to report to the OECD DAC, excluding Japan.

Bilateral climate finance received for mitigation and adaptation in each country refer to the cumulative 'principal' and 'significant' flows received, using the OECD's Rio Marker criteria.

The data from these two tables show that in absolute terms, India received more climate finance from multilateral climate funds and bilateral assistance than any of its peer countries. While this is an important finding, there is evidence to suggest that India still needs to improve its ability to access international climate finance. Figure 3.3 provides data from the Climate Policy Institution, the International Energy Agency, the World Bank, and Vivid Economics, which shows that – unlike China and Latin American countries like Brazil – India is not attracting climate finance in sufficient volumes relative to the country's future adaptation and mitigation needs. This analysis is consistent with the CDM analysis and Tables 3.5 and 3.6, which demonstrate that India is not attracting volumes of climate finance near the estimated \$7 billion per year needed to meet the NAPCC's funding gap.

³⁰ The main funding sources correspond to the main multilateral and bilateral sources of climate finance in India. The methodology for selecting these funds is detailed in Annex I. The Adaptation Fund is excluded from Table 3.5 as none of the countries have received any AF finance at the time of writing.

Figure 3.3: Current total public climate finance, is underweight in India and overweight in Latin America, when compared to future mitigation and adaptation finance needs



Source: Buchner et al. (2012), IEA (2012), World Bank (2010), Vivid Economics.³¹

3.4 India's climate finance performance: High-level trends

The analysis in the previous section shows that India is already attracting climate finance that can help the country meet its sustainable development goals – although likely not at the level needed to fully implement the country's main climate change strategy. In sum, the main messages that come out of this analysis are:

- **India has developed a comprehensive national climate change policy** – the NAPCC – which addresses eight priorities for sustainable development with climate change co-benefits.
- The NAPCC is **not backed by a coordinated financing strategy** – although estimates of the cost to implement the Plan are at least \$38 billion.
- Since 2003, **India has accessed \$554 million from multilateral climate funds**, with the CTF and GEF being the two most important sources.
- **In 2012 India received nearly \$928 million in bilateral climate finance** for mitigation and adaptation, excluding funding from Japan. 76% of this financing came from Germany.
- For both bilateral and multilateral climate finance, **delays on disbursement and project implementation remain a barrier** that needs to be overcome in India.
- India was the **second largest recipient of CDM investment**, behind China, although CDM financing has begun to dry-up and **cannot be expected to play a major role in the future**.
- **Renewable energy projects are the main destination for private sector climate finance investment**, comprising 77% of total CDM funding. Strong government action under the

³¹ Vivid Economics (2014), Delivery vehicle options for the International Climate Fund, report prepared for ICF spending departments.

NAPCC will need to be taken to channel investment into other priority sectors in India, such as energy efficiency.

- **Estimates on India's total annual climate finance flows are likely to be much higher than the cumulative value of multilateral, bilateral and CDM funding outlined in this report**, as additional sources of private finance, multilateral climate finance not channelled through dedicated climate funds, and donors like Japan are added to the calculation.
- **India's track record in accessing climate finance is strong in absolute terms compared to peer countries** like Brazil, China, Indonesia, Mexico, South Africa & Thailand.
 - **Existing climate finance volumes are nevertheless insufficient to meet the \$38billion funding goal** necessary to implement the NAPCC, and will need to be supplemented with government revenues, private investment, and further international climate finance.

4 Development of a climate finance Readiness Framework

Chapter 3 highlighted the fact that India has performed well in accessing international climate finance, in both absolute terms and also relative to peer countries. However, even though India received nearly \$1 billion in climate finance from bilateral sources in 2012, financial flows are still far below the annual rate of investment that India will need to meet the \$38 billion funding gap for the NAPCC.

It is therefore critical to understand how India could improve its ability to access and deliver larger volumes of climate finance in the future, especially as new funding streams like the GCF become operational. Armed with this information, policymakers, policy analysts, public agencies, private investors, research institutions, think tanks, and civil society can help drive institutional changes in India that will lead to significant scaling-up of international climate finance and investment.

The next three chapters turn to the question of how India could improve its performance in accessing international climate finance. Chapter 4 begins with a theoretical examination of how countries can improve their performance in accessing climate finance. The focus of this chapter is the elaboration of a conceptual 'readiness framework' that outlines the functions, institutions, skills and capacities that are required for a country to access and deliver climate finance, along with metrics to evaluate performance in these categories. In later chapters, this framework will be used to assess India's climate finance readiness and develop recommendations for how the country can improve its readiness going forward.

4.1 What is climate finance readiness?

Climate finance 'readiness' is a new concept that has emerged in recent years. Readiness has risen on the climate finance policy agenda largely as a result of the GCF, which is expected to deliver unprecedented volumes of climate finance to developing countries in the years ahead. With uncertainty over whether recipient countries will have the absorptive capacity to deal with these volumes, the GCF laid out the following provision in its governing instrument for the early stage of its operations:

*"The Fund will provide resources for readiness and preparatory activities and technical assistance, such as the preparation of LEDS, NAMAs, NAPs, NAPAs, and for in-country institutional strengthening, including the strengthening of capacities for country coordination to meet fiduciary principles & standards and environmental & social safeguards, in order to enable countries to directly access the Fund."*³²

As the GCF has gradually moved closer to opening for business, more programmes and projects have attempted to prepare developing country governments and national institutions for greater volumes of climate finance³³ - highlighting the increasing importance of readiness in the climate finance policy space. But what exactly is meant by climate finance 'readiness'? This report takes the definition of readiness from UNDP, who define readiness as:

The **capacities** of countries to **plan for, access, deliver, and monitor and report on climate finance**, both international and domestic, in ways that are catalytic and fully integrated with national development priorities and achievement of the MDGs.³⁴

³² GCF governing instrument: http://gcfund.net/fileadmin/00_customer/documents/pdf/GCF-governing_instrument-120521-block-LY.pdf

³³ For example, GIZ has begun a Global GCF Readiness Programme that is providing climate finance support in 25 developing countries.

³⁴ UNDP (2012) Readiness for Transformative Climate Finance

4.2 Readiness Framework overview

One of the main goals of this report is to understand how countries can improve their readiness to access and deliver climate finance. The UNDP definition of readiness provides a good conceptual overview of climate finance readiness, but the next step – translating the concept of readiness into a set of metrics that can be evaluated – is much more difficult.

As a first step to evaluating readiness in individual countries, the project team has developed a climate finance Readiness Framework, which frames national climate finance readiness in a way that can be evaluated across a number of important categories. The Framework itself is not entirely new. Rather, it builds heavily on several readiness frameworks that have been developed in recent years, borrowing the strongest elements of each and amalgamating them into a cohesive whole. Importantly though, it adds the next step that has been missing until very recently – the evaluation criteria used to determine a country's level of climate finance readiness.

The following two sections outline the Readiness Framework that will be used for evaluating India's climate finance readiness in this report. First, the Framework itself is outlined in Section 4.3, with a brief explanation of how the Framework was developed and the models that it was based on. Section 4.4 then outlines how the Readiness Framework can be applied in practice, detailing the evaluation criteria that are used to assess readiness at the national level.

4.3 The climate finance Readiness Framework

The climate finance Readiness Framework that has been developed for this report is based on the following three frameworks:

- **UNDP's Readiness Framework³⁵**, which highlights *four process-oriented components* of readiness: financial planning; accessing finance; delivering finance; MRV of financial flows.
- **ODI's '3R' Framework³⁶**, which takes a softer approach, outlining *three core competencies* that a country must exhibit: planning; aptitude; and access. These three competencies must be contextualised within a process that is *relative* to a country's socio-economic and geopolitical characteristics, *responsive* to national needs and challenges, and *reasonable* in proposing practical solutions.
- **The Nature Conservancy (TNC)'s 'Functional' Framework³⁷**, which outlines *four functions of readiness* that a country's institutions must perform: political; strategic; financial; and MRV – all of which are performed by specialised executing agencies

The three frameworks highlighted above provide valuable reference points for understanding climate finance readiness. Importantly, they all have substantial overlapping features. For example, all three frameworks recognise the importance of planning and financial management as key components of readiness. Yet they all have slight differences, with the UNDP focusing on financial processes, ODI focusing on capacities and skills, and the TNC focusing on broader institutional functions.

Borrowing from the strengths of each of these frameworks, this report proposes a new Readiness Framework – one that can provide a holistic look into the functional, institutional, and capacity-based elements of a country's readiness. It also allows for a more practical evaluation of readiness capabilities in a given country, drawing on GIZ's Clif Reflect tool to provide a list of evaluation criteria used to test the framework and to provide recommendations for improving climate finance readiness. Figure 4.1 outlines this new Framework.

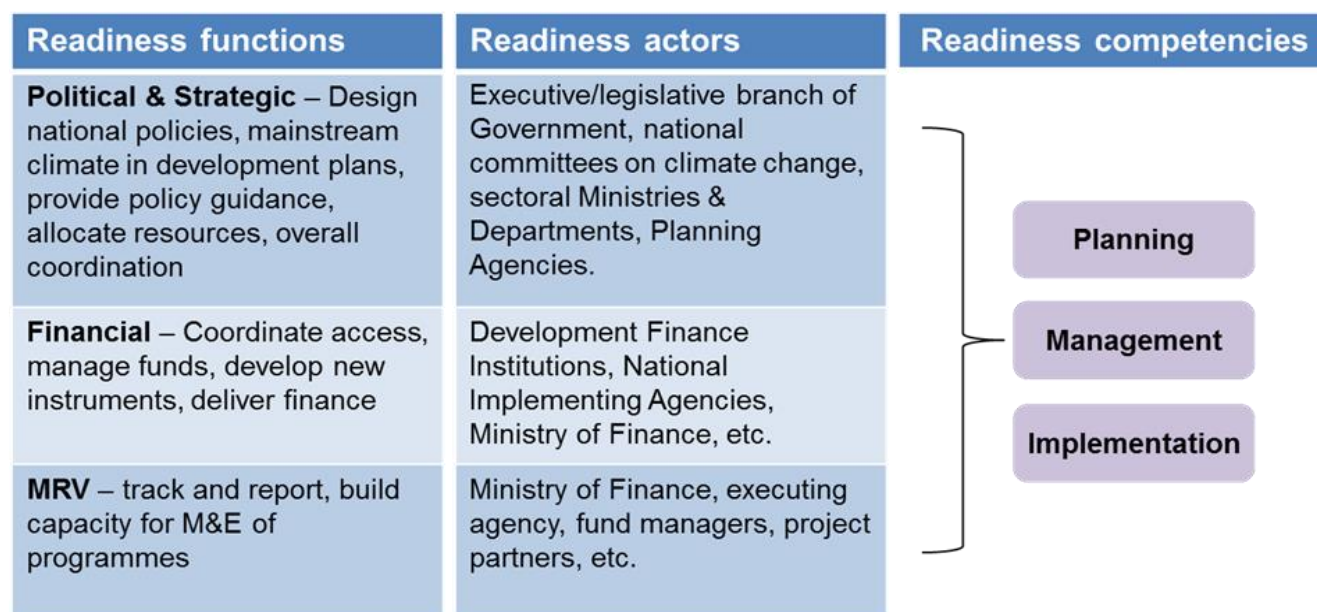
³⁵ Vandeweerd, V., Glemarec, Y., & Billet, S. (2012). Readiness for Climate Finance: A framework for understanding what it means to be ready to use climate finance

³⁶ Nakhooda, S., & Watson, C. (2013). Climate Finance Readiness: Understanding readiness to access and use climate finance effectively

³⁷ The Nature Conservancy (2012). Climate finance readiness: lessons learned in developing countries.

Figure 4.1: Climate finance Readiness Framework

The Readiness Framework is a combination of four functions performed by key actors, agents and institutions, who require specific skills and competencies to perform these functions



Principals: *Relative* to national circumstances, *Responsive* to country needs, *Reasonable* in identifying priority responses.

The Readiness Framework is built around TNC's four 'functions' of readiness – political, strategic, financial, and MRV – that a country must exhibit in order to be adequately prepared to access and deliver large volumes of climate finance. These four functions have been grouped into three in this report, as there is substantial overlap between the political and strategic functions. Each of these functions are underpinned by skills, competencies, and experiences relating to planning, management, and implementation – all of which are embedded in existing institutions, agencies and actors within a country. Taking a holistic view, the Framework incorporates ODI's '3R' Framework, ensuring that recommendations to improve readiness consider the country's specific constraints and barriers. This approach is: *relative* (taking a country's socioeconomic and geopolitical characteristics into account), *responsive* (to its particular needs, priorities, and challenges), and *reasonable* (in terms of having identified the key issues and challenges at hand, and recommending practical steps that can be taken to address these considerations).

The functions of readiness provide an overview of the key elements of a country's national response to climate change. The degree to which these functions have been implemented in a country provides a snapshot of whether that country has the capacity to fully access and use climate finance to implement its flagship national climate strategies. Based on TNC's classification, the activities captured under each of these functions include (but are not limited to) the following:

Political & Strategic Functions

- Establish a national climate strategy & oversee its alignment with national development plans
- Mainstream climate change into national policy agendas
- Align institutional management of climate change with climate finance strategies
- Identify priority actions, sectors, and regions for the national climate change strategy
- Allocate national budgetary resources for climate-related programmes
- Support the design and implementation of actions of the national climate change strategy

- Coordinate the design, development and implementation of sectoral NAMAs
- Improve regulatory environment for investment in climate-related activities
- Promote capacity-building in public sector institutions at the national, regional & sectoral level

Financial Function

- Coordinate the access of international climate finance from new and existing sources
- Coordinate climate finance delivery through multiple instruments, delivery modalities, and executing agencies (e.g. DFIs, government departments, NGOs, and private sector actors)
- Develop a pipeline of projects that can be used to attract climate-related investment
- Develop financial products and instruments for climate-related projects and programmes
- Deliver climate finance projects at the local level, ensuring that projects and programmes adhere to appropriate fiduciary standards and environmental and social safeguards

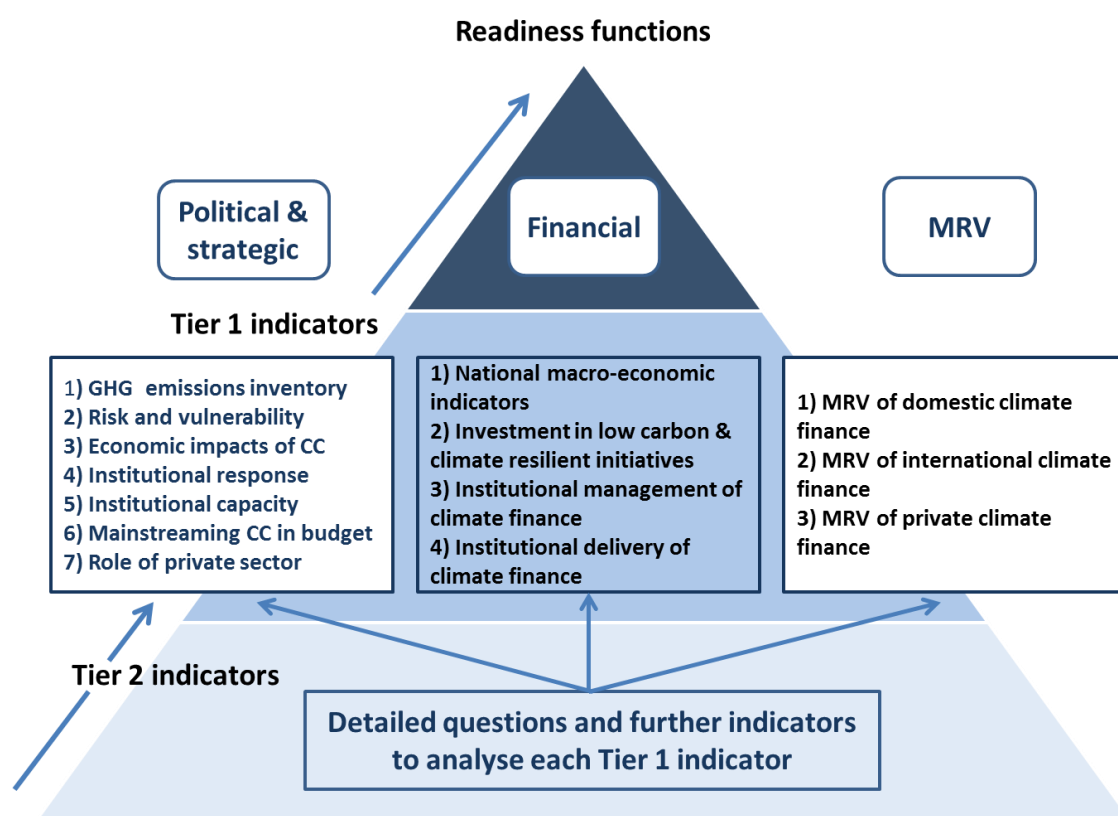
MRV Function

- Report on the activities, products, results, and goals achieved in the implementation of national climate change strategies/policies
- Report the impact of climate finance from domestic, private, and international sources on emissions reduction and vulnerability reduction
- Report to donors and UNFCCC on financial flows as per established requirements

4.4 Evaluation criteria for the Readiness Framework

At a theoretical level, the Readiness Framework developed for this report goes beyond existing models of climate finance readiness, combining the strongest elements of each into one holistic Framework. What sets Framework apart, however, is that it can be applied to a given country to determine how ready that country is to access and deliver climate finance.

Figure 4.2: Applying the readiness framework with Tier 1 & Tier 2 indicators



Following extensive consultation and development with stakeholders working in the climate finance policy space, this report lays out a series of metrics that can be used to analyse climate finance readiness in a specific country for each of the four main functions of readiness. To a large degree, the metrics have been developed in consultation with experts who developed GIZ's Clif Reflect Tool. The metrics take the form of a series of questions about a country's readiness, grouped in two Tiers under each of the main readiness functions. The questions from GIZ's Clif Reflect Tool have been adapted to fit within the Readiness Framework functions, and where necessary, have been supplemented by questions developed by the project team. Figure 4.2 provides a high-level outline of the Framework's evaluation criteria.

At the top of the pyramid, each function provides a headline theme relating to climate finance readiness at the national level. For each of these functions, a series of Tier 1 indicators have been elaborated that cover all of the sub-themes of the function. Finally, each of these Tier 1 indicators are backed by a number of Tier 2 indicators (see Tables 4.1-4.3), which are questions that analyse the skills and capacities held by institutions and actors who perform the sub-themes of the four readiness functions. Importantly, the questions have been designed to highlight the **planning, management, and implementation** competencies listed in the Readiness Framework. As such, when the Framework is used to evaluate a country's climate finance readiness, the detailed indicators will elicit responses that highlight the extent that these key climate finance competencies are present in key agencies and institutions in the country in question.

To apply the Framework in practice, experts working in climate change and environmental policy, finance, and relevant sectors – representing government, national or regional implementing agencies, civil society, think tanks, research institutions, the private sector, and international donors – are consulted and asked Tier 2 questions relevant to their expertise. Answers from the Tier 2 level are scored by the evaluators and aggregated at the Tier 1 level to give headline Tier 1 messages – which can in turn be aggregated to give high-level messages at the functional level. Chapter 5 covers this methodology for application in India in greater detail.

Table 4.1: Detailed Tier 1 & Tier 2 indicators for the Political & Strategic functions

Political & Strategic Functions	
Tier 1 Indicators	Tier 2 Indicators
1. GHG emissions Have emissions estimates been identified at the national and sectoral levels?	1.1 What are the major emissions sources in the country? 1.2 What systems (if any) are in place to estimate and account for economy wide emissions (e.g. greenhouse gas inventories, national communications, etc.)?
2. Risk & Vulnerability Have climate impacts, vulnerabilities, & risks been identified?	2.1 What assessments (if any) of climate risk at country and sectoral levels have been completed? 2.2 What are the country's major vulnerabilities to climate change and what sectors are expected to be most heavily impacted?
3. Economic impacts of climate change Have implications of climate change for the national economy been estimated?	3.1 Have the implications of climate change for current public and private sector investment / economic strategies in key target sectors been considered? 3.2 Have the costs and benefits of taking action to shift these strategies been assessed and quantified?

<p>4. Institutional response to climate change</p> <p>Have effective institutional mechanisms to respond to climate change been put into place?</p>	<p>4.1 Is there a strategy, plan or policy that addresses climate change?</p> <p>4.2 Who are the key actors/institutions who have championed the climate change response?</p> <p>4.3 What arrangements for key actors to exchange information and develop collaborative approaches exist and are used?</p> <p>4.4 How often do key actors meet, and what is the level of engagement and commitment?</p> <p>4.5 Is there high level political commitment to these arrangements?</p> <p>4.6 How formalised are these arrangements?</p>
<p>5. Institutional capacity to access & coordinate climate finance</p> <p>Is there strong institutional experience/knowledge in accessing & delivering international climate finance?</p>	<p>5.1 Are officials at relevant ministries aware of international climate finance opportunities?</p> <p>5.2 What experience is there in accessing international climate finance?</p> <p>5.3 How are cross-cutting issues and decisions on climate related funding coordinated across various ministries and DFIs? Are roles clearly defined?</p> <p>5.4 Have efforts been made to assess where international climate finance might add the most value? (What sectors, what type of financing?)</p> <p>5.5 Who liaises with existing international funds?</p> <p>5.6 Do Government and Development Finance Institutions (DFIs) have the capacity to identify and successfully access international climate finance?</p>
<p>6. Mainstreaming of CC into national budgets</p> <p>Is climate change mainstreamed into the national budget and financial planning cycle?</p>	<p>6.1 Are climate change priorities reflected in the national strategy also reflected in the budget?</p> <p>6.2 Do staff in key ministries have expertise or tools to consider climate change linkages in national budgeting planning cycle?</p> <p>6.3 Have the impacts of climate change on domestic revenues been assessed in national macroeconomic forecasts?</p>
<p>7. Role/engagement of private sector</p> <p>Is the private sector involved in the national climate change response?</p>	<p>7.1 Have the implications of climate finance for the private investor community been assessed?</p> <p>7.2 To what extent are there ongoing programmes or projects that seek to encourage private sector investment? How well have they worked?</p> <p>7.3 To what extent are there forums in place to engage the private sector on climate change issues?</p> <p>7.4 To what extent do investors and private actors have access to / awareness of/ and use tools to assess climate change impacts (e.g. GHG accounting, or climate risk screening tools)?</p>

Table 4.2: Detailed Tier 1 & Tier 2 indicators for the Financial function of the framework

Financial Function	
Tier 1 Indicators	Tier 2 Indicators
1. National economy What are the key macroeconomic and financial characteristics of the national economy?	1.1 What are the key macroeconomic indicators in the country? Has financial and macroeconomic performance impacted climate-related investment?
2. Investment in low carbon & climate resilient initiatives Is there a strong investment climate for low carbon and climate resilient initiatives – for both the public and private sectors?	2.1 How established are low carbon options at present? Is there significant domestic or international investment in renewable energy, energy efficiency, and other low carbon technologies? 2.2 What is the mix of public and private investment in the key sectors that are affected by climate change/ part of the national response to climate change? 2.3 Have efforts been made in the past to support feasibility studies and develop 'bankable programmes'? If so, what was their scope, and what amounted from them Are there any insights into the reasons for their success or failure? 2.4 Have any efforts to address climate risk through finance been made by the private sector (e.g. insurance, etc.)?
3. Institutional management of climate finance Does the country have a strong institutional structure to manage domestic & international climate finance?	3.1 Are there one or more institutions that manage domestic & international climate finance? 3.2 Does this institution(s) have the capacity to coordinate the delivery of climate finance, using a blend of sources (e.g. public and private) and instruments where necessary? 3.3 What experiences do institutions that can provide NIE type functions have in managing large international projects?
4. Institutional delivery of climate finance Does the country have a strong institutional structure to deliver climate finance through institutions that can act as NIEs?	4.1 Are there one or more institutions that deliver international climate finance? 4.2 Do institutions that can provide NIE type functions easily meet international accreditation requirements and funds' fiduciary, environmental and social standards? 4.3 Do institutions that can provide NIE type functions have experience delivering complex climate-related programming, including projects that involve private climate finance? 4.4 Do institutions that can provide NIE type functions have experience identifying climate risks, vulnerability, technological options appraisal, etc. to prepare the establishment of a pipeline of bankable projects? 4.5 Are there regional institutions that might also be well placed to deliver climate finance?

Table 4.3: Detailed Tier 1 & Tier 2 indicators for the MRV function of the readiness framework

MRV Function	
Tier 1 Indicators	Tier 2 Indicators
1. MRV of domestic climate finance Are there systems and structures in place to conduct MRV of domestic public climate finance?	1.1 Have efforts been made to identify, track and report climate-related spending in the national budget? 1.2 Are public institutions able to track the impact (emissions, vulnerability reduction) of major domestic climate-related investments?
2. MRV of private climate finance Are there systems and structures in place to conduct MRV of private climate finance?	2.1 Have efforts been made to identify, quantify and report private investment in low carbon and climate resilient approaches? 2.2 Are private institutions able to track the impact (emissions, vulnerability reduction) of major climate-related investments?
3. MRV of international climate finance Are there systems and structures in place to conduct MRV of international climate finance?	3.1 Have efforts been made to identify, quantify and report external (international) finance for low carbon and climate resilient approaches? 3.2 Have systems for measuring and reporting the impact (emissions, vulnerability reduction) of international climate finance been developed?

5 Assessment of India's climate finance readiness

5.1 Methodology

As described in Chapter 4, the Readiness Framework is a diagnostic tool that provides information on climate finance readiness in a specific country. Chapter 5 presents the findings from the application of the Readiness Framework in India, in order to determine what barriers and gaps need to be addressed in order for India to become more ready to access international climate finance.

The first step of the analysis consisted of a series of consultations with expert informants from government, public sector agencies, civil society, donors, the private sector, research institutions, think tanks, etc. operating in India. These one-on-one consultations were guided by the Readiness Framework's Tier 2 indicators, with the project team asking questions and probing experts on issues relevant to the respondent's particular field of expertise. These consultations included interviews with representatives from:

- Indian government (Ministry of Finance, CFU, BEE, MoEFCC)
- Public sector agencies (SIDBI, IREDA, NABARD, Energy Efficiency Services Limited (EESL))
- Donors (GIZ, DFID, Swiss Agency for Development Co-operation, IFC, KfW, World Bank)
- Private sector (Tata Clean Tech Capital, KPMG)
- Civil Society (CPR, TERI, IFMR)

Using data and responses collected from the first round of detailed consultations, evidence was recorded for each Tier 2 indicator, after which each indicator was scored by the project team on a scale of 1-3 (1-weak, 2-moderate, 3-strong).³⁸ In order to distil the responses from these consultations into clear messages and meaningful recommendations (see Chapter 7), the following factors were considered when scoring:

- How performance relates to fulfilling India's national strategies (as outlined in the 12th FYP, NAPCC and SAPCCs).
- How key national circumstances frame the answers given by respondents. For example, in India strong planning and policy frameworks at the national level has historically not translated to the local level due to number of barriers (e.g. capacity, knowledge, programme/project management skills). Expert responses on climate finance planning approaches are likely to be grounded in this context.
- On the potential impact/severity of areas where performance was considered weak. For example, limited engagement with the private sector on climate change means the private sector project developers do not have the requisite skills and capacity to design/implement projects, which could in turn impact future performance under the GCF's Private Sector Facility.
- Where actions and improvement are realistically possible given current political and economic realities.
- How India has performed relative to peer countries, based on a comparison of lessons from international experience (see Chapter 6).
- The study team's expert views based on internal analysis and desktop research.

³⁸ Please note that the Framework provides a *relative* comparison. For example India's institutional capacity to access international climate finance is *relatively better* to its implementation and delivery mechanisms; India's DFIs fiduciary and ESG standards are *relatively weak* compared to international standards or GCF requirements.

Annex VIII shows the detailed responses and scores for each of the Tier 2 indicators based on this first round of stakeholder consultation.

These consultations were followed by a round-table workshop in May 2014 where the preliminary findings on India's readiness were discussed, and where experts gave their views on the gaps that India must address to improve its climate finance readiness. The views from this validation workshop were then incorporated into the scoring of the Tier 2 indicators, in order to give weight to particularly salient points that emerged during the second consultation.

Chapter 5 provides an analysis of India's readiness to access and deliver climate finance, based on these two rounds of consultations. The analysis begins with an overall scorecard of India's climate finance performance at the Tier 1 level, based on an averaged scoring of each of the Tier 2 indicators collected through the consultation process. The following three sections provide headline messages on India's climate finance readiness at the function-level, in order to provide policymakers and stakeholders with guidance on the main areas where India could improve its climate finance readiness. These messages follow the Readiness Framework overview in Figure 4.1, indicating the agents/actors/institutions responsible for providing the function and the key competency/skill gaps that hinder the full delivery of the readiness function. Following these headline messages, detailed responses to the Tier 1 indicators for each function are provided, based on an aggregate of answers to the Tier 2 indicators.

It is important to acknowledge, however, that since the Readiness Framework is a diagnostic tool, it is not without subjectivity. The study team is confident that the tool provides an accurate portrayal of India's readiness performance, based on a plurality of responses that have been validated by the wider group of stakeholders for quality assurance. Nevertheless the answers must be treated for what they are – opinions held by experts in their respective fields, and not objective facts.

5.2 India's climate finance readiness scorecard

Political & Strategic Functions	Score
1. GHG emissions Have emissions estimates been identified at the national and sectoral levels?	3 – strong
2. Risk & Vulnerability Have climate impacts, vulnerabilities, & risks been identified?	1.5 – moderate
3. Economic impacts of climate change Have implications of climate change for the national economy been estimated?	1.0 – weak
4. Institutional response to climate change Have effective institutional mechanisms to respond to climate change been put into place?	1.6 – moderate
5. Institutional capacity to access & coordinate climate finance Is there strong institutional experience/knowledge in accessing & delivering international climate finance?	1.9 – moderate
6. Mainstreaming climate change into national budgets Is climate change mainstreamed into the national budget and financial planning cycle?	1.0 – weak
7. Role/engagement of private sector Is the private sector involved in the national climate change response?	1.0 – weak
Financial Function	Score
1. National economy What are the key macroeconomic and financial characteristics of the national economy?	Descriptive ³⁹

³⁹ This indicator is descriptive, but is nevertheless important to capture, as India's broad macroeconomic trends will impact the willingness of investors to fund climate-related projects in the country.

2. Investment in low carbon & climate resilient initiatives Is there a strong investment climate for low carbon and climate resilient initiatives – for both the public and private sectors?	1.3 – weak
3. Institutional management of climate finance Does the country have a strong institutional structure to manage domestic & international climate finance?	1.7 – moderate
4. Institutional delivery of climate finance Does the country have a strong institutional structure to deliver climate finance through institutions that can provide NIE functions?	1.0 – weak
Tier 1 Indicators	Score
1. MRV of domestic climate finance Are there systems and structures in place to conduct MRV of domestic public climate finance?	1.25 – weak
2. MRV of private climate finance Are there systems and structures in place to conduct MRV of private climate finance?	1.0 – weak
3. MRV of international climate finance Are there systems and structures in place to conduct MRV of international climate finance?	1.25 – weak

5.3 Political & Strategic functions

5.3.1 Headline messages

There are well developed national and state plans put in place to deal with climate change. However the plans are not supported by detailed financing or implementation strategies; there are no formal or legally-mandated agency to access, deliver, coordinate, or centrally manage climate finance.

Agent/actor/institution: India has launched plans/policies such as the NAPCC, SAPCC and intensity targets, along with relevant institutions led by MoEFCC.

Competency Gaps: Greater coordination, regular communication and above all accountability is currently lacking in the climate finance response.

There have been limited efforts to assess the impact of climate change on the national economy, and to prioritise specific investment based on a costs-benefit analysis of business as usual (BAU) vs. government intervention.

Agent/actor/institution: Nodal Ministries responsible for implementing the NAPCC's 8 Missions.

Competency Gaps: Planning and financial tools to appraise state and sectoral level development plans to address climate change are not available.

Climate change is not mainstreamed (through sectoral or state actions plans) into the national budget and financial planning cycle.

Agent/actor/institution: 12th FYP and 13th Finance Commission have made minor references.

Competency Gaps: There is limited capacity, coordination and access to tools within ministries to integrate climate plans with other strategic plans & budgets.

There has been limited engagement of the private sector on climate finance issues.

Agent/actor/institution: Lack of representation of the private sector in any of the national committees and bodies on climate change; few forums in place to engage the private sector.

Competency Gaps: Capacity and skills gaps with public and private players have led to early stage enforcement and implementation issues; There is a lack of understanding and capacity to use climate risk screening tools for investment decisions.

5.3.2 Detailed scoring of Tier 1 indicators

1. GHG emissions – Have emissions estimates been identified at the national and sectoral levels?

3

- **India has appropriate systems in place to estimate GHG emissions**, namely the Indian Network for Climate Change Assessment; National Communications to the UNFCCC (2004 and 2012); and via the India GHG Programme.

2. Risk & Vulnerability – Have climate vulnerabilities, risks and been identified and estimated?

1.5

- **Macro-level risk assessments have been conducted; however there is a need for detailed sectoral and State-level analysis.** Vulnerabilities attributed to rise in surface temperature, sea level rise and adverse weather conditions are given in the National Communications to the UNFCCC, IPCC reports and National Mission documents.
- **Key vulnerabilities have been identified but the link between environmental damage and socio-economic impact needs to be clearer.** Adverse impacts on Biodiversity, Urban Areas, Rural Development, Health, Food and Water have been analysed in the National Communications to the UNFCCC, IPCC reports, 12th FYP and National Mission documents. However, the link between key vulnerabilities and the specific impacts in terms of freshwater species) and socio-economic impacts (e.g. health impacts, loss of economic assets) is not clear.

3. Economic impacts of climate change – Have implications of climate change for the national economy been estimated?

1

- **Climate change awareness has improved in India, however economic strategies still do not consider the impacts of climate change appropriately.** National plans, such as the 12th FYP, have given attention to the impacts of climate change, however they do not provide detailed analysis on the implications climate change will have on the economy. State-level and sectoral development plans rarely appraise or address the economic impacts of climate change.
- **Investment requirements have been assessed for major climate change programmes, but a full scale costs-benefit analysis between BAU and climate change strategies has not been undertaken.** There have been preliminary estimates made on implementing the NAPCC, estimated at \$38 billion by the Economic Survey of India. However, nodal Ministries entrusted with the implementation of the missions are yet to fully assess the likely costs of actions; estimates are therefore currently very fragmented and incomplete. There are no 'needs' assessment aimed at estimating financial needs for each prioritised mitigation and adaptation measure, or identifying possible financial instruments/mechanism to deliver them. No cost-benefit analysis has been undertaken on the actions for mitigating emissions from the largest sectors or reducing impacts of climate vulnerable sectors.

4. Institutional response to climate change – *Have effective institutional mechanisms to respond to climate change been put into place?*

1.6

- **India has launched several plans and policies** (emission intensity targets, NAPCC and SAPCC) to address climate change **but they are lacking detail in terms of implementation, internal procedures, coordination and funding.** The majority of plans are not very detailed or ready for implementation, and do not have clear funding strategies. The key actors involved in the process are:
 - Political Function: Prime Minister's Council on Climate Change
 - Strategic Function: Planning Commission and MoEFCC
 - Financial/ MRV: Climate Change Finance Unit, MoF
 - Execution/ Implementation: MoEFCC and other line ministries & departments such as MNRE, MOP, BEE, Financial institutions such as IREDA, NABARD, SIDBI etc.
- **Clear systems and procedures are in place but the level of engagement and frequency of meetings have been limited.** Even though there is high-level political commitment to the NAPCC at the PMO-level, the operationalisation of the strategy has been slow and limited.
- **Climate change programmes are not legally mandated,** though they are formally assigned to key ministries for planning & execution purposes. These programmes are appraised like all other major Government programmes and funded by budgetary allocations.

5. Institutional capacity to access & coordinate climate finance – *Is there strong institutional experience/knowledge in accessing & delivering international climate finance?*

1.9

- **There is knowledge within a number of Ministries and agencies (e.g. MoEFCC, NABARD) on opportunities to access international climate finance through traditional routes.** To date India has accessed more than \$550 million in international public climate finance (see Chapter 3) from multilateral funds – mainly through the CTF and the GEF.
- **Limited analysis has been undertaken to identify key sectors and activities where international climate finance would add more value.** According to the 12th Five Year Plan, all direct climate-related spending should come from international sources; however a strategic assessment of how this will be achieved has not been undertaken.
- **Capacity constraints and knowledge gaps still exist for scaling up access and deployment of international climate finance.** Existing government departments (MoEFCC and DEA) and Development Finance Institutions (SIDBI, IREDA, NABARD) have good experience in accessing international climate funds and deploying climate finance in key projects, respectively. However, it is not clear whether existing skills and experience are transferable to emerging modalities such as the GCF. Capacity gaps that still remain include: limited sectoral coverage for projects; technical capabilities to design, evaluate, and screen programmes; limited geographical reach; lack of experience in using innovative financial instruments; and MRV capabilities.

6. Mainstreaming climate change into national budgets – *Is climate change mainstreamed into the national budget and financial planning cycle?*

1

- **There is limited capacity and coordination within ministries to integrate climate plans with other strategic plans and budgeting cycles.** Climate change is not systematically mainstreamed into national and State budgets, as most development policies/programmes view climate/environmental outcomes as co-benefits rather than as explicit programme objectives. With the setting up of the Climate Finance Unit at the MoF, the process is beginning to be streamlined. However, the CFU needs to be strengthened to be able to

support key national nodal agencies in mainstreaming domestic and international action on climate change – particularly on issues related to financing.

- **Climate change planning and financing at the State level is at a very early stage of development.** The 12th FYP document emphasizes that most of the resources required for sectoral actions under the State Action Plans will need to be provided by State Governments. However the 13th Finance Commission of India suggested that central government transfers to States could support climate change activities. Towards this end, an umbrella scheme on Climate Change Action Programme is proposed to be launched during the 12th FYP. Support to State Governments could be based on a set of transparent and objective criteria to be monitored by a Steering Committee in the MoEFCC. In addition, State Government may earmark provisions for implementing activities under their SAPCC.

7. Role/engagement of private sector – *Is the private sector involved in the national climate change response?*

1

- **The Government of India has provided regulatory mechanisms and economic incentives for engaging the private sector, but actual deployment of programmes has been slow.** GoI has attempted to engage the private sector through incentives such as Feed in Tariff (FITs), fiscal incentives, generation-based incentives, market instruments (Performance, Achieve and Trade (PAT) and Renewable Energy Certificates (REC)), access to international capital and streamlined approval processes for projects. The deployment of PAT, REC and FITs has been hampered due to enforcement and early stage implementation issues. Other GoI programmes such as the Partial Risk and Guarantee Fund (PRGF), Venture Capital Fund (VCF), NCEF to attract private sector investment are still under development.
- **There has been major private sector investment in the RE sector, but government incentives to attract private investment in other climate related sectors have been limited.** Private sector understanding of climate change impact is very limited. Hence, investment plans rarely include implication of climate change on investments. There have been limited public-private forums put in place to engage the private sector on climate change issues in order to address this imbalance, and there is no private sector representation in any of the national committees and bodies on climate change. Climate change concerns are limited to GHG accounting under CSR obligations for some private sector players.
- **There is a limited understanding of climate risk in private sector investments.** There is a need to develop innovative market-based financing mechanisms in the form of infrastructure debt funds, green bonds, etc. to promote greater private sector investments. Currently, operating and maintenance insurance is available for wind, solar, and general engineering, procurement and construction (EPC) risk-related insurance.

5.4 Financial function

5.4.1 Headline messages

India has strong experience in accessing and delivering international finance for renewable energy projects, and more limited experience in financing EE and resource efficiency projects.

Agent/actor/institution: NABARD, IREDA, SIDBI, PFC, IDBI, IDFC and BEE.

Competency Gaps: Limited capacity to scale up existing programmes, deliver finance to other specific sectors, and extend to wider regional coverage. Delivering projects with blended finance has been limited.

Despite India's success in accessing international climate finance, it is not clear that the skills and experiences are transferable or scalable for new forms of climate finance & for direct access.

Agent/actor/institution: Government departments (MoEFCC & DEA) and DFIs (SIDBI, IREDA, NABARD).

Competency Gaps: Capacity to deal with the eligibility criteria and complexity of emerging funds and modalities is limited. Particular barriers relate to limited sectoral coverage; technical capabilities to design, evaluate, and screen programmes; lack of experience in using innovative financial instruments; and MRV capabilities.

Indian institutions have struggled to develop a regular pipeline of bankable projects

Agent/actor/institution: Mainly DFIs and private sector project developers and financiers.

Competency Gaps: Most DFIs & project developers lack technical and programme design capabilities to climate proof existing projects or develop bankable projects to meet eligibility criteria of key donors and climate funds.

There are no central coordinating entities for climate finance which have the capacity to blend finance from different sources (both public & private) and instruments, and target this finance to priority sectors, themes, and regions.

Agent/actor/institution: There is no central coordinating entity for climate finance management. Delivery is disbursed across DFIs (e.g. NABARD, SIDBI).

Competency Gaps: Inability to match risk profiles of projects/programmes with appropriate financing instrument; Limited capacity and skills for innovative financing mechanisms and blending of finance instruments for low carbon projects.

India has limited experience in delivering NIE type functions.

Agent/actor/institution: NABARD has been accredited as the NIE for Adaptation Fund, but has not begun implementing AF projects yet.

Competency Gaps: Indian DFIs have capacity and skills constraint in technology appraisal, due-diligence, fiduciary responsibilities, environmental and social impact assessments, and vulnerability assessments.

5.4.2 Detailed scoring of Tier 1 indicators

1. National Economy – *What are the key macroeconomic and financial characteristics of the national economy?*



- **India has a robust financial market, however recent macroeconomic performance has negatively impacted foreign direct investment in the country.** India's capital markets have outperformed most developing countries in the past year. However macroeconomic indicators including reduced growth, high fiscal deficit, high inflation, and fluctuating conversion rate have reduced international capital inflows to India over the past 12-18 months. For the climate sector, large-scale infrastructure financing has been hindered by the difficulties in securing long-terms bonds and access to foreign currency and international guarantees.

2. Investment in low carbon & climate resilient initiatives – *Is there a strong investment climate for low carbon and climate resilient initiatives, for both the public and private sectors?*

1.3

- **There has been increased investment in renewable energy in India (mostly wind and solar), but there is a need for further investment in other forms of RE, energy efficiency (EE) and sustainable transport.** Installed capacity and annual investment in RE has been steadily increasing in India. Between 2008 and 2013 the share of RE in the country's total energy mix rose from 8% to 12%. India has large potential for RE and EE technology deployment: the total RE potential is estimated to be more than 3000 GW, while estimates for EE range from 124 to 255 billion kWh. Biofuel, more efficient biomass use, electrical vehicles, fuel efficiency standards, efficient transport systems, and sustainable cities are other evolving areas which show strong room for growth. As these are evolving areas, funding has so far been limited in these sectors (from both public and private sources).
- **Efforts to identify bankable projects have been initiated, but significant scale-up of capacity and removal of barriers are still required to create a strong pipeline of investible projects.** A number of bankable projects have been developed and are increasingly being developed in the RE sector – facilitated by the size of the market (increasing cost competitiveness of RE technology), ease of doing business, favourable foreign investment policy, investment incentives and lack of red tape. However developing a pipeline of bankable projects in the EE sector remains a challenge, due to high transaction costs, small project sizes, lack of EE understanding amongst financial institutions, etc.

3. Institutional management of climate finance – *Does the country have a strong institutional structure to manage domestic & international climate finance?*

1.7

- **Indian institutions have clear structures in place to access and manage international climate finance.** Bi-lateral and multilateral access is very streamlined and consultative. Priority areas for funding are jointly decided by DEA and line ministries, which means there is clear alignment of donor plans and GOI priorities and targets. Depending on the sector/theme a specific institution (e.g. NABARD for AF, MoEFCC for GEF & CTF) is given the responsibility to engage with the fund and coordinate climate finance access. The presence of the NAPCC has increased donor confidence and it is expected that new SAPCCs will further streamline climate finance delivery.
- **There has been limited use of innovative financing mechanisms and blending of finance instruments for low carbon projects in India.** The majority of international climate finance to date has come in the form of grants and concessionary loans, which means there has been limited experience in blending various sources and instruments for project implementation. There is a need to build capacity within Indian DFIs to blend finance from a variety of funding sources for a variety of project types, sectors, and sizes – as matching risk profiles with appropriate financing instruments will result in more effective financing.
- **The climate-related management experience of Indian DFIs is limited to small and medium size projects.** Some medium size projects get project management support for execution from multilateral institutions such as the World Bank or UNDP. Such project management support may include capacity building; setting up a Project Management Unit for project planning, coordination & monitoring; and stakeholder engagement.

4. Institutional delivery of climate finance – *Does the country have a strong institutional structure to deliver climate finance through institutions that can provide NIE-type functions?*

1

- **DFIs have experience accessing climate finance, but need to scale-up existing programmes and broadening their sectoral and geographic coverage.** Financial

institutions such as NABARD, IREDA, SIDBI, PFC, IDBI, IDFC, have experience in accessing and delivering international climate finance for EE, RE and resource efficiency projects. These institutions have acted as executing agency for various international funds, or have successfully used line of credits from various bilateral funding sources. However, the capacity of these institutions to deal with larger quantum of international finance, additional sectors, and to meet MRV requirements needs to be enhanced. Areas that show room for improvement include technology appraisal, due-diligence, fiduciary responsibilities, environmental and social impact assessments, and vulnerability assessment.

- **DFIs have some capacity to meet international accreditation requirements, fiduciary, environmental and social standards to be accredited as NIEs, but additional capacity-building is required.** Indian DFIs that could play an NIE-type function under current or future finance modalities struggle to meet certain international standards, particularly environmental and social standards and MRV requirements. NABARD has been accredited as India's first NIE for the Adaptation Fund, and have acknowledged that the biggest challenge they face is writing detailed project proposals.
- **DFIs have delivered some climate related programmes that have leveraged private finance, but capacity to deliver more complex projects involving multiple financing instruments and institutions is limited.** India has strong experience and capacity in specific sectors such as RE and EE. However there is a need to develop institutional capacities which could build on a programmatic approach of delivering projects. Such an approach would focus on designing and implementing standardised programmes that could manage the complexity of multiple financing institutions and instruments to deliver projects under these programmes.
- **DFIs have limited ability to design and finance climate compatible projects to ensure a regular pipeline of projects.** DFIs have modest experience in financing programmes through routine financing instruments. Most DFIs lack technical and programme design capabilities to climate proof projects and to develop bankable projects that meet the eligibility criteria of key donors and climate funds. Many DFIs have limited geographical reach, restricting their abilities to identify, deliver, replicate, and scale-up bankable projects.
- **Regional and rural banks, micro-finance institutions, Non-Banking Finance Companies (NBFC) can play an important role to deliver climate finance.** India is a large country and current DFIs do not have a large enough reach to channel climate finance more broadly. In this context, the role of regional and rural banks, micro-finance institutions, NBFCs, etc. can be very important. However these institutions will need extensive capacity building to make them suitable to access and channel climate finance.

5.5 MRV function

5.5.1 Headline messages

There are no systematic MRV systems to measure, track and report the quantity of climate finance being delivered in India, or the impact of existing spending on emissions reduction and vulnerability.

<u>Agent/actor/institution:</u>	Government oversight (e.g. MoEFCC, PMO, MoF), private investors, DFIs managing climate-related projects (e.g. SIDBI, NABARD, IREDA)
<u>Competency Gaps:</u>	The capacity exists within MoF to track national spending; the private sector has some capacity to track impacts as a result of the CDM experience, and international climate finance is tracked by DFIs and other executing agencies on a project-basis as per the requirements of international funding institutions. However all of these initiatives have been isolated and lack central coordination from Government.

5.5.2 Detailed scoring of Tier 1 indicators

1. MRV of domestic climate finance – *Are there systems and structures in place to conduct MRV of domestic public climate finance?*

1.25

- **Budget allocations have been made for NAPCC's national missions, but there is no systematic tracking of domestic climate-related spending.** As funding has been provided through the national budget, each national mission is expected to report to the Ministry of Finance, as well as MoEFCC and the PMO. However action has been limited since the missions are only in their initial stages of operationalisation. On a broader level, there is no systematic tracking of total national spending for climate change-related activities.
- **Tracking the impact of domestic revenues on climate change outcomes is limited to specific programmes or projects, covering emission reductions but not vulnerability reduction.** DFIs do not have the mandate, capacity, or coverage to estimate the climate-related impact of funding for all their programmes.

2. MRV of private climate finance – *Are there systems and structures in place to conduct MRV of private climate finance?*

1

- **There has been no systematic effort to track and quantify private sector climate finance in India. Estimates of the climate-related impact of private investment have been limited to the project-level (e.g. for CDM projects).** Based on India's experience attracting large volumes of CDM funding, the Indian private sector has some capacity to assess the emissions impact of their investments. However these estimates have not been applied broadly to a whole portfolio of investments, across an entire sector, etc. Rather, estimates have only taken place at the project level, and focus narrowly on emissions reductions.

3. MRV of international climate finance – *Are there systems and structures in place to conduct MRV of international climate finance?*

1.25

- **There is no systematic MRV system for international climate finance in India. Some reporting exists at the project/programme level for specific donor-funded projects, but these are limited to emissions and do not cover vulnerability.** DFIs such as IREDA SIDBI, and NABARD track the emissions reduction through climate change programmes which are funded by international climate finance. Reporting takes places for major international funds (e.g. the CTF), but the information is not collected widely and aggregated centrally by the Indian government to determine the total volume of funding or the cumulative impact of international climate finance.

5.6 Readiness Gaps

The previous section provided a detailed analysis of India's climate finance readiness, using data aggregated at the Tier 1 level of the Readiness Framework to provide key messages on India's climate finance performance. As the scorecards for each readiness function outline, India's performance on the political and strategic readiness functions is relatively stronger than for the financial and MRV functions. Nevertheless, there are critical gaps for all readiness functions which India must address if it wishes to improve its ability to access and deliver climate finance in the future. Based on an analysis of response to the Readiness Framework questions, the following seven 'readiness gaps' have been identified:

Political & Strategic functions:

1. **India does not have a coherent national climate finance strategy**, or a central institution with a mandate to coordinate the access and delivery of climate finance in the country.
2. **There have been limited efforts** to assess the impact of climate change on the national economy, and **to prioritise climate-related investment within national and/or sectoral budgets**, based on a detailed needs assessment.
3. **The private sector has had limited engagement with the Government of India** in climate change decision-making, and in coordinating a national financing strategy that encourages private sector investment in climate-related activities.

Financial function:

4. **DFIs in India have limited capacity to implement climate-related projects beyond a narrow range of themes, sectors, and geographies.** India therefore faces challenges in developing a pipeline of bankable projects, which could help remove barriers for project financiers and increase climate-related investment in the country.
5. **Climate finance delivery institutions (e.g. DFIs) have limited ability to match finance needs with a blend of climate finance sources and instruments.**
6. **Indian DFIs have capacity constraints in meeting international fiduciary standards** (sound financial management, transparency, independence, and professional standards) and social & environmental safeguards.

MRV function:

7. **India has limited experience in measuring, reporting, and verifying domestic, private, and international climate finance.** Systems for tracking volumes of climate finance have not been systematically applied, and estimates on the impact of climate finance spend are even more limited.

6 Lessons from peer developing countries

Chapter 5 highlighted seven specific areas where India shows room for improvement if it wishes to access and deliver larger volumes of climate finance in the future. With the operationalisation of major new funding streams like the GCF on the horizon, it is important that India looks to countries where similar issues have arisen and learn from any lessons that have been generated to-date to address its own gaps.

Chapter 6 examines the climate finance performance of a number of peer countries – Brazil, China, Indonesia, Mexico and South Africa – in an attempt to gather readiness lessons that are applicable to India.⁴⁰ All of these countries have faced similar issues to those that India faces, for example in mainstreaming climate change into development strategies and action plans, improving financial management capabilities, and improving coordination in accessing international funds. However each country has developed a different response to these (and other) issues, reflecting the unique institutional context of each peer country, and given India a number of lessons and options to follow.

In selecting these five countries, a number of important factors have been taken into consideration:

- How their readiness performance aligns to the areas where India shows significant readiness gaps and weaknesses.
- Whether the countries have strong experience accessing international climate finance.
- Whether the countries have similar institutional design and/or capacity, relative to India.
- Where countries have institutions that can provide examples of strong NIE-type functions and innovative financing vehicles.

In the following section the experience from these countries is brought to bear on the seven readiness gaps highlighted at the end of Chapter 5. To start, each readiness gap will be outlined in brief, with an explanation for the conceptual importance of that gap. Next, lessons and options from peer countries that are relevant to India will be provided. These will combine high-level messages along with detailed guidance on how other countries have addressed a particular gap. Where relevant, context will be provided to explain how initiatives/actions to address readiness gaps in other countries compare to those being undertaken in India. The lessons, guidance, and analysis for India will then be incorporated into the final recommendations, which are outlined in Chapter 7.

6.1 Lessons & options for India to address its readiness gaps

Readiness Gap 1

India does not have a coherent national climate finance strategy, or a central institution with a mandate to coordinate the access and delivery of climate finance in the country.

Plans to access and deliver climate finance require effective coordination among relevant ministries and authorities at national and sub-national level, as well as coordination with non-governmental actors like the private sector and civil society. At the national level, mandates and roles typically need to be defined between ministries of environment, planning, ministries of finance and sectoral ministries (agriculture, transport, urban development) and agencies (research, training and financing). These roles and responsibilities may differ with regard to accessing, prioritising, disbursing, implementing and monitoring implementation of climate finance. However at present in India,

⁴⁰ In developing the lessons from peer countries for Chapter 6, the project team conducted interviews with representatives from some of the main international climate finance readiness initiatives, including the GEF, the Adaptation Fund, the German Readiness Programme (implemented by GIZ, KfW, UNDP, UNEP, and WRI), the National Climate Finance Institutions Support Programme, UNDP, and the World Bank. These interviews were backed by desk research on key studies operating in India's peer countries.

mandates on climate finance with clearly defined roles and responsibilities have not been clearly elaborated.

Lessons & Options for India

- India can learn from the experiences in Indonesia, where legal mandates to implement national climate change plans have led to greater accountability in planning, financing, and implementation structures.

In most countries climate finance mandates have not been clearly defined or implemented. However Indonesia has adopted legal mandates to take action on climate change, backed by a climate finance institution that has a clear mandate to coordinate the financing of climate interventions.

Indonesia's National Council on Climate Change is legally mandated to formulate strategies, programmes and activities on climate change; play a coordinating function in the implementation of climate change activities; set up policies and procedures for carbon trading; and carry out monitoring and evaluation of climate change policy implementation. **In parallel with the NCCC, the Indonesian Climate Change Trust Fund (ICCTF) was established by Ministerial Decree in 2011 to align international financial resources and domestic budgets with Indonesia's climate change and development priorities.**⁴¹ The ICCTF's decisions are made by a steering committee that includes the Government of Indonesia, development partners and civil society organisations – with representatives of international agencies, local government, and intergovernmental agencies acting as observers. The National Development Planning Agency (BAPPENAS) administrates the ICCTF, and is responsible for formulating procedures and planning for climate finance, coordinating climate change loans and grants, and for mainstreaming climate change into national policies. The ICCTF is only at the early stages of operationalisation and cannot yet provide firm lessons on climate finance coordination at the national level. However once it begins to fund concrete adaptation and mitigation projects, the ICCTF will be able to provide early lessons on national coordination of climate change plans that are joined with robust financing strategies.

Readiness Gap 2

There have been limited efforts to assess the impact of climate change on the national economy, and to prioritise climate-related investment within national and/or sectoral budgets, based on a detailed needs assessment.

Based on analysis done by the Expert Group on Low Carbon Strategies, it is clear that present levels of funding for climate activities in India are insufficient to meet the goals of the NAPCC. In the short-term, as the GoI elaborates a longer-term climate finance strategy, a detailed needs assessment could help to prioritise the most important climate change actions and interventions. A detailed needs assessment could also help to identify current gaps in climate funding, and to initiate a strategy to access further climate finance from a variety of different sources in-line with India's most urgent priorities. A cost-benefit analysis of needs would also help to mainstream climate in development and sectoral strategies and ensure buy-in from line ministries on tackling cross-cutting issues.

Lessons & Options for India

- Brazil and Indonesia have undertaken cost-benefit of climate actions and/or detailed needs assessments, which has helped to prioritise policy actions and investment to meet funding gaps.

Brazil has committed to reducing its national emissions by 36.1-38.9% against BAU by 2020. **A Federal Decree has mandated that mitigation plans for Brazil's main sectors are included in the national action plan on climate change. Each of these plans include** emission reduction

⁴¹ ICCTF Regulatory framework is supported by a number of Presidential Decrees, Laws and specific Ministry regulations. <http://www.icctf.or.id/about/regulatory-framework/>

targets to 2020; specific actions to be implemented; indicators for monitoring and evaluation; proposed regulatory tools and incentives for implementation; and **a cost benefit analyses of the mitigation plans' impact on sectoral competitiveness**. External analysis undertaken by McKinsey, using a cost curve analysis, have shown that the average cost of emissions reductions per tCO₂e is half the cost in Brazil compared to the world average. The McKinsey report also shows that the biggest opportunities in Brazil exist in the forestry (72%), agriculture (14%), industrial (7%) and energy (4%) sectors.⁴²

Under the auspices of the Ministry of Finance's Fiscal Policy Office, **Indonesia has undertaken detailed needs assessment to identify priority mitigation actions for different sectors, as well as an initial assessment of financing needs**. Indonesia's needs assessment study determined the emission reduction potential of each major sector in the country, and estimated the budget for meeting national, non-binding emissions reduction targets.⁴³ The NEEDS study was developed through a collaborative and inclusive dialogue, with national stakeholders and experts, producing a number of outputs – including technology assessments, abatement curves, sector roadmaps and low carbon development strategies. The abatement cost figures generated from the study show that the cost of two mitigation scenarios is only 0.72% (for a 26% reduction in emissions against BAU) and 1.45% (for a 41% reduction) of Indonesia's projected GDP in 2020 – costing \$8.3 billion and \$16.8 billion, respectively. However the funding gap is still immense. According to the UNDP, the Government of Indonesia can only afford to meet 23% of this cost.⁴⁴ The NEEDS study does show possible climate finance opportunities, however a coordinated effort to deliver on these financing opportunities, led by the ICCTF, will need to be undertaken in the years ahead if Indonesia is serious about meeting these targets.

Like Brazil and Indonesia, India has made some progress in setting national targets, outlining priority sectors, and providing high-level cost estimates on implementing the NAPCC. Yet India needs to take the next step, backing these actions up by a more detailed needs assessment than has currently been undertaken by the Expert Group. A detailed needs assessment for India should be based on a more robust quantitative assessment, improved data, and parametric models, which gives a clearer list of priority interventions and associated cost estimates, so that the Government of India can develop a coordinated financing strategy for these interventions. This data would also help India take the next step to formally mainstream national and state-level climate change action plans into large sectoral programmes, which countries like Brazil and China have already done.

Readiness Gap 3

The private sector has had limited engagement with the Government of India in climate change decision-making, and in coordinating a national financing strategy that encourages private sector investment in climate-related activities.

The private sector has a significant role to play in India's national climate change response – both in terms of the resources it can mobilise, and the high levels of efficiency, managerial capability and operational expertise it brings to the table. Despite the fact that India has been successful in attracting CDM investment, it has not leveraged this experience to create new opportunities to engage the private sector in an effort to pave the way for transformative investments in climate compatible development in the future.

⁴² King, D., Cole, M., Tyldesley, S., & Hogarth, R (2012). The Response of China, India and Brazil to Climate Change: A perspective for South Africa. Centre for Development and Enterprise (CDE).

⁴³ Hadad et. al. National Economic, Environment and Development Study (NEEDS) for Climate Change – Indonesia Country Study (2009).

⁴⁴ Tänzler, D., & Maulidia, M. (2013). Status of Climate Finance in Indonesia: Country Assessment Report.

Lessons & Options for India

- Like Brazil, India should involve the private sector on strategic planning decisions on climate change to avoid operational barriers when implementing programmes such as the NCEF, PRGF, and VCF.
- India has been successful in accessing climate finance through the CDM mechanism and more recently for wind and solar energy. A key lesson for India is to replicate this in other sectors and learn from China and Mexico to more strategically engage the private sector on climate change issues.

In Brazil the private sector is represented on the steering committee of the Brazil National Fund on Climate Change, which provides confidence to the private sector on government actions, and which ensures that private sector concerns and market barriers can be clearly acknowledged in design and implementation plans.

Similarly, China and Mexico have used their CDM experience more strategically than India to engage with the private sector on climate issues. For example, **the China CDM fund provides advisory and financial services for the private sector, which has successfully attracted private sector investment into low-carbon initiatives** such as feed-in tariffs, emission trading scheme pilots, and the implementation of the Large Substitutes for Small (LSS) programme.^{45 46}

Likewise, **Mexico has used CDM experience to enhance the country's capacity to take advantage of the potential for market-based measures**. With the establishment of the Mexican Carbon Fund (FOMECAR), Mexico has been able to promote new investments in more efficient and cleaner technologies from both domestic and foreign sources, by incentivising the participation of private financial institutions in renewable energy projects through the provision of competitive finance and/or equity.⁴⁷

In some cases, India has implemented similar initiatives to those mentioned in other countries – for example feed-in tariffs or preferential financing arrangements for low-carbon projects. Yet the main difference between these initiatives and those undertaken in Brazil, China and Mexico, is that India's initiatives have suffered from weak uptake and lower compliance – mainly due to a low level of engagement with the private sector when designing these schemes.

Readiness Gap 4

DFIs in India have limited capacity to implement climate-related projects beyond a narrow range of themes, sectors, and geographies. India therefore faces challenges in developing a pipeline of bankable projects, which could help remove barriers for project financiers and increase climate-related investment in the country.

Bankable project are projects that have sufficient collateral, cashflow, and probability of success that give institutional investors the confidence to invest in them. Generally speaking, institutional investors are highly risk-averse, particularly in emerging areas (such as climate-compatible development) where they have less experience financing projects. Investors therefore need to be sent strong signals to demonstrate that the risk-profile of investment is low, if countries want them to invest in climate-related projects. One way to send this signal is for countries to develop a pipeline of well-developed, low-risk projects that are ready to begin operations but currently lack adequate funding. However in India, many investors claim that a lack of bankable projects is preventing them from investing larger volumes in climate-related projects, and of spreading investment to new sectors and

⁴⁵ The LSS programme was launched in 2007, and is intended to remove most of China's existing small scale and inefficient power plants and energy intensive units from operation. The programme has been successful, but has faced barriers such as a lack of reliable emission data at the regional and sectoral levels, which India must be aware of when launching similar initiatives.

⁴⁶ Vivid Economics (2012). Climate finance architecture in China.

⁴⁷ The Nature Conservancy (2012). Climate finance readiness: lessons learned in developing countries.

regions of the country. In this respect, a lack of expertise in preparing and developing new projects is a major capacity constraint which is limiting the overall absorptive capacity for climate finance in India.

Lessons & Options for India

- Experience from Mexico shows that formally designating DFIs to be responsible for different sectors, themes, and activities across the national climate change response can help countries develop a pipeline of bankable projects by providing more sources and instruments for finance across a variety of sectors.
- Experience from China shows that focusing on capacity building at sub-national levels can help improve project development, design, and implementation that are the necessary first steps to developing a pipeline of bankable projects.

In Mexico, DFIs have been given greater mandates to finance their national plans on climate change. The central role of DFIs in delivering the country's national climate change strategy, has led to the development of programmes and projects across a broader range of sectors, themes and regions. For example, the Mexican DFI NAFIN manages a number of individual programmes, including: the Mexican Forest Fund which provides payment for environmental services; the Mexican Carbon Fund, which promotes the development and use of low-carbon-emission technologies; the Trust Fund for Electric Energy Savings which promotes efficiency; and Support Services for Agricultural Marketing which works to liberalise markets and channel financial resources directly to producers. Separately, another DFI which specialises in urban development, the National Bank of Public Works and Services (BANO BRAS), operates the Energy Transition Fund (FTE) to provide municipalities and low-income households with grants to increase energy efficiency through appliance and streetlight modernisation. These DFIs provide a combination of loans, training, and technical assistance to public authorities, NGOs, and businesses to implement their programmes. As such, investors in Mexico have the option of funding projects across a wider range of sectors and activities than in India.

In China, the CDM Fund provides capacity building and training for the private sector, which has helped to remove market and technical barriers for project developers to design good quality projects. One of the main lessons from this experience is that government-supported readiness activities need to link capacity building and technical implementation at the early stages of the project design phase so that the project developers can submit technically viable proposals that adhere to appropriate fiduciary standards demanded by institutional investors or international financial agencies. With experience in developing high-quality projects that are successfully funded, project developers can slowly begin to expand their reach and develop a pipeline of projects.

Developing a pipeline of bankable projects has been challenging for most countries and is not unique to India. In fact, India has a number of well-established DFIs (e.g. SIDBI and NABARD) that already manage some projects that generate climate co-benefits. However DFIs in India are not as formally linked with the national climate change response as in Mexico, nor have they explicitly mainstreamed climate change into their wider project portfolio. As such, they have limited capacity to develop bankable projects in new sectors & themes beyond the traditional RE and EE sectors (to a lesser extent), where institutional investors may see room for climate-related investments.

Readiness Gap 5

Climate finance delivery institutions (e.g. DFIs) have limited ability to match finance needs with a blend of climate finance sources and instruments.

Many of India's peer countries are setting up new national climate finance institutions, which have the mandate to blend funding from multiple sources and allocate the funding to climate related activities using a variety of instruments that include grants, loans, equity, green bonds, de-risking, guarantees, and other forms of investment.

Lessons & Options for India

- China and Indonesia have created National Climate Funds (NCFs) with the coordination and management role to deploy finance using a blend of sources and instruments. This function could also be undertaken elsewhere by DFIs instead of National Climate Funds.

China's CDM Fund blends climate finance from three different international sources and deploys it to important projects. The CDM Fund is capitalised by revenues generated from CDM projects in China; earnings from CDM business operations; and grants and other types of support from multilateral development banks and international institutions. The Fund is governed by a Board – comprised of representatives from the NDRC, MoF, Ministry of Foreign Affairs, Ministry of Science and Technology, Ministry of Environmental Protection, Ministry of Agriculture and the China Meteorological Administration – which is responsible for strategic planning and for reviewing grant applications to allocate funding to new projects. The CDM Fund offers grants and investments. Grants are provided to institutions working on climate change for activities focused on climate-related capacity building and general public awareness. Investments come in the form of equity investment, entrusted loans, and financing guarantees, all of which support emissions reduction in industrial activities.⁴⁸

In a similar fashion, **the Indonesian Climate Change Trust Fund was created with a mandate to pool resources from a variety of sources** - including international funds, national sources and domestic budgetary allocations, to support actions of the National Council on Climate Change and the National & Regional Action Plans on GHG Emission Reduction. The ICCTF is made up of two funding windows. The 'Innovation Fund', which is already operational⁴⁹, directs bilateral and multilateral grant funding from development partners and other contributors to activities that provide indirect economic and social benefit to participants. **The 'Transformation Fund'** has been designed to engage much more actively with the private sector. It is not yet operational, but when it begins its funding activities it **will deliver finance to the project-level using a combination of instruments that includes loans, equity and other investment support.**

India has already taken some steps to develop climate finance capacity – including the establishment of climate finance instruments (e.g. PRGF, Viability Gap Fund, NCEF). However unlike China and Indonesia, India does not have a dedicated NFC that blends and delivers climate finance, like either the CDM Fund or the ICCTF. Without a National Climate Fund, India could strengthen the role of existing development finance institutions to perform similar functions, since a handful of DFIs are already actively engaged in delivering climate-related projects. However since most climate finance in India is delivered through either grants or loans, DFIs would need support in using new types of financial instruments such as equity, de-risking tools, and other investment incentives.

Readiness Gap 6

Indian DFIs have capacity constraints in meeting international fiduciary standards (sound financial management, transparency, independence, and professional standards) and social & environmental safeguards.

National Implementing Entities are key institutions in the national climate finance delivery landscape. They are often involved with the design of project concepts for international funds, as well as implementing agencies for adaptation and mitigation projects. The approval process for accreditation to many international funds (such as the AF) requires that NIEs adhere to strict fiduciary standards and environmental safeguards, including greater transparency of financial management systems, more robust risk management systems, and more regular reporting requirements. However many of these standards exceed the regular operational requirements of national institutions in developing countries like India. As the GCF begins to fund preparatory activities, this poses a challenge to India –

⁴⁸ Vivid Economics (2012). Climate finance architecture in China.

⁴⁹ The ICCTF is in early stages of implementation and is currently only funding pilot activities, and it therefore remains to be seen how effective these institutions will be in leading a coordinated climate finance response.

where low levels of capacity within potential NIEs to meet the accreditation requirements of the GCF has the potential to limit India's ability to access larger volumes of climate finance in the short-to-medium term.

Lessons & Options for India

- International experience shows that an important first step is for NIEs (e.g. DFIs or National Climate Funds) to build fiduciary standards to meet international requirements. Support to develop capacity within NIEs can come from multilateral financial agencies.

Brazil's largest development finance institution, BNDES, is the fund manager for Brazil's two largest public climate finance funds - the National Fund on Climate Change and the Amazon Fund. The Amazon Fund is the largest climate-related fund operating in a single country. It was capitalised with more than \$1 billion in pledges from donors (particularly Norway), and has approved \$308 million for project implementation as of 2014. BNDES performs a number of roles for the Fund – providing secretariat services, and supporting project selection, monitoring, and evaluation activities.⁵⁰ **BNDES has been instrumental in the Amazon Fund's early success, providing financial management with strong fiduciary standards, low administration fees, and a transparent management process for the dispersal of funds** Housing the Amazon Fund within BNDES enabled quick operationalisation of the Fund, as BNDES has a strong reputation in the banking community, a long history of working with international financial institutions, a good credit rating, and established governance, operational and risk control systems.

The experience of the Amazon Fund has also shown that even experienced NIE-type institutions face capacity constraints in meeting international standards. For example, the Amazon Fund has underperformed in publicising environmental and social safeguards, conducting project monitoring and evaluation (M&E), ensuring access for small organisations that face high transaction costs, and developing bankable projects. Efforts are being made to simplify management processes and improve transparency, however these constraints show that even the most advanced DFIs need training and capacity building for certain processes and standards.⁵¹

Some countries have chosen to use National Climate Funds to deliver climate finance. In many of these cases, international agencies have supported the early development of fiduciary standards. For example, during the first phase of the Indonesia Climate Change Trust Fund, the UNDP was appointed as interim fund manager, in part to secure confidence that minimum fiduciary standards would be met. Currently, UNDP and Bank Mandiri are jointly serving the role of fund manager, in anticipation of a full transition to national management by Bank Mandiri in the next phase. A great deal of effort appears to have been invested in fiduciary management arrangements for the ICCTF that align with both UNDP and national financial management systems. As of December 2013, 5% of disbursed funding had supported capacity building in the ICCTF Secretariat.⁵²

Examples from Brazil and Indonesia show that countries need National Implementing Entities with strong financial management capacity to deliver climate finance to the ground. Further, these two examples show that countries with strong development banking sectors still need support in meeting international financial standards to successfully access and/or manage funds. India's experience also supports this observation. In India, both NABARD and SIDBI have taken on NIE roles for various internationally-funded, climate-related projects. NABARD has recently been accredited as India's first NIE to the Adaptation Fund, and has now submitted three funding concepts to the AF. However this process was onerous and took over one year to complete – requiring international capacity building support from GIZ, SDC, and AdaptAsia. The next step for India is to translate this accomplishment

⁵⁰ Vivid Economics (2012). Climate finance architecture in Brazil.

⁵¹ Forstater, M., Nakhooda, S. & Watson, C (2013). The effectiveness of climate finance: a review of the Amazon Fund. ODI Working Papers 372.

⁵² Grüning, C., Menzel, C, Shuford L.S., Sonntag-O'Brien, V. (2012) Case Study: The Indonesia Climate Change Trust Fund.

into further institutional development within other DFIs that focus on different sectors and geographies, so that climate finance delivery can spread across a wider sub-section of Indian society.

MRV Function

Readiness Gap 7

India has limited experience in measuring, reporting, and verifying domestic, private, and international climate finance. Systems for tracking volumes of climate finance have not been systematically applied, and estimates on the impact of climate finance spend are even more limited

In most countries (India included), MRV activities have focused on measurement and reporting national GHG emissions levels to the UNFCCC through periodic National Communications. Reporting has also been an important component of donor-funded projects by large international organisations like the World Bank or climate funds like the CTF. In these cases, countries are usually required to report on the implementation of a project, and to determine the emissions reduction impact against a pre-determined baseline level.

While many countries like India have a long track-record of conducting project M&E, these type of tracking systems have not been applied on a more systematic scale to the climate finance policy space. This is rapidly changing, as countries are becoming increasingly interested in tracking the total volume of climate finance that they receive (from international and domestic sources) to determine the size of the financing gap needed to implement their national strategies. India has not yet made any coordinated attempt to track the total volume of climate finance it receives, or to estimate the effectiveness of climate finance in helping to deliver priority actions under the NAPCC. Rather, climate finance tracking and effectiveness has been restricted to the individual project-level, and has been driven by donor reporting requirements.

Lessons & Options for India

- Experience from South Africa shows that countries are beginning to develop systematic MRV systems that can track climate finance from international and domestic sources (both public and private sectors), and use this data to estimate the effectiveness of climate finance in meeting national climate priorities.
- Experience from Indonesia shows that more limited MRV of national budgetary spending on climate-related activities can provide useful input into the coordination and planning of climate finance delivery.

The South African government is currently working on the design of a national MRV system that will track all actions (mitigation, adaptation, and financing) under the country's National Climate Change Response Strategy. The system has been designed to track the volume of climate finance received from a variety of sources – including international funds, the domestic budget, and private sector investors at the national and international levels. To capture this data, a two-tiered data collection system has been outlined. At the top level, data will be collected through channels such as the Ministry of Finance for national expenditure, the OECD/DAC Rio Markers and MDB reporting channels for bilateral and multilateral climate finance, and voluntary channels for the domestic and international private sector. Top-level data will be compared against 'bottom-up' data that is generated through reporting on climate change 'response measures' – strategies, programmes, policies and projects that target GHG reductions and improve climate resilience in South Africa. Reporting on response measures will capture information on the source of project financing, among other metrics (e.g. GHG emissions reduced, number of people made less vulnerable, etc.), which will be aggregated within a national database. These two sources of climate finance data will be processed by a central Climate Finance Advisory Committee – to determine both the cumulative volume of

finance and its effectiveness in meeting funding requirements for the National Climate Change Response.⁵³

In Indonesia, MRV of domestic public sector climate finance was conducted through a Climate Public Expenditure and Institutional Review (CPEIR) study. Specifically, the study tracked the Ministry of Finance's budget codes at programme and activity level between 2008 and 2011 to identify national expenditure on mitigation actions. The CPEIR assessment found 14 budget lines related to mitigation, and estimated that total expenditure on climate change mitigation amounted to IDR 5.5 trillion (approximately \$579 million). Further, the study concluded that budget allocations had increased significantly, by approximately 5%, in nominal and real terms between 2008 and 2011. In Indonesia, CPEIR has been a useful tool, as it has enabled the country to estimate the financing gap for the NCCC's mitigation actions.

In sum, South Africa's MRV system puts the country in the position of an early leader on climate finance MRV, while Indonesia's use of CPEIR provides an important base from which the country could develop a more holistic MRV system in the future. India is among the vast majority of countries that haven't undertaken a systematic approach to climate finance tracking on the scale that South Africa has done. A brief analysis of India's climate finance performance in Chapter 3 showed that the country receives substantial funding from multilateral, bilateral, and CDM sources. These estimates do not cover the complete range of sources, types, and instruments of finance that would be required to give a holistic overview of India's climate finance receipt. It would be useful for India to begin developing the skills and knowledge to scale-up this type of analysis – as understanding the scale of the financing gap is an important first step in creating a financing strategy to address major NAPCC priorities.

⁵³ Harries, J., Hunter, R., Mittal, N., Steinbach, D., Sibille, R. (2014) Draft Climate Change Response Monitoring and Evaluation System. Department of Environmental Affairs, Republic of South Africa.

7 Recommendations to improve India's climate finance readiness

Chapter 6 explored India's climate finance readiness gaps, and outlined a series of valuable lessons for India that can be drawn from peer countries like Brazil, China, Indonesia, Mexico and South Africa. Chapter 7 extends this analysis one step further, detailing a series of recommendations for India to improve their institutional coordination, access, and delivery of climate finance. The development of these recommendations has been an iterative process that draws on insights from many sources, including:

- Insights from experts on the evolution of climate finance architecture (especially insight into the development of the Green Climate Fund).
- Stakeholder interviews held in India with Government (e.g. MoEFCC, MoF, BEE, etc.), members of the Expert Group on Low Carbon Strategies, the private sector, civil society, and bilateral donors.
- Views expressed by a wider group of stakeholders at a workshop held in May 2014 to test the climate finance readiness framework outlined in Chapter 4.
- Lessons from peer developing countries (see Chapter 6), that have been generated through interviews with climate finance readiness experts, as well as through secondary research by the project team.

The following section outlines seven recommendations that have been developed through the stakeholder consultations listed above, providing guidance on the practical actions India needs to undertake to implement each recommendation. To the greatest extent possible, the recommendations attempt to build on the existing institutional structure for climate finance access and delivery in India, as well as to embed the recommendations within existing plans such as the NAPCC and SAPCCs.

7.1 Recommendations

Readiness Gap 1

India does not have a coherent national climate finance strategy, or a central institution with a mandate to coordinate the access and delivery of climate finance in the country.

It is clear from international experience that climate finance access can be improved with a coherent plan and a coordinated institutional response at the national level. Developing a national strategy and framework to access and allocate climate finance is therefore an urgent requirement for India to ensure a coordinated, joined-up effort to meet the NAPCC's multi-billion dollar funding gap.

Recommendation #1

India should designate or create an independent coordinating agency with the mandate to strategically plan, access, mobilise, disburse, and track climate finance at the national level.

This agency should be an independent statutory body with the mandate to coordinate an overall climate finance strategy in India, in line with the NAPCC, SAPCCs, and national development plans. India has three main options to create a national climate finance coordinating agency. The agency could either be established by a new act of parliament, through executive order on the recommendation of the PM Council on Climate Change, or be launched formally under the Environment Protection Act of 1986. Since parliamentary enactment is a time consuming process in India, and since there is a strong need for a coherent national climate finance strategy in India,

quicker options for establishing the agency should be explored to determine whether they are other appropriate options.⁵⁴

The agency should perform three main functions. First, the agency should have an executive function, performed by a committee of high-level representatives from government agencies and line Ministries at the national, State, and municipal levels. This committee should meet on a regular basis to make the strategic decisions develop and monitor the implementation of India's national climate finance strategy. Second, the agency should have an advisory function, performed by a group of experts that can provide technical input and research to guide the executive body. This advisory group would be able to provide advice on new policies, different types of financial instruments, pilot studies undertaken in other countries or regions, specific sectors or themes, etc. The advisory group should include representatives of civil society organisations, private sector actors, development partners, academic institutions, sectoral experts, industry groups, etc. Finally, the agency should also have a group of dedicated staff that provide the key governance and secretariat functions for the agency. This body will be important to ensure the day-to-day implementation and the overall MRV of the national climate finance strategy. While many specific details on the design of the agency will need to be addressed in the future – including who would sit on the executive committee and how the committee would interact with the advisory panel and secretariat staff (among others) – there are a number of key design features that should guide the establishment of the agency. These design features are outlined in greater detail in Box 7.1.

Box 7.1: Guidance for designing India's national climate finance coordinating agency

The following guidance should be incorporated into the design of India's climate finance coordinating agency⁵⁵:

- The agency should be an independent body with appropriate guiding principles (e.g. coherence with national policy framework, additionality, efficiency, equity and transparency). To ensure independence, the agency should be an empowered entity with a strong governance structure.
- The agency should have a legal mandate with strong focus on performance & real outcomes.
- The agency should have the mandate to formulate an overall plan to access finance from international donors (including the GCF), the national budget, private sources, etc. to provide overarching support for the implementation of climate-related activities.
- The agency should align priority policy actions with a detailed resourcing strategy based on the climate finance (from domestic and international sources) that India receives.
- The agency should be able to leverage capital from a variety of sources, including domestic private finance, green bonds, and capital market instruments.
- The deployment of climate finance should be delegated to specialised DFIs or other financial institutions (including private sector actors) with the required reach and capacities to implement projects.

⁵⁴ The lessons learnt from the National Clean Energy Fund (NCEF) are applicable in this context. The NCEF was set up in 2010-11 for promoting clean energy in India. It is housed within the MoF and as such does not have a dedicated team/mission with clear mandate and accountability to administer the funds. With a lack of inter-ministerial coordination, the Fund's administrative structure has led to significant delays in disbursing Rs 10,000 crore of funding. Based on this experience, the proposed coordinating agency should have an independent administrative structure that enables it to make quicker decisions to direct funds to climate-related projects and programmes (http://articles.economictimes.indiatimes.com/2014-06-13/news/50564444_1_the-ncef-national-clean-energy-fund-rs-500-crore).

⁵⁵ A number of countries – including Bangladesh, Brazil and Indonesia – have set up National Climate Funds that provide the coordinating functions listed in Box 7.1. The MoF's Economic Survey has proposed that India could establish its own NCF to finance environmental projects in line with the 12th 5 Year Plan objectives. However further scoping needs to be done to determine whether it would be suitable for India to create a National Climate Fund with a mandate to coordinate the national climate finance response.

- In delegating the delivery of climate finance to DFIs, the agency should ensure a balanced division of responsibility between various DFIs, and provide appropriate technical, administrative, financial, and other capacity building training where necessary.
- The agency should be able to provide support to DFIs to develop large scale programmes which could be implemented under National Missions (as opposed to a project-based approach). This is important to ensure the scale-up of climate-related actions.
- The agency should have the mandate to monitor performance of low carbon and climate resilient projects in India.
- The initial capital for the establishment of the agency could be raised from the NCEF.
- Budgetary support for the agency should be guaranteed for a multi-year period, so that the Fund is immune from fluctuating and uncertain annual budgetary allocations.
- Capacity-building support for both the agency's secretariat staff and the partners that the agency will work with (e.g. DFIs, private sector actors, project developers, etc.) should be provided for in the capitalisation and funding of the climate finance agency.

Based on this guidance, the profile of the central coordinating agency overlaps with the requirements of the National Designated Authority (NDA) for the Green Climate Fund. The MoEFCC has been nominated as the NDA for the GCF, and is also the main focal point for the CTF, CDM and the Adaptation Fund in India. The MoEFCC is therefore India's de facto climate finance coordinating agency at the international level (albeit without the formal mandate to carry out a wide variety of the functions listed above) – which may lead to debate on whether the agency detailed in Box 7.1 should be housed within the MoEFCC.

Lessons from international experience, however, indicate that independent agencies are better suited to provide the coordinating functions needed to develop a robust national climate finance strategy. Independent agencies are more suited to this role, as they are able to take quicker and more effective decisions based on inputs from multiple stakeholders across government (e.g. inter-Ministerial coordination), sectors, and regions. From an international financing perspective, donors and investors are also likely to feel more confident in working with a governmental coordinating agency if officials from Finance and Planning (among others) are included in the dialogue, in addition to officials from the Environment and Climate Change portfolio. India should therefore explore the option of delegating MoEFCC's NDA role to the independent coordinating agency once it has been established, rather than on designing a new agency that sits within the MoEFCC.

Readiness Gap 2

There have been limited efforts to assess the impact of climate change on the national economy, and to prioritise climate-related investment within national and/or sectoral budgets, based on a detailed needs assessment.

India's new Government faces the challenge of balancing an ambitious growth agenda, while still working towards the NAPCC's low carbon and climate resilient goals. If managed effectively, these two agendas can be mutually reinforcing, as long as finance is used to target major investments that bring climate co-benefits. To do so, India will need detailed sectoral analysis of investment needs that can be the basis for the prioritisation of investment in low-carbon growth.

Recommendation #2

India should undertake detailed quantitative needs assessment and cost-benefit studies to prioritise mitigation and adaptation actions, and provide detailed cost estimates for their implementation.

Actions:

- The MoEFCC, PMO, Mission Ministries and the MoF should plan and undertake needs assessment and cost benefit studies to estimate and prioritise financial requirements for climate-related activities in India.
- Based on quantitative needs assessments and cost-benefit studies, India should develop detailed sector-specific technology road maps and low carbon development pathways.
- India should explore the availability of international readiness support funds or bilateral support for undertaking cost curve analysis of technologies by sector.
- The private sector should be actively involved in the needs assessment process, to ensure that regulations and incentives support investment in India's National Missions and other climate-related priorities.
- The MoF should undertake a Climate Public Expenditure and Institutional Review to estimate national financing of climate-related activities, and compare data with the needs assessments.
- India should develop mandatory environment-related targets for development projects based on the above quantitative analysis. These targets should focus on: energy and carbon intensity, forestry stock, sector-level energy consumption, pollution standards (in heavy industry), and greater share of renewables in the energy supply.

Readiness Gap 3

The private sector has had limited engagement with the Government of India in climate change decision-making, and in coordinating a national financing strategy that encourages private sector investment in climate-related activities.

A number of countries are recognising that the private sector will play a fundamental role to finance large scale of investment needed to meet climate objectives. Apart from investment in wind and solar energy, private sector investment is not flowing to priority areas for mitigation action in India.

Recommendation #3

India should step up private sector engagement in national climate change policies, strategies, coordinating committees, and national financing bodies (e.g. PRGF, VCF, and NCEF).

Actions:

As highlighted in Recommendation #2, all climate and environment-related strategies, funding streams, and implementation plans in India should involve the private sector more proactively, with the clear aim to scale-up climate-related investment. To do so, India should:

- Promote greater public-private dialogue on climate finance at national, regional and local level.
- Involve industry and private sector actors more proactively in the design and implementation of schemes such as the PAT and PRGF, based on similar success in Brazil and Indonesia.
- Create incentives or structures for greater collaboration between national research centres and the private sector.
- Explore formal roles for DFIs to link private and public funds through innovative financing mechanisms (see Recommendation #5).
- Tap into (or create) emerging sectoral associations, investor platforms and NGO forums to communicate the market opportunities of low carbon resilient investments. India can draw on experiences from other countries in the region and utilise forums such as the Alliance for Public-Private Climate Finance Asia Pacific.
- Use regulatory and private sector experience from CDM to develop formal advisory agencies for accessing various forms of climate finance.
- Develop public-private financing structures to showcase viable business models for climate investment in sectors with potential for significant climate co-benefits (e.g. energy efficiency).

improvement in industrial motors, boilers, super-efficient fans, water pumps, A/Cs, etc.). India could pilot a Challenge Fund for implementing a programme from this list, to fund the critical R&D, demonstration, deployment, diffusion phases – using this experience to highlight the potential for scale-up to attract future investors.

Readiness Gap 4

DFIs in India have limited capacity to implement climate-related projects beyond a narrow range of themes, sectors, and geographies. India therefore faces challenges in developing a pipeline of bankable projects, which could help remove barriers for project financiers and increase climate-related investment in the country.

A number of recent reports and initiatives have highlighted the primary role for DFIs to play in delivering climate finance in developing countries.⁵⁶ Specifically, DFIs play two important roles in the national climate change response. First, they can serve as primary agencies delivering climate finance on the ground. Second, they can act as secondary lending agencies to other banks and private investors – using their own market knowledge, management capacity, and financial collateral to encourage new investment. As project developers, and as agents that support project developers, they are therefore ideally placed institutions to develop a pipeline of bankable projects that will attract scaled-up investment for climate activities in new sectors and geographies.

Recommendation #4

India should strengthen the capacity of DFIs to design, select, and fund national and state-level climate change projects or programmes, in order to increase the coverage of climate-related activities and to develop bankable projects to attract further investment.

Actions:

In order to strengthen DFIs' capacity to assist in the delivery of national climate change plans, India should:

- Provide DFIs that are already delivering climate-related projects (e.g. SIDBI, NABARD), with formal mandates to allocate funds for climate-related activities under the NAPCC and SAPCCs. These mandates should build on DFIs existing project management⁵⁷ and risk management capabilities to scale-up the design, selection, and funding of climate projects and programmes. For example individual line Ministries could give specific DFIs formal mandates to finance their development plans and NAPCC Mission objectives. MNRE is already using IREDA to finance their national policies and Solar Mission objectives, and this model could be scaled out further.
- Explore how other financial institutions like SBI, IDFC, IL&FS, etc. can also allocate climate finance. Many institutions in India have valuable experience in channelling private and public funds to finance large development projects, as well experience of dealing with variety of financing instruments and foreign capital. All of these competencies could be useful to scale-up climate-related projects.
- Consider creating new domain-specific DFIs for carbon intensive sectors, such as transport, energy intensive industries, forestry, waste, and water management.
- Create a climate finance working group (within each DFI) that has a clear mandate to develop investment criteria for climate-related projects. Representatives from each DFI could then meet regularly to share ideas and to develop common allocation, disbursement, and MRV processes. (For example, creating an agreement for individual DFIs to focus on

⁵⁶ IDB Report – The Role of National Development Banks in Catalysing International Climate Finance, 2013; International Development Finance Club (IDFC) - Comprised of 19 national/regional development banks which have a total asset base of over \$2 trillion; Association of Development Financing Institutions (DFIs) in Asia and Pacific (ADFIAP) - 131 member-institutions in 45 countries and territories.

⁵⁷ Approving activities, channelling grants and/or loans, etc.

projects/programmes in specific sectors – IDFC and IDBI for large infrastructure, IFC and SIDBI for energy efficiency in industries, NABARD for agriculture, and IREDA for renewables).

- Promote collaboration between DFIs and the private sector to capitalise on sector-specific skills, knowledge and capacities for the development of bankable projects.
- Allow DFIs to directly fund projects or to channel capital through other financial institutions (e.g. Gramin banks, national banks and private sector institutions), in order to enhance the geographic and sectoral reach of climate-related investment.
- Undertake a detailed review of each National Mission where international climate finance or national funds could be used more strategically to develop large programmes (e.g. NAMAs).
- Design a training programme at the sub-national level for project developers, provincial and local governments and other professionals engaged in climate-related projects to help them develop a pipeline of bankable projects and attract funding.
- Develop standardised processes/systems for disbursement of funds so that private sector developers are able to access finance directly from DFIs.
- Apply for GCF Readiness support, bilateral technical assistance, and use funds from the national budget to enhance DFIs' capacities to deliver climate finance and develop bankable projects. Support could include project development, market analysis, technical evaluations, use of new financing instruments, environmental & social due diligence, MRV, etc. Fourteen countries⁵⁸ have already sent requests for readiness support and are being actively followed up the GCF. Requests range from support to create strategic frameworks for engagement with the fund, programme and pipeline development, identification of implementation arrangements as well as requirements for accreditation of national implementing entities⁵⁹.

Readiness Gap 5

Climate finance delivery institutions (e.g. DFIs) have limited ability to match finance needs with a blend of climate finance sources and instruments.

In India, climate finance is delivered primarily through grants and concessional loans. Beyond these conventional financing instruments, there is a lack of experience and capacity in using alternative financing instruments to fund climate-related projects activities in line with NAPCC priority actions.⁶⁰

Recommendation #5

DFIs should develop the capacity to blend different sources and instruments (grant, loan, equity, debt) of finance when allocating funds to implementing entities. This should include the use of public funds to leverage private finance for climate-related activities.

Actions:

To improve the capacity of DFIs to deliver climate finance using new and innovating financing instruments (including blending), India should:

- Undertake a detailed study on best practices in linking private financial actors⁶¹ with investment types⁶² (blending) across various mitigation sectors and activities to scale-up climate finance.

⁵⁸ Antigua and Barbuda, Belize, Cook Islands, Dominica, Eritrea, Ethiopia, Indonesia, Mali, Mauritius, Mongolia, Namibia, Palau, São Tomé and Príncipe and Rwanda.

⁵⁹ Green Climate Fund. Readiness and Preparatory Support Programme Update July 2014.

http://www.gcfund.org/fileadmin/00_customer/documents/Readiness/Readiness_Newsletter_July_2014_FI_NAL.pdf

⁶⁰ See for example: Vivid Economics (2014). While the study does not go into extensive detail on different financial instruments, it does highlight the fact that the use of conventional financial instruments has the effect of limiting investment to a narrow group of sectors and project types, ultimately causing countries to miss their climate change targets.

- Undertake research on new financing instruments in an effort to increase project implementation capacity across a wider range of themes, sectors, and geographies.
- Identify initiatives and shortlist possible solutions from these studies, and develop a plan to establish the appropriate public-private investment structures to pilot these approaches.
- Create sector specific focal points in DFIs to provide support for project developers working with different types of investors and financial instruments.
- Promote the collaboration between DFIs, academic institutions, and project developers in the form of courses, toolkits and workshops.
- Improve existing procedural requirements in DFIs, by:
 - Developing financial procedures and risk mitigation strategies to safeguard investments.
 - Introducing ex-ante conditionality/criteria for projects and programmes, in order to mainstream climate change in investment planning.
 - Introducing monitoring indicators and reporting requirements for projects and programmes.
- Use national funds (PRGF, VCF) or international credit lines to undertake pilots for leveraging private finance, especially for deploying more innovative and long-term finance.

Readiness Gap 6

Indian DFIs have capacity constraints in meeting international fiduciary standards (sound financial management, transparency, independence, and professional standards) and social & environmental safeguards.

As the previous two sections highlights, DFIs will play an increasingly important role in deploying climate finance for low carbon and climate resilience projects in the future. In India, as in many countries, DFIs are the primary National Implementing Entities for international climate finance. For example, SIDBI, NABARD and IREDA already have experience in financing sector-specific climate change projects that are funded by bilateral and multilateral sources. Yet for this to continue under large new funding streams like the GCF, DFIs in India will have to improve their fiduciary standards and safeguards, in line with the standards set by international financing institutions.

Recommendation #6

Indian DFIs should develop minimum accreditation standards for accessing and delivering climate finance from international funding streams.

Actions:

India should prioritise a number of actions to develop the capacity of DFIs to meet international fiduciary standards and safeguards. The following actions could be carried out within DFIs themselves, or by the central coordinating institution outlined in Recommendation #1:

- Apply for readiness funding (from the GCF or other sources such as the World Bank, GIZ, UNDP, etc.) to support capacity building in NIEs to meet minimum GCF accreditation standards.
- Review current project management skills and experience (e.g. evaluating proposals for eligibility, approving activities, ability to channel grants and/or loans at regional and sub-regional level) to identify gaps and areas for improvement.

⁶¹ Corporates, commercial banks, investment banks, institutional investors, sovereign wealth funds, family offices, retail/ domestic investors and development banks, etc.

⁶² Loans, listed bonds, listed equity, private equity, infrastructure, philanthropy and venture capital, de-risking tools, etc.

- Build project development and project management capacity in DFIs that will play a major role in climate finance delivery. In line with Recommendation #4, this will enable DFIs to make more effective investment decisions by creating frameworks for identifying, prioritising, and funding climate change activities in line with national strategies.
- Improve credit ratings in DFIs by introducing strong governance, operational and risk control systems.

Note that in the short-medium term, India's DFIs can have different fiduciary standards depending on the types of projects they will be implementing and/or the different sources of finance they will use. For example, a DFI implementing projects for a multilateral fund such as the CTF may require a different set of fiduciary standards than a DFI implementing projects for the domestic private sector. Likewise, DFIs implementing large projects may need stronger fiduciary standards than those implementing smaller projects with lower risk. Nevertheless, all DFIs in India should aim to build further capacity over time to enable them to access finance from new sources outside their traditional remits. This will also open the possibility for DFIs to blend finance from multiple sources and different instruments (perhaps in partnership with a number of DFIs or with international institutions) to spread climate-related funding to new sectors and geographies in India.

Readiness Gap 7

India has limited experience in measuring, reporting, and verifying domestic, private, and international climate finance. Systems for tracking volumes of climate finance have not been systematically applied, and estimates on the impact of climate finance spend are even more limited.

In India, MRV of climate finance has typically been limited to individual projects that are funded by international funds, which often have their own strict monitoring and evaluation requirements. Through this experience, many DFIs have gained experience in conducting project M&E. However this type of reporting has not been systematically applied, and there are therefore large capacity differences among DFIs to conduct robust M&E. More broadly, data has not been aggregated at the national level to determine either the volumes of climate-related financing (from domestic or international sources), or the effectiveness of that funding in meeting NAPCC goals.

Recommendation #7

India should set up a central system for monitoring all climate flows – coordinated by the main climate finance agency outlined in Recommendation #1. This system can be used to determine the total volume of climate finance in India, and more importantly, the effectiveness of that finance in supporting the goals of India's NAPCC and SAPCCs.

Housing the national climate finance MRV system within the central climate finance coordination agency is a logical decision – as it provides the agency with the data it needs to determine whether climate finance (both in terms of volumes and impacts) are being effectively used to meet NAPCC and SAPCC targets. Having the data in-house will allow for a swift re-prioritisation and shifting of resources, if reports indicate that certain interventions are lagging behind others.

Actions:

- India needs to provide the central climate finance coordinating agency with the mandate to develop a national climate finance MRV system. The agency will need to undertake the following activities to develop the MRV system, which are broken down into three categories:

Project-level MRV:

- Review existing project-level M&E strategies that DFIs and other implementing agencies have undertaken for international donors (e.g. CTF investment, bilateral assistance) to learn lessons on best practices and approaches that could be adopted for the project-level MRV system.

- Develop and introduce standardised methodologies and key performance indicators (KPIs) for measuring and reporting on mitigation and adaptation projects/programmes.
- Introduce regular reporting requirements (along with appropriate communication channels) for DFIs, NIEs and other project implementing actors (e.g. NGOs or the private sector) to report on project-level KPIs.
- Build capacity within DFIs to measure and report on the KPIs of climate-related programmes.

National-level MRV:

- Work with the Ministry of Finance to develop a series of classifications/codes that can track national budgetary expenditure on climate-related activities (including National Missions, programmes projects with climate co-benefits, etc.) in India.
- Undertake an initial baseline of climate finance spending from budgetary sources, using a CPEIR-type methodology.
- Collect data from international donors (both bilateral and multilateral) on their climate-related expenditure in India. This data should include a number of different indicators in addition to volume of finance – including sectoral/thematic focus, geographic location, targeted impact, etc.
- Introduce non-mandatory reporting channels for private sector, NGOs, thinktanks, research institutions, universities, charitable foundations, and other civil society actors to report on climate-related expenditure (in line with KPIs collected at the project-level).
- Provide training and capacity support to the Ministry of finance, other line Ministries, private sector actors, civil society, etc. for the implementation of new MRV requirements.

Data processing and reporting:

- Develop a database to collect data from each of the two MRV streams.
- Process national-level data to determine if headline values meet the expected resource allocation strategy to implement the NAPCC.
- Process project-level data to determine the effectiveness of climate finance spending at the sub-national level.
- Where particular strengths or gaps in the effectiveness of climate finance are highlighted, liaise with relevant line Ministries, policy planners, etc. to develop an action plan that responds to challenges and scales-up successes.
- Develop regular reporting channels and templates to report on data collected under the MRV system.
- Provide input and expert advice to the PMO Council, Planning Commission, the Ministry of Finance, other line Ministries, National Missions, etc. when developing important national plans (e.g. 5-year plans) that have a climate change/climate finance component.

7.2 The future climate finance delivery structure in India

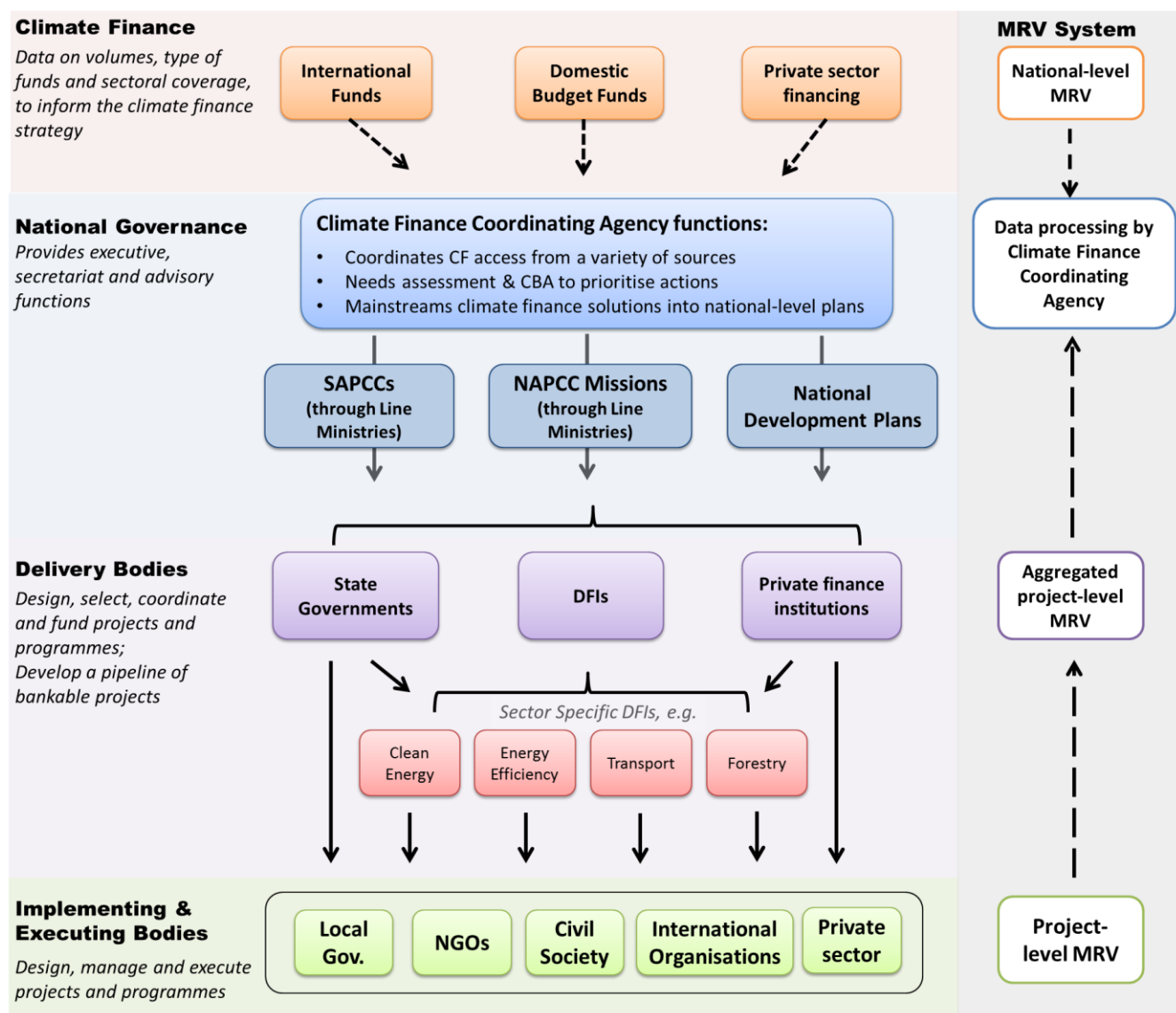
If India follows the recommendations of this report to address its seven readiness gaps, the institutional structure for accessing and delivering climate finance would look different than it does today (see Figure 3.1 in Chapter 3.1). Figure 7.1 provides an overview of how the new institutional structure would look if India followed all the recommendations above. In particular, it highlights how the new climate finance coordinating agency would manage the overall national climate finance response – providing overall direction to accessing climate finance; coordinating a needs assessment and cost benefit analysis to prioritise interventions; and directing the delivery of climate finance in line with the NAPCC, SAPCCs, and other national development plans (**Recommendations #1 and #2**).

The Figure also highlights a number of other points from the recommendations section. It outlines how climate finance delivery bodies (particularly DFIs) will have increased capacity to deliver climate finance in a coordinated way under the NAPCC Missions and SAPCCs, and to develop bankable

projects with implementing and executing bodies (**Recommendations #4 and #5**). At all levels of the delivery and implementation process, there will be an important role for the private sector to play (**Recommendation #3**). The coordinating agency would have to scale up the role of the private sector by involving them more proactively in environment-related strategies, funding streams, and implementation plans in India.

An underlying feature of this new coordinated delivery structure is that DFIs will have greater ability to access funds directly from international sources. This would start with capacity building support to improve fiduciary standards, project management and environmental & social safeguards, which the coordinating agency could make available as an early priority of its operations (**Recommendation #6**). This would ensure that DFIs can not only act as NIEs under the GCF but would also be able to attract funds from other sources. Finally, the Figure highlights the importance of conducting MRV of climate finance, at both the national level and project level (**Recommendation #7**). This data can be collected by the central coordinating agency, and then analysed and processed to help guide the agency in improving future climate finance strategy in India.

Figure 7.1: The future climate finance delivery structure in India



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Annex I – Selection criteria for detailed analysis of multilateral funds

Of the eight multilateral climate funds that India is currently eligible to access, this report goes into specific detail on three – the Adaptation Fund, Clean Technology Fund and the GEF Trust Fund. These three funds were selected using multi-criteria analysis; the criteria and scorings are outlined in Table I.1 below. Funds with at least three of the criteria were selected. Although the report does not focus on adaptation, the AF's piloting of 'direct access' holds important lessons for the design of the GCF, and is therefore included in the report.

Table I.1: Multi-criteria analysis for selection of multilateral funds examined in the report

Criteria	AF	CMI	CTF	GEEREF	GEF*	PMR	UN-REDD
1. Large amount of funding received by India	X	X	✓	X	✓	X	X
2. Innovative delivery mechanism	✓	X	X	X	X	X	X
3. Availability of information	✓	✓	✓	X	✓	✓	✓
4. Sectoral relevance to project goals	X	X	✓	✓	✓	X	X
5. Team expertise	✓	X	✓	X	✓	✓	X

*Note that the GEF category includes the GEF Trust Fund and the SCCF, which is also administered by the GEF

Annex II – List of multilateral and bilateral funds analysed for the report

International Source of Climate Finance	Type	Indian Eligibility?
Adaptation Fund	Multilateral	✓
ADB Carbon Market Initiative	Multilateral	✓
Amazon Fund	Bilateral	X
ASEAN Infrastructure Fund	Multilateral	X
Australia's International Forest Carbon Initiative	Bilateral	✓
Carbon Finance for Agriculture, Silviculture, Conservation, and Action against Deforestation	Multilateral	X
Clean Technology Fund	Multilateral	✓
Congo Basin Forest Fund	Multilateral	X
Forest Carbon Partnership Facility - Carbon Fund	Multilateral	X
Forest Carbon Partnership Facility - Readiness Fund	Multilateral	X
Forest Investment Programme	Multilateral	X
GEF Trust Fund (GEF 4)	Multilateral	✓
GEF Trust Fund (GEF 5)	Multilateral	✓
Germany's International Climate Initiative	Bilateral	✓
Global Climate Change Alliance	Multilateral	X
Global Energy Efficiency and Renewable Energy Fund	Multilateral	✓
Green Climate Fund	Multilateral	✓
Indonesia Climate Change Trust Fund	Bilateral	X
Japan's Fast Start Finance	Bilateral	✓
Least Developed Countries Fund	Multilateral	X
Nordic Climate Facility	Multilateral	X
Norwegian International Climate and Forest Initiative	Bilateral	X
Partnership Market readiness	Multilateral	✓
Pilot Programme for Climate Resilience	Multilateral	X
Scaling Up Renewable Energy Programme	Multilateral	X
Special Climate Change Fund	Multilateral	✓
UK's International Climate Fund	Bilateral	✓
UN-REDD	Multilateral	✓

Annex III – Bilateral CF received by India, 2012

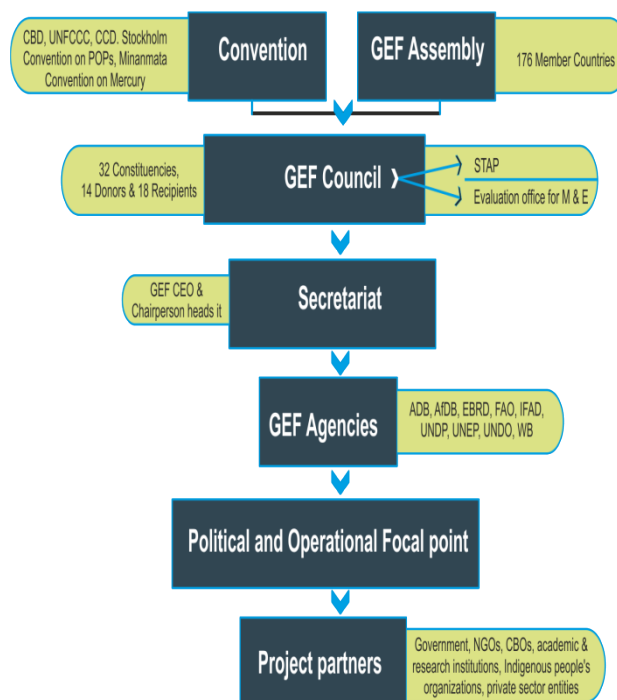
Donor Country	Mitigation		Adaptation	
	Principal	Significant	Principal	Significant
Australia	5.58	6.33	4.22	7.85
Austria	-	-	-	-
Belgium	-	0.02	-	0.04
Canada	0.65	-	1.50	-
Czech Republic	-	-	-	-
Denmark	-	-	-	-
Finland	0.10	0.23	0.19	0.04
France	69.41	-	69.41	-
Germany	407.65	88.42	6.04	199.23
Greece	-	-	-	-
Iceland	-	-	-	-
Ireland	-	-	-	0.81
Italy	0.00	0.43	-	0.51
Japan	2445.74	2.35	-	916.43
Korea	--	0.01	0.01	0.02
Luxembourg	0.12	0.24	-	0.04
Netherlands	-	-	-	-
New Zealand	-	-	-	-
Norway	0.24	0.11	7.46	21.69
Portugal	-	-	-	-
Spain	0.01	0.01	-	0.11
Sweden	-	6.86	1.73	5.54
Switzerland	5.57	0.22	3.73	0.22
United Kingdom	0.08	2.50	0.08	2.50
United States	-	-	-	-
Total:	\$2935.15	\$107.72	\$94.37	\$1155.02
Total (less Japan):	\$489.41	\$105.37	\$94.37	\$238.59
Sum Total (less Japan):	\$927.74 million in bilateral climate finance			

Source: OECD StatExtracts Database. All funds in USD millions.

Annex IV – GEF Profile

Fund Overview

The Global Environment Facility was established as a pilot programme in the World Bank in 1991 to aid in the protection of the global environment and to uphold environmental sustainable development. Operating as a self-governing financial organisation, the GEF provides grants for projects related to climate change, biodiversity international waters, land degradation, the ozone layer, and persistent organic pollutants. Since its inception GEF has provided \$12.5 billion in grants and leveraging \$58 billion in co-financing for over 3,690 projects in over 16P5 countries¹. Figure 1 depicts the overall structure of GEF.



GEF Global Funding

GEF funding is streamlined through three key Funds - the GEF Trust Fund, Least Developed Countries Trust Fund, and Special Climate Change Trust Fund. The replenishment of GEF takes place every four years. GEF Trust Fund has received \$15.225 billion⁶³ during its five replenishments. For the GEF 5 cycle (July 2010 – June 2014), \$4.25 billion has been pledged by 39 countries.

GEF funding in India

Since 1991, India has contributed \$51 million to the GEF Trust Fund and accessed more than \$326.87 million with approximately 65% of funding gone into the climate change sector. Under the ongoing GEF 5 cycle, \$93.75 million (climate change), \$30.58 million (biodiversity) and \$5.1 million (land degradation) has been committed to India.⁶⁴ The following table provides a breakdown of projects approved for India under GEF 5.

Table IV.1: GEF Funding in India

Project	Focus	Year	Agency	Approved	Disbursed
Cleantech Programme for SMEs in India	Mitigation	2013	UNIDO	1.00	1.00
Efficient and Sustainable City Bus Services	Mitigation	2012	IBRD	9.20	0.00
Facility for Low Carbon Technology Deployment	Mitigation	2012	IBRD	9.00	0.00
Improving Rural Energy Access in Deficit States	Mitigation	2013	IBRD	12.84	0.00
Organic Waste Streams for Industrial Renewable Energy Applications in India	Mitigation	2013	UNIDO	3.33	0.00
Partial Risk Sharing Facility for Energy Efficiency	Mitigation	2012	IBRD	18.00	0.00
Preparation of Third National Communication to the UNFCCC and Strengthening Institutional and Analytical Capacities on Climate Change	Multiple foci	2012	UNDP	9.01	9.01
Promoting Business Models for Increasing Penetration and Scaling up of Solar Energy	Mitigation	2012	UNIDO	4.37	4.37
Promoting Industrial Energy Efficiency through Energy Management Standard, System Optimization and Technology Incubation	Mitigation	2012	UNIDO	4.47	4.47
Scale Up of Access to Clean Energy for Rural Productive and Domestic Uses	Mitigation	2013	UNDP	4.01	0.00

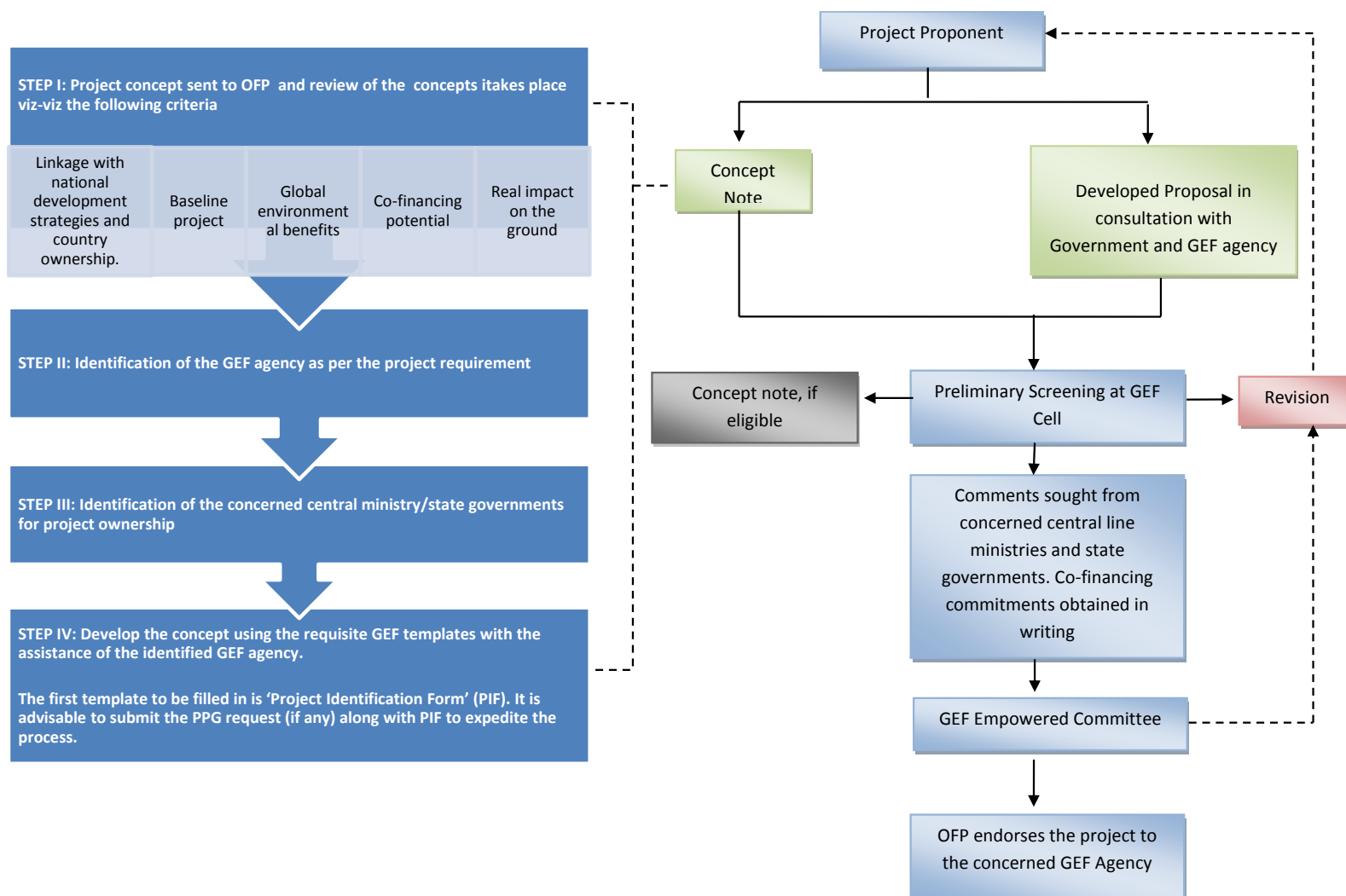
⁶³ All figures from http://www.thegef.org/gef/sites/thegef.org/files/documents/document/India_NPFD.pdf

⁶⁴ Note that estimates vary between those tracked by the Climate Funds website, which uses 'approved' and 'disbursed' as its main categories. These figures represent GEF Trust Fund pledges.

Figure IV.1: GEF access procedures in India

Process/action	Who is responsible?
<p style="text-align: center;">Focal point and their roles and responsibilities w.r.t accessing GEF fund in India</p>	
Scope of activities (e.g. mitigation and/or adaptation) and specific definition of these activities	GEF projects are generated in the countries based on country's identified needs and priorities. Governments, NGOs, academic and research institutions, private sector entities, among others stakeholders, can submit a project to be considered by the GEF through an Implementing or Executing Agency. The activities and specific definition are then vetted and approved by MoEFCC and DEA.
Project design and beneficiary selection	<p>The national consultation process for approval of GEF projects in India is conducted by the GEF Empowered Committee, chaired by the Secretary, MoEFCC. This process involves the identification of National Executing Agency, identification of the lead GEF Agency and identification of focal points / contact persons.</p> <p>The institution tasked with leading the project is then responsible for the project design (submitted the PIF first followed by a project proposal) and MoEFCC is responsible for identification of appropriate GEF agencies</p>
Eligible expenditure	The GEF Empowered Committee identifies national priorities with incremental value to be funded under GEF, including identification of possible co-financing at the national level
Direct or indirect financing	<p>Indirect financing</p> <p>Legend: IA: Implementing Agency SG/CG: State Govt/ Central Govt LM: Line Ministry MoF: Ministry of Finance FF: Fund Flow </p> <p>To seek the GEF grant, the implementing agency (World Bank in this example) will have to send a request to the state government which would forward it to the line ministry. The line Ministry would review the request and forward it to MoF with its endorsement. The MoF will release the funds directly to the state government, which will pass it on to the Implementing Agency.</p>
Choice of financing instruments	GEF Empowered Committee decides the financial instrument. Most financing comes in the form of grants
Implementing entities	UNDP, UNEP, World Bank
MRV / ME processes	GEF Evaluation Office's M&E Policy

The GEF project cycle:



Annex V – CTF Profile

Fund Overview

The Clean Technology Fund is one of four multi-donor Climate Investment Funds, set up in 2009 to promote scaled-up finance for demonstration, deployment and transfer of low-carbon technologies. The CTF was capitalised through pledges by Australia, Canada, France, Germany, Japan, Spain, Sweden, United Kingdom, and United States, totaling \$5.5 billion. The funds are managed and administered by the World Bank and other multilateral development banks. The CTF aims to delivering finance at the minimum level of concessionality possible, and to promote investments in promising new technologies that are not yet market-ready.

India's experience accessing CTF

India's CTF Investment Plan was submitted in 2011, and proposes two phases of investment. In the initial phase, the Government of India is seeking \$750 million from the CTF. Nearly \$350 million of this financing has been approved by the CTF, but none of the money has been disbursed yet.

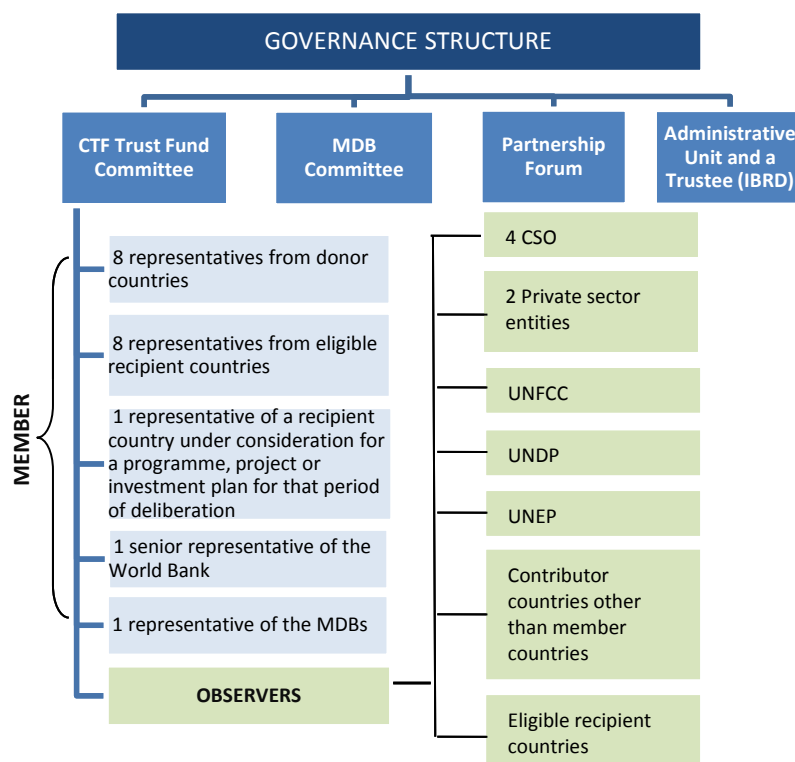


Table V.1: India's project pipeline for CTF funds

Project Phase I	Implementer	Cost (\$ millions)
Himachal Pradesh Environmentally Sustainable Development Policy Loan	World Bank	100
National Mission on Enhanced Energy Efficiency—SEEP	World Bank	50
Partial Risk Guarantee Scheme for New Technologies in Energy Efficiency	World Bank	25
Rajasthan Solar Park	ADB	200
Gujarat Solar Park	ADB	150
Maharashtra Solar Park	ADB	150
Integrated Solar-hybrid Pilot Project	ADB	50
National Mission on Enhanced Energy Efficiency – PAT Phase I	World Bank	50
Project Phase II	Implementer	Cost (\$ millions)
National Mission on Enhanced Energy Efficiency – PAT Phase II	World Bank	150
Support to National Solar Mission	World Bank	150
Northeast Transmission	World Bank	100
Rajasthan Urban Transformation	ADB	100
Net-Energy Positive Wastewater technologies for clean-up of the Ganga river	World Bank	100
Eastern Dedicated Freight Corridor	World Bank	500
Private Sector Financial Intermediation	ADB-PSOD	75
Energy Efficiency & Renewable Energy Guarantee Facility	ADB-PSOD	200
Scaling up Renewable Energy & Energy Efficiency in private sector	IFC	100

Source: CTF Investment Plan for India, 2011)

Table V.2: CTF access procedures in India:

Process/action	Who is responsible?
Scope of activities (e.g. mitigation and/or adaptation) and specific definition of these activities	The activities and specific definition are vetted and decided by MoEFCC and DEA. A Phase 1 investment plan was submitted to the CTF in 2011 ⁶⁵
Project design and beneficiary selection	Department of economic affairs under MoF and MoEFCC
Eligible expenditure	Indian financial institution (e.g. IREDA) are the financial intermediaries, and the main executing department is the Ministry of New and Renewable Energy
Direct or indirect financing	<p>Indirect financing</p> <p>Legend: IA: Implementing Agency SG/CG: State Govt/Central Govt LM: Line Ministry MoF: Ministry of Finance</p> <p>To seek the grant, the implementing agency (e.g. World Bank) requests the participation of the State government, which forwards the invitation to the line Ministry. The line Ministry then reviews the request and forwards it to MoF for endorsement. Once received, the MoF will release the funds directly to the State government, which will pass it on to the Implementing Agency.</p>
Choice of financing instruments	Concessional Loans or grants
Implementing entities	World Bank, IFC, ADB/ ADB-PSOD
MRV / ME processes	M&E of the projects financed by the CTF will be carried out using M&E protocols applied by MDBs for concessional finance.

Table V.3: The CTF project cycle:

Steps/Actions	Responsible Actor	Performance Standards
I. Concept & Preparation		
1. MDBs conduct joint mission to prepare Investment Plans. <ul style="list-style-type: none"> MDB identification mission and project concept review for individual investment operations proposed as part of Investment Plan Approval of Investment Plan by Government. 	MDB and Recipient Country Government	According to criteria and guidelines established by Trust Fund Committee, including coordination with other development partners. MDB Investment Lending guidelines for identification and project concept review.
2. TFC reviews Investment Plan, and endorses MDB designation for operations, eligibility and priorities for individual projects, and indicates notional resource envelope for individual projects.	TFC	Virtual review by the TFC on a monthly basis.
3. MDB supports preparation of individual projects by borrower. <ul style="list-style-type: none"> Examples of key MDB steps: project concept note review, quality enhancement review, appraisal decision. MDB to include an external technical peer reviewer in its standard review/clearance steps for project processing. 	Borrower & MDB	According to MDB operational policies and procedures, consistent with CTF investment plan
II. Appraisal-Negotiations- Board-Effectiveness		

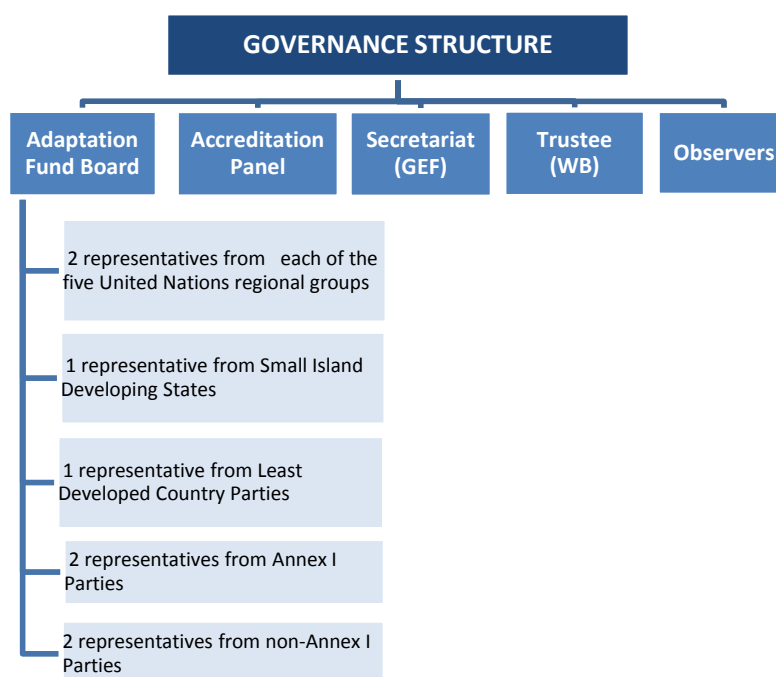
⁶⁵ [http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/CTF India investment plan 101411.pdf](http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/CTF%20India%20investment%20plan%20101411.pdf)

Steps/Actions	Responsible Actor	Performance Standards
4. MDB submits pre-appraisal project document to TFC for no-objection approval of trust fund financing.	MDB & TFC	Virtual review as necessary.
<ul style="list-style-type: none"> Upon TFC approval, Trustee commits funding to MDB 	Trustee	
5. MDB conducts appraisal, negotiates legal agreement with borrower, and submits project for approval by its Board.	MDB	Appraisal within 3 months of TFC no-objection approval.
<ul style="list-style-type: none"> Resubmission to TFC if there are substantial changes in project objectives, design and/or financing. 		Target: Investment Plan review by TFC to Board submission in 12 months.
6. Signing and Effectiveness of Legal Agreement	MDB & borrower	Applicable MDB procedures and standards
III. Implementation & Supervision		
7. Project implementation, including monitoring of physical and financial progress in achieving results.	Borrower or executing agency	As provided for in the legal agreement and project operational manual.
<ul style="list-style-type: none"> Disbursement of funds following processing of withdrawal applications. 	MDB	Applicable MDB policies and procedures.
8. Supervision and amendments of project activities under implementation, including reallocation of loan proceeds.	MDB	Applicable MDB policies and procedures.
IV. Evaluation & Completion Reporting		
9. Evaluation	Borrower or executing agency	As provided for in legal agreement and project operational manual.
10. Implementation Completion Report (ICR)	MDB	Applicable MDB policies and procedures.
<ul style="list-style-type: none"> Upon submission of ICR to Board, MDB submits final ICR to CIF Administrative Unit Unit 		Within [10] working days of Board submission.
11. Independent review of ICR	MDB Evaluation Department	Applicable MDB policies and procedures
12. Annual Portfolio Review submitted to CIF Administrative Unit.	MDB	Reporting from Results Measurement System
<ul style="list-style-type: none"> Administrative Unit convenes annual portfolio review meeting, prepares overview report on Fund operations, and forwards MDBs' annual portfolio reviews to TFC. Review and adoption of CTF Annual Report on Fund operations. 	Administrative Unit	
	TFC	Decision at regular meetings of TFC.

Annex VI – Adaptation Fund Profile

Fund Overview

The Adaptation Fund is an international mechanism of the Kyoto Protocol that became operational in 2009. The AF uses grant funding to finance the full costs of concrete adaptation programmes in developing countries. It is funded through a 2% levy on transactions under the Clean Development Mechanism (CDM), although in reality it has relied heavily on grant contributions from Annex 1 countries as well. To date, the Adaptation Fund has approved \$211.57 million and disbursed \$69 million in 31 countries. The AF's activities have targeted interventions in the water, land-use, agriculture, health, infrastructure, and ecosystems services focal areas. Funds have also been used to develop early warning systems and support capacity building for disaster-risk reduction. In 2013 the AF was replenished with \$100 million, mostly from European countries.



Institutional mechanism to access the Adaptation Fund

One of the Adaptation Fund's most unique design features is that it allows for 'direct access' of funds by national implementing entities from developing countries. Direct access gives greater country ownership over climate change programme, and ensures for decentralised decision-making nearer to the level where climate change impacts occur. Fifty percent of Adaptation Funding has been ear-marked for NIEs, although only sixteen have been accredited to date, and only 5 have received funding. The remaining 50% of Adaptation Fund finance is available for projects managed by Regional Implementing Entities, and Multilateral Implementing Entities.

India's experience accessing the Adaptation Fund

The National Bank for Agriculture and Rural Development is India's NIE for the Adaptation Fund. It is responsible for overall project management; financial management; M&E; and for performing a supervisory role for government departments, research institutions, NGOs, etc. that act as executing agencies on projects.

In March 2014, the Adaptation Fund Board gave initial approval for three adaptation project concepts in India, all managed by NABARD. These funds have not yet been disbursed.

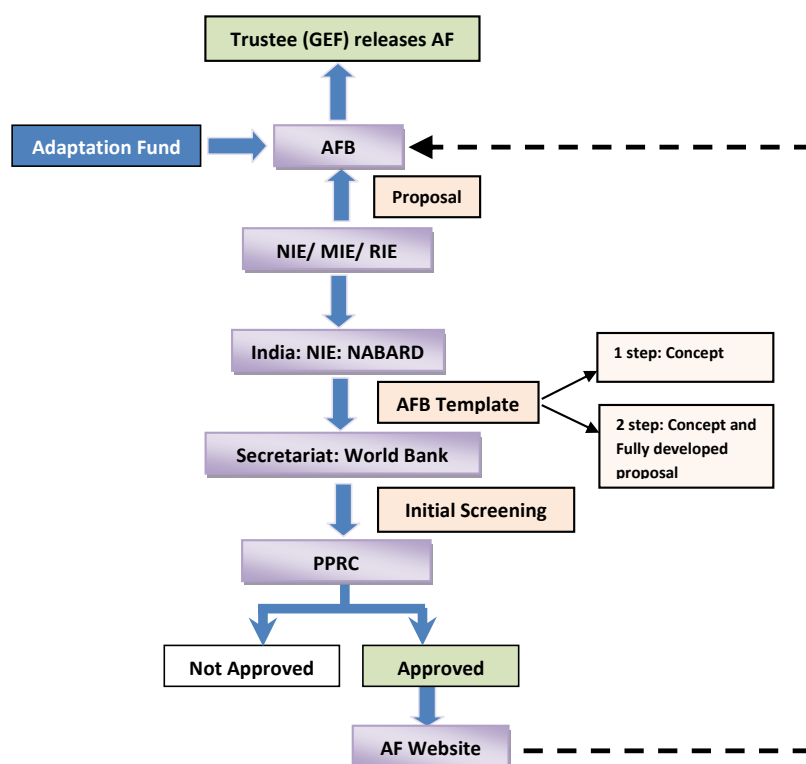
Table VI.1: Adaptation Fund project pipeline for India

Project	Cost (USD million)
Climate Proofing of Watershed Development Projects in the States of Tamil Nadu and Rajasthan	1.227
Building Adaptive Capacities of Small Inland Fishermen Community for Climate Resilience and Livelihood Security, MP, India	1.738
Enhancing Adaptive Capacity and Increasing Resilience of Small and Marginal Farmers in Purulia and Bankura Districts of West Bengal	2.534

The Adaptation Fund Project Cycle

1. The NIE, RIE, or MIE submits their proposal to the Adaptation Fund Board via the GEF, using the prescribed AFB template.
2. The proposal submitted by the NIE can follow either a one step or a two-step approval mechanism:
 - a. In order to expedite the process of approving projects/programmes, small-size projects (less than \$1 million) will undergo a **one-step approval process** by the Board.
 - b. For projects requesting more than \$1 million, the proposals may undergo either a one-step or a two-step approval process. In the one-step approval process the proponent shall submit a fully-developed project/programme document. In the two-step approval process a brief project/programme concept shall be submitted as first step followed by a fully developed project/document. Funding will only be reserved for a project/programme after the approval of a fully-developed project document in the second step.
3. The Secretariat then screens proposals and provides technical reviews and submits the same to the Project and Programme Review Committee
4. The PPRC reviews proposals and prepares recommendations for the Board
5. In case of project approval, the Secretariat processes standard legal agreements with the Implementing Entity and the Trustee for implementation
6. The approved projects are published on the AF website.

Figure VI.1: Visual representation of the Adaptation Fund project cycle



Annex VII – German bilateral assistance

Germany's Bilateral Partnership with India

The Republic of Germany provides both financial and technical assistance to India under the Indo-German Bilateral Development Cooperation Programme. Germany has been operating in India since 1958 – providing grants, soft loans and development loans in three main areas:

- Energy (energy efficiency and renewable energy, including related support for power sector reforms)
- Environmental policy, protection and sustainable use of natural resources (natural resources management and industrial and urban environmental management including urban infrastructure)
- Economic reforms (financial systems and services development with special focus on rural financing (micro financing, cooperative banking, etc.), social security financing and SME development and financing).

In 2012, Germany extended two new credit lines in India to promote clean energy and energy efficiency:

- **The Rural Electrification Corporation** received a line of credit of €100 million for 'financing 'Clean Energy for Rural Development'⁶⁶
- **The Small Industries Development Bank of India** and the German development bank KfW signed a €54 million agreement for KfW to provide concessional loan and technical assistance to support energy efficiency, renewable energy, waste management, pollution control and clean technologies in SMMEs.⁶⁷

Germany's International Climate Initiative

The International Climate Initiative is a bilateral climate fund established by the German government in 2008. The ICI supports mitigation, adaptation, and forestry projects – which are predominantly delivered by GIZ and KfW. The fund is replenished annually with €120 million from the BMU, which also makes funding decisions with the input of a 30 member international advisory board. Since the fund became operational, India has received a total of \$61.23 million in financing for a number of projects, a selection of which are listed in the table below.

Table VII.1: German-funded projects in India under the ICI:

Project	Focus	Year	Approved*
Climate Protection and Distributed Energy Supply - Indo-German Energy Forum	Mitigation	2008	1.85
Climate-Neutral Energy Supply for Rural Areas	Mitigation	2008	6.81
Converting a Production Facility to the Manufacture of Climate-Friendly Air-Conditioning Equipment	Mitigation	2008	3.03
Eco-Industrial Parks in Andhra Pradesh	Mitigation	2008	1.06
Energy Campaign for the Hotel and Restaurant Industry	Mitigation	2008	0.21
Excellence Enhancement Centre	Mitigation	2009	2.41
Increasing resilience to climate impacts of vulnerable communities and critical ecosystems in the Eastern Himalayas of India	Adaptation	2008	0.2
Increasing resilience to climate impacts of vulnerable communities and critical ecosystems in the Eastern Himalayas of India	Adaptation	2009	0.28
Indo-German Trigen Project	Mitigation	2008	1.52
Liaison Office - Indo-German Energy Forum (Second Phase: Climate Protection and Decentralised Energy Supply)	Mitigation	2012	4.13
Marketing solar energy in urban regions and industrial zones in India (ComSolar)	Mitigation	2009	6.84

⁶⁶ http://www.finmin.nic.in/press_room/2012/KfW_Loan_sign_REC.pdf

⁶⁷ http://finmin.nic.in/press_room/2012/SIDBI_Germany_KfW.pdf

Producing energy from waste and sewage	Mitigation	2009	2.84
Promoting Low Carbon Transport in India	Mitigation	2010	2.59
Solar Mapping and Monitoring	Mitigation	2010	2.12
Support of NAMA and MRV development as part of Indian climate policy	Mitigation	2013	3.95
Sustainable Management of Coastal and Marine Protected Areas	Multiple foci	2012	12.34

Source: Climate Funds Update. <http://www.climatefundsupdate.org/listing>

*All funds in USD millions. Note that none of the approved projects have yet received financial disbursements

Figure VII.1: Access procedures for German bilateral support to India:

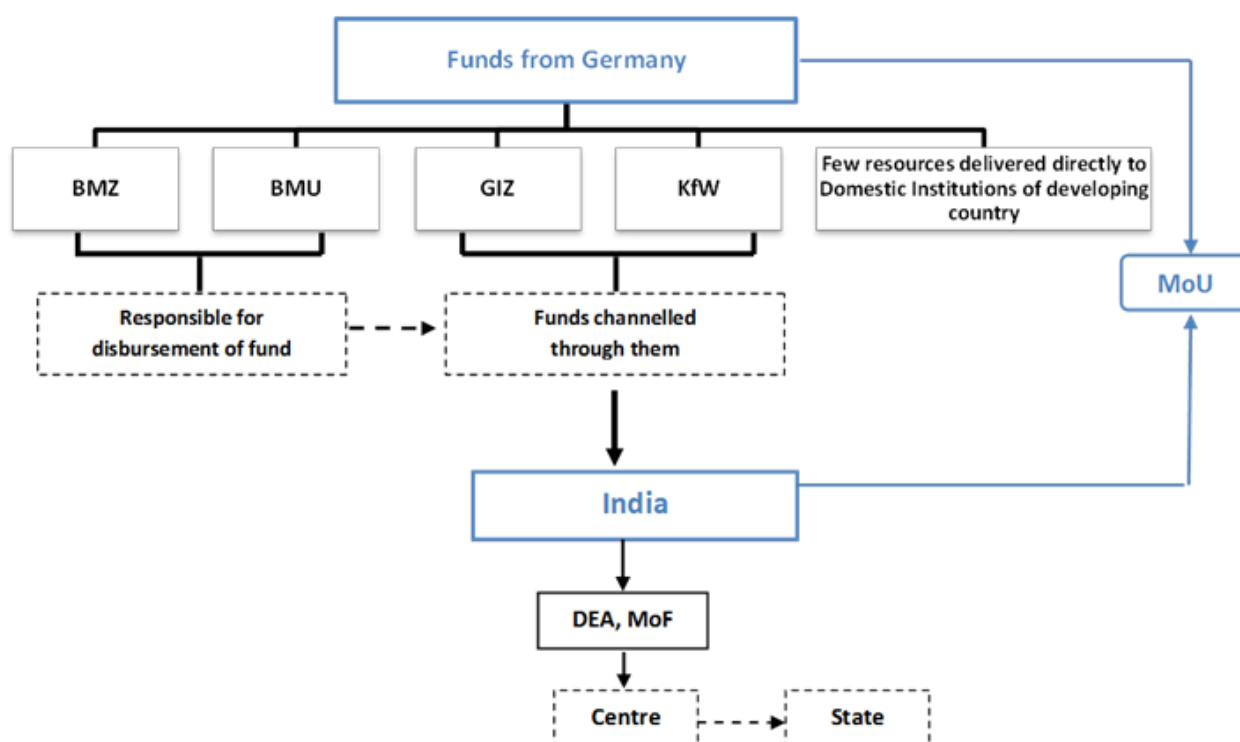
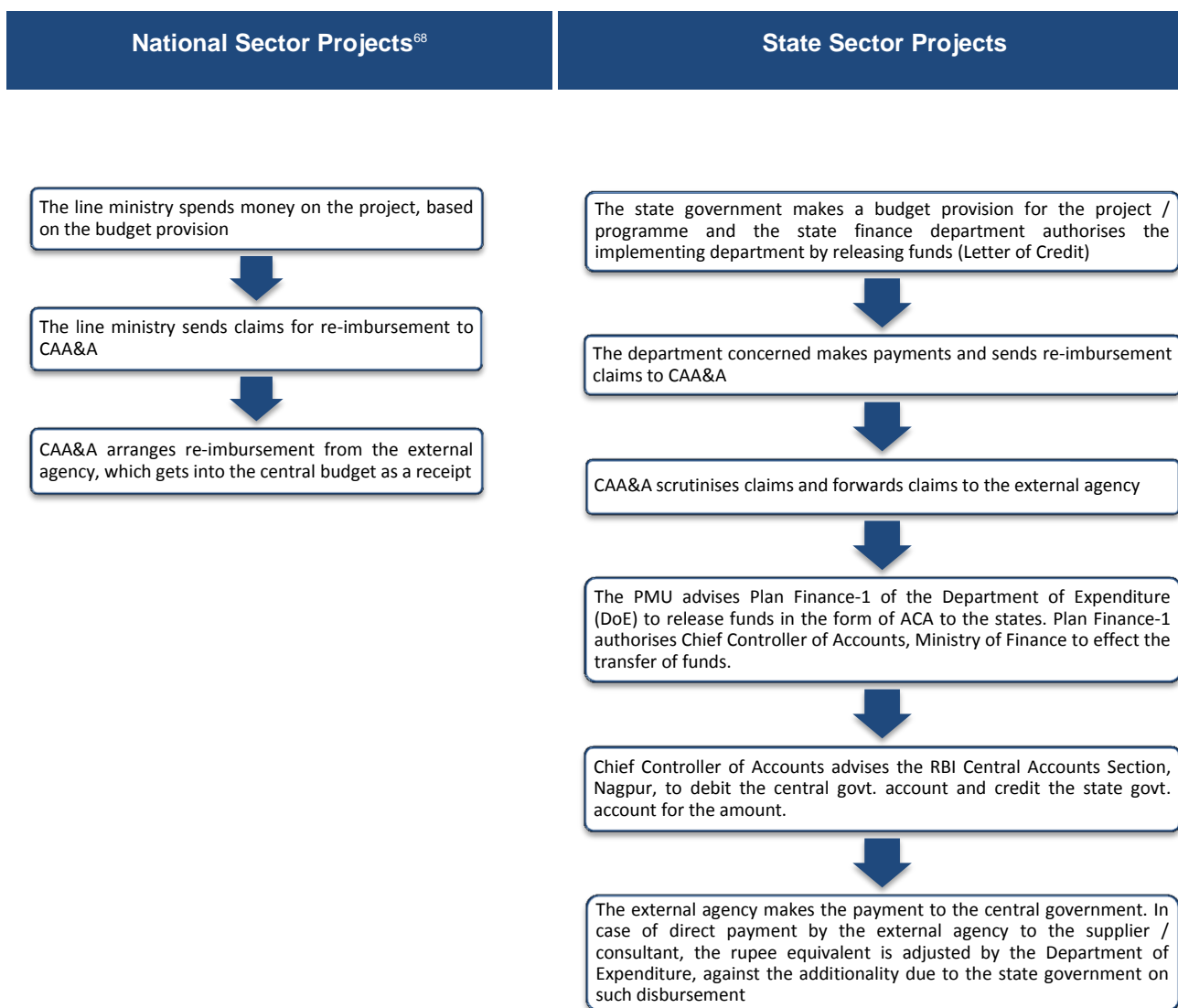


Figure VII.2: Project cycle for bilateral flows of climate finance to India

The process of bilateral disbursements received by India is more or less similar irrespective of the donor. All external funding is received by the Ministry of Finance's Department of Economic Affairs, and registered with the Controller of Aid Accounts and Audit. The funds flow process in case of national sector projects and State sector projects are outlined in the following diagram:



⁶⁸ http://finmin.nic.in/the_ministry/dept_eco_affairs/pmu/PositionPaper_ExtAssist.pdf

Annex VIII – Detailed responses for Tier 2 CF readiness indicators

Political & Strategic Functions			
Tier 1 Indicators	Tier 2 Indicators	Detailed Analysis	Score
1. GHG emissions Have emissions estimates been identified at the national and sectoral levels?	1.1 What are the major sources of emissions in the country?	Energy and industry account for nearly 80% of all emissions <ul style="list-style-type: none"> The total net GHG emissions from India in 2007 were 1727.71 million tons of CO₂ equivalent. GHG emissions from Energy, Industry, Agriculture, and Waste sectors constituted 58%, 22%, 17% and 3% of the net CO₂ emissions respectively.⁶⁹ Emissions from the energy sector are generated predominantly by: Electricity generation (65.4%), Transport (12.9%), Residential and Commercial consumption (12.6%) 	3
	1.2 What systems (if any) are in place to estimate and account for economy wide emissions (e.g. greenhouse gas inventories, national communications, etc.)?	India has appropriate systems in place to estimate GHG emissions <ul style="list-style-type: none"> India has set up the Indian Network for Climate Change Assessment, which makes periodic assessments of climate change and provides updated information on India's national emissions. India has published two National Communications to the UNFCCC (2004 and 2012) and is in the process of developing its first Biennial Update Report, which will be submitted to the UNFCCC in 2014. The India GHG Programme led by WRI India, Confederation of India Industry and The Energy and Resources Institute is an industry-led voluntary framework to measure and manage greenhouse gas emissions.⁷⁰ 	3
2. Risk & Vulnerability Have climate impacts, vulnerabilities, & risks been identified?	2.1 What assessments (if any) of climate risk at country and sectoral levels have been completed?	Macro level assessments have been conducted, however detailed sectoral and State level analysis are still needed <ul style="list-style-type: none"> Broad level national risk assessments have been conducted in India's first and second National Communications. IPCC reports have also identified key climate risks for South Asia region.⁷¹ The NAPCC has established the National Mission on Strategic Knowledge for Climate Change, which aims to identify the challenges and responses to climate change. 	2

⁶⁹ Indian Network for Climate Change Assessment – Greenhouse Gas Emissions 2007 (published May 2010)

⁷⁰ See more at: <http://indiaghgp.org/about#sthash.bERzA8Nz.dpuf>

⁷¹ http://www.ipcc-wg2.gov/AR5/images/uploads/IPCC_WG2AR5_SPM_Approved.pdf

	2.2 What are the country's major vulnerabilities to climate change and what sectors are expected to be most heavily impacted?	<p>Key vulnerabilities have been identified but the link between environmental damage and socio-economic impact needs to be clearer</p> <p><u>Major vulnerabilities</u></p> <ul style="list-style-type: none"> • Mean surface air temperature is expected to rise by 3.5°C to 4.3°C by the end of the century. • Sea levels along the Indian coast are currently rising at the rate of 1.3 mm/year on an average. • Indian Monsoon variability, excess and deficit years will become more frequent and greater changes in precipitation trends by geography. <p><u>Impacts:</u></p> <ul style="list-style-type: none"> • Water: Climate change impacts water storage in the Himalayan glaciers which are the source of major rivers and groundwater recharge; increased frequency of extreme events such as floods, and droughts. • Food: All aspects of food security are potentially affected by climate change, including food access, utilisation, and price stability. • Health: greater likelihood of death due to more intense heat waves and fires; increased likelihood of under-nutrition resulting from diminished food production and increased risks from food- and water-borne diseases and vector-borne diseases. • Rural Development: impacts are expected to disproportionately affect the welfare of the poor in rural areas. • Urban Areas: Heat stress, extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, and water scarcity pose risks in urban areas for people, assets, economies, and ecosystems. • Biodiversity: A large fraction of both terrestrial and freshwater species faces increased extinction risk under projected climate change. 	1
<p>3. Economic impacts of climate change</p> <p>Have implications of climate change for the national economy been estimated?</p>	3.1 Have the implications of climate change for current public and private sector investment / economic strategies in key target sectors been considered?	<p>Climate change awareness has improved in recent past, however economic strategies still do not consider climate change impacts appropriately</p> <ul style="list-style-type: none"> • National plans such as the 12th FYP, have given general attention to the economic impacts of climate change. However detailed analysis on the economic impact is still lacking. • State-level and sectoral plans rarely address the impacts of climate change • Private sector understanding of climate change impact is very limited. Hence, investment plans rarely include implication of climate change on investments. 	1

	3.2	Have the costs and benefits of taking action to shift these strategies been assessed and quantified?	<p>Investment requirements have been assessed for major climate change programmes, but full scale costs-benefits analysis between BAU and climate change strategies has not been undertaken</p> <ul style="list-style-type: none"> • There have been preliminary estimates available on implementing the NAPCC, estimated at INR 230,000 crore. • Nodal Ministries entrusted with implementation of the missions are yet to fully assess the likely costs – so estimates are currently very fragmented and incomplete. • India (Centre for Science and Environment 2010) has looked at investment requirements for six key sectors, with \$10 billion a year in finance needed for the power sector alone. • No detailed needs assessment has been done, nor has any cost-benefit analysis of actions for mitigating emissions from the largest sectors and reducing the impacts on climate vulnerable sectors. 	1
4. Institutional response to climate change Have effective institutional mechanisms to respond to climate change been put into place?	4.1	Is there a strategy, plan or policy that addresses climate change?	<p>India has launched several plans and policies addressing climate change</p> <ul style="list-style-type: none"> • India has announced a domestic goal of reducing the emission intensity of its GDP by 20-25 per cent of the 2005 level by 2020. • The National Action Plan on Climate Change (with eight thematic 'missions') is the main policy to promote adaptation & mitigation actions. • All States have been asked to prepare State Action Plans on Climate Change- state-level action plans. These plans are envisioned as extensions of the NAPCC at various levels of govt., aligned with eight National Missions. • India's latest Five Year Plan includes sustainability as a main focus for the first time. • Many of the missions under the NAPCC are under implementation after receiving funds through budgetary allocations. Some missions could leverage private finance as well (e.g. NSM, NMEEE). • Most of the states have also created SAPCC, though implementation is yet to start on these plans. • The majority of State Action Plans are not very detailed, have not defined clear funding strategies, and are not fully ready for implementation. 	2.5
	4.2	Who are the key actors/institutions who have championed the climate change response?	<p>Relevant institutions have been set up but greater coordination, communication and above all greater accountability is required</p> <ul style="list-style-type: none"> • Political Function: Prime Minister's Council on Climate Change • Strategic Function: Planning Commission and MoEFCC • Financial/ MRV: Climate Change Finance Unit, MoF 	2

		<ul style="list-style-type: none"> Execution/ Implementation: MoEFCC and other line ministries & departments such as MNRE, MOP, BEE, Financial institutions such as IREDA, NABARD, SIDBI etc. 	
	4.3	<p>What arrangements for key actors to exchange information and develop collaborative approaches exist and are used?</p> <p>Clear systems and procedures are in place but the level of engagement and interaction has been very limited</p> <ul style="list-style-type: none"> Though India has successfully set up these predominant groups and committees, the level of engagement and interaction in reality has been very limited. 	2
	4.4	<p>How often do key actors meet, and what is the level of engagement and commitment?</p> <p>The main committees meet very Infrequently, which has led to delays in publishing key reports</p> <ul style="list-style-type: none"> PM's Council on Climate Change is a very high level body in its composition, and the frequency of its meetings has been very limited. There have been severe delays in publishing work undertaken by its committees and sub-committees. 	1
	4.5	<p>Is there high level political commitment to these arrangements?</p> <p>There is high level political commitment, but action has been very limited in reality</p> <ul style="list-style-type: none"> The Prime Minister's Office directly looks into issues related to international commitments, NAPCCC and low carbon growth strategies. Some of the flagship 'missions' under the NAPCCC have received required budgetary allocations, showing high-level political commitment backed by resource allocation. However most of these missions have still not been made operational, which means action on the ground has been limited in reality. 	1
	4.6	<p>How formalised are these arrangements?</p> <p>Major climate change programmes aren't legally mandated, but formal structures have been created for planning, implementation and appraisal</p> <ul style="list-style-type: none"> Major climate change programmes and the main functions are not legally mandated, but are formally assigned to key ministries for planning & execution purposes. These programmes are appraised like all other major Government programmes and funded by budgetary allocations. 	1
5. Institutional capacity to access & coordinate climate finance	5.1	<p>Are officials at relevant ministries aware of international climate finance</p> <p>There is strong knowledge of international climate finance opportunities through traditional climate finance modalities</p> <ul style="list-style-type: none"> The MoEFCC has a strong understanding of international climate finance opportunities. Capacity is also being built within the Ministry of Finance, through the formation of the 	2

Is there strong institutional experience/knowledge in accessing & delivering international climate finance?	opportunities?	Climate Finance Unit, which has developed a strong understanding of international climate finance opportunities.	
	5.2 What experience is there in accessing international climate finance?	<p>There is strong experience accessing international public climate finance</p> <ul style="list-style-type: none"> India has been successful in accessing several bi/multilateral sources of international climate finance. Approved multilateral climate finance in India exceeds \$554 million, with the GEF and the CTF being the largest sources of finance Bilateral flows have also been significant, particularly from Germany a – which provided \$701 million of climate finance in 2012 according to Rio Markers data. India has also reportedly received significant bilateral climate finance from Japan, although the volume received by India is not well understood Under the CDM India hosted the second-highest number of CDM projects (21.9% of the global total), second only to China. 	3
	5.3 How are cross-cutting issues on climate related funding coordinated across various ministries and DFIs? Are roles clearly defined?	<p>There is no central agency or committee coordinating climate related spending decisions</p> <ul style="list-style-type: none"> The MoEFCC has been the lead agency coordinating climate finance, however capacity to deal with cross-cutting issues (energy security, green growth) has been limited. The Ministry of Finance, through its Department of Economic Affairs has engaged with relevant line ministries to identify priority areas for climate finance, but these efforts are still limited and weak The planning commission and DEA have provided cost estimates for meeting India's climate objectives under the NAPCC, but without any clear strategy for financing these plans. 	1
	5.4 Have efforts been made to assess where international climate finance might add the most value? (What sectors, what type of financing?)	<p>There has been limited analysis to identify and prioritise key sectors for international climate finance</p> <ul style="list-style-type: none"> There have been no formal efforts in prioritising sectors and types of financing where international climate finance could add the most value. The 12th Five Year Plan outlines the role of domestic financing as only financing projects that bring climate co-benefits. According to the Plan, all direct climate-related spending should come from international sources; however a strategic assessment of how this will be achieved has not been undertaken. 	1

	5.5 Who liaises with existing international funds?	<p>Existing government departments (MoEFCC and DEA) and Development Finance Institutions (SIDBI, IREDA, NABARD) have good experience in accessing international climate funds and deploying climate finance in key projects, respectively</p> <ul style="list-style-type: none"> The Department of Economic Affairs within the Ministry of Finance is the key agency through which all multilateral and bilateral access is coordinated. The DEA takes the lead role for bilateral coordination, but multilateral coordination is often supported by the National Designated Agency (e.g. MoEFCC for the GEF) and the National Implementing Agencies (e.g. NABARD for the AF), which vary depending on the thematic focus of the fund. Other agencies, such as BEE, EESL, MNRE, MoUD, MoA, MEA, & Ministry of Water Resources are also engaged, but mostly through the DEA. 	3
	5.6 Do Government and Development Finance Institutions (DFIs) have the capacity to identify and successfully access international climate finance?	<p>Capacity constraints and knowledge gaps still exist for scaling up access and deployment of international climate finance; specially to deal with evolving international climate finance architecture</p> <ul style="list-style-type: none"> India has been successful in accessing international funds at both public & private sector level. Good experience exists in accessing established sources of climate finance (e.g. GEF, CTF) Government: MoEFCC has limited capacity to access international finance given the strenuous eligibility criteria required by international funds. MoEFCC requires additional institutional and human resource support from institutions such as IREDA, PFC, REC, and SIDBI Developmental Finance Institutions have played an important role in deploying climate finance in key projects (e.g. IREDA, SIDBI, NABARD). However DFIs need to enhance capacities to deal with the complexities involved in new forms of international climate finance and greater volumes of funding that are expected to flow to India with the establishment of these new modalities. For both government and DFIs, capacity challenges remain in the ability for institutions to: design, evaluate and screen programmes; extend the geographical and sector reach of their activities; understand how to use innovative financial instruments; and to MRV projects and programmes. 	1.5
6. Mainstreaming of climate change into national budgets	6.1 Are climate change priorities reflected in the national strategy also reflected in the	<p>Only recently the 12th Five Year Plan and 13th Finance Commission have made references to incorporating climate change actions in planning and financing requirements for State governments</p>	1

Is climate change mainstreamed into the national budget and financial planning cycle?	budget?	<ul style="list-style-type: none"> Recently, the 13th Finance Commission of India for the first time had in its terms of reference to suggest centre state transfers incorporating climate change concerns and vulnerabilities of states of India. The 12 FYP document also emphasis that most of the resources required for sectoral actions under the State Action Plans will need to be provided by the State Governments through their respective plan outlays. However, some resources may be mobilised as Central Assistance to State Plans through the Gross Budgetary Support. Towards this end, an umbrella scheme on Climate Change Action Programme is proposed to be launched during the Twelfth Plan. Support to State Governments could be based on a set of transparent and objective criteria to be monitored by a Steering Committee in the MoEFCC. In addition, State Government may earmark provisions for implementing activities under the SAPCC. Thirteenth Finance Commission has recommended grants to the State Governments for environment action, which also cover some of the activities under the NAPCC. 	
	6.2 Do staff in key ministries have expertise or tools to consider climate change linkages in national budgeting planning cycle?	<p>There is limited capacity, coordination and access to appropriate tools within ministries to integrate climate plans with other strategic plans and budgeting cycles</p> <ul style="list-style-type: none"> MoEFCC is engaged in developing FYPs, but staff expertise does not cover the wide spectrum of climate change linkages – which means climate change is not strongly considered in the national budgeting cycle. Most development policies/programmes are not focused on adaptation or mitigation – climate benefits are only seen as co-benefit, not direct benefits. Thus, climate change is not explicitly mainstreamed into national budgets. With the setting up of the Climate Finance Unit at MoF, the process is beginning to be streamlined. However, CFU needs to be strengthened to be able to support key national nodal agencies in streamlining domestic and international action on climate change (particularly on finance). 	1
	6.3 Have the impacts of climate change on domestic revenues been assessed in national macroeconomic forecasts?	<p>Non-existent</p> <ul style="list-style-type: none"> Currently there are no estimates available on impacts of domestic revenues 	1

7. Role/engagement of private sector Is the private sector involved in the national climate change response?	7.1	Have the implications of climate finance for the private investor community been assessed?	GoI has provided regulatory mechanisms and economic incentives for engaging the private sector but actual deployment has been slow <ul style="list-style-type: none"> There is an increasing focus of private sector for climate finance in India primarily in renewable energy generation (increasing due to appropriate incentives like Feed in Tariff, Fiscal incentives, Generation Based Incentives etc.; as well as due to transparent & fast approval processes for projects). For example the National Solar Mission under the NAPCC has attracted huge interest from private sector due to appropriate incentives, quick approval, and access to international capital. Private sector participation is expected to increase in there near future once major climate change programmes are launched under the NAPCC missions. Recently introduced market based mechanisms such as PAT and REC are also expected to attract private sector climate finance, though actual deployment in these programmes is at an early stage of implementation. 	1
	7.2	To what extent are there ongoing programmes or projects that seek to encourage private sector investment? How well have they worked?	There has been major private sector investment in the RE sector, but government incentives to attract private investment in other climate-related sectors has been limited <ul style="list-style-type: none"> There has been major participation of the private sector in renewable energy generation, especially in wind and solar energy However other recently launched programmes such as PAT and REC have witnessed limited private sector participation due to enforcement issues It is expected that programmes such as PRGF and Viability Gap Fund, the Energy Efficiency Mission and Green India Mission will also attract private sector investment. However these schemes are still under development. It will therefore take time before they can be assessed for their effectiveness. 	1
	7.3	To what extent are there forums in place to engage the private sector on climate change issues?	There is limited engagement with the private sector on CC in India <ul style="list-style-type: none"> There is no representation of the private sector in any of the committees formed by GOI. At most there are some theme/project/programme based consultations by the government where private sector actors can share their views. 	1
	7.4	To what extent do investors and private actors have	Private sector engagement in climate change has been limited to GHG accounting, and there has been no use of robust climate risk screening tools for the private sector <ul style="list-style-type: none"> Climate Change concerns are rarely taken up by the Indian private sector – and if so this 	1

	access to / awareness of/ and use tools to assess climate change impacts (e.g. GHG accounting , or climate risk screening tools)	<p>is limited to CSR</p> <ul style="list-style-type: none"> • There is limited understanding of climate change risk tools though a few funds have started accounting GHG emissions • The GOI has taken very few steps to sensitize the private sector on their emissions contributions or on environmental risk. 	
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Financial Function			
Tier 1 Indicators	Tier 2 Indicators	Detailed Analysis	Score
1. National economy What are the key macroeconomic and financial characteristics of the national economy?	1.2 What are the key macroeconomic indicators in the country? Has financial and macroeconomic performance impacted climate-related investment?	<p>India has a robust financial market, however current macro-economic indicators are not very positive and have impacted FDI in the country</p> <ul style="list-style-type: none"> • India has a robust financial sector, and its capital markets have outperformed most developing countries over the last year. • Macro indicators including reduced economic growth, high fiscal deficit, high inflation, and fluctuating conversion rate have impacted international capital inflow in the country over the past 12-18 months • For the climate sector, large-scale infrastructure financing has been hindered by the difficulties in securing long-terms bonds. • In addition, financial instruments such as foreign currency advances and international guarantees require RBI approval, which has led to delays and restrictions on investment. 	
2. Investment in low carbon & climate resilient initiatives Is there a strong investment climate for low carbon and climate resilient initiatives – for both the public and private sectors?	2.1 How established are low carbon options at present? Is there significant domestic or international investment in renewable energy, energy efficiency, and other low carbon technologies?	<p>There has been increased investments in renewable energy (mainly wind and solar) in India, but there is a need for further investment in other forms of RE, energy efficiency and sustainable transport</p> <ul style="list-style-type: none"> • Share of RE in the country's total energy mix has risen from 8% in 2008 to 12% in 2013. India has about 28 GW of installed RE capacity as of 31 March 2013. • India has large potential for low carbon options especially in the form of RE and EE options. India's total RE potential is estimated to be more than 3000 GW. Even in EE, estimated EE saving potential as per some estimate is in the range of 124 to 255 billion kWh.⁷² 	1.5

⁷² <http://www.pace-d.com/wp-content/uploads/2013/08/EE-REPORT.pdf>

		<ul style="list-style-type: none"> Despite this potential the rate of investment in these sectors has been lower than needed for these to grow rapidly. Investment in clean energy in India decreased 45% year on year to US\$7 billion in 2012. GoI has set a renewable energy capacity addition target of 29.8 GW for the 12 FYP taking the total RE capacity to almost 55 GW by the end of 2017. Investment in RE is expected to almost quadruple to INR 3,186 billion in the 12th FYP from INR 892 billion in the 11th FYP, implying average annual investments of nearly INR 640 billion.⁷³ The RE sector has attracted a large amount of private equity and international private equity and PSU investment. The EE sector on the other hand has mostly been public sector and international donor money driven, due to several barriers⁷⁴ related to policy, technology & finance to large scale EE implementation; private sector investments have been limited. Bio fuel, more efficient biomass use, electrical vehicle, smart grid mission, fuel efficiency standards, more efficient transport systems, sustainable smart cities programmes are other evolving areas which would need climate finance for implementation. As these are evolving areas, not much funding has been committed 	
	2.2 What is the mix of public and private investment in the key sectors that are affected by climate change/ part of the national response to climate change?	<p>RE has attracted private investments, however other sectors like EE, transport, waste management, and rural energy are still dominated by public investments</p> <ul style="list-style-type: none"> RE is mostly driven by private sector investment. EE is donor-driven, using a soft-lending approach with some local finance and corporate investment. Rural areas with off grid opportunities, small EE projects, agriculture, etc. are mostly supported by state financing. Basic public sector investment is not taking place in transport or city infrastructure. 	1.5
	2.3 Have efforts been made in the past to support feasibility studies and develop 'bankable programmes'? If so, what was their scope, and what	<p>Some work has been initiated to identify bankable projects, but significant scale-up of capacity and removal of barriers is still required to create a strong pipeline of investible projects</p> <ul style="list-style-type: none"> GOI has proactively funded several feasibility studies, and many have also been undertaken by international climate finance bodies (e.g. CTF). 	1

⁷³ Mapping India's Renewable Energy growth potential (2013), Ernst and Young
[http://www.ey.com/Publication/vwLUAssets/Mapping_Indias_Renewable_Energy_growth_potential/\\$FILE/EY-Mapping-Indias-Renewable-Energy-growth-potential.pdf](http://www.ey.com/Publication/vwLUAssets/Mapping_Indias_Renewable_Energy_growth_potential/$FILE/EY-Mapping-Indias-Renewable-Energy-growth-potential.pdf)

⁷⁴ <http://www.pace-d.com/wp-content/uploads/2013/08/EE-REPORT.pdf>

	amounted from them? Are there any insights into the reasons for their success or failure?	<ul style="list-style-type: none"> Bankable projects are increasingly being developed but mainly in the RE sector. These have largely driven by private sector mainly due to favourable RE policy (GBI and tax holidays), size of the market, ease of doing business, investment incentives and lack of red tape. Developing a strong pipeline of bankable projects in the EE sector is still a big challenge. Donors have indicated that available funds do not have a waiting list of good projects ready for implementation. Several barriers such as high transaction costs, small project size, lack of EE understanding amongst financial institutions, etc. have hindered the process. 	
	2.4 Have any efforts to address climate risk through finance been made by the private sector (e.g. insurance, etc.)?	<p>There is a limited understanding of climate risks in private sector investments</p> <ul style="list-style-type: none"> Knowledge of climate change risks is still very nascent amongst the private sector. There is a need to develop innovative market-based financing mechanisms in the form of infrastructure debt funds, green bonds, mainstreaming of EE in banking etc. to promote greater private sector investments Currently, operating and maintenance insurance is available for wind, solar and general implementation risk-related insurance. 	1
3. Institutional management of climate finance Does the country have a strong institutional structure to manage domestic & international climate finance?	3.1 Are there one or more institutions that manage domestic & international climate finance?	<p>Yes, Indian institutions have clear structures in place to access and manage international climate finance</p> <ul style="list-style-type: none"> India has strong institutional arrangements in place to access international climate finance from both bilateral and multilateral sources. India also has well developed programmes for funding in comparison to its peers, though given the size of economy and huge population, significant scale-up is required. Bi-lateral access is very streamlined and consultative. Priorities areas for funding are jointly decided by DEA and line ministries. Approval of all ministries is sought for selection of sectors and focus areas, which means there is clear alignment of donor plans and GOI priorities and targets. Multi-lateral access is also streamlined. Depending on the sector/theme a specific institution (e.g. NABARD for AF, MoEFCC for GEF & CTF) is given the responsibility to engage with the fund and coordinate climate finance access. The presence of the NAPCC has increased the donor confidence and it is expected that new SAPCCs will streamline climate finance delivery in India. 	3

	<p>3.2 Do institutions have the capacity to coordinate the delivery of climate finance, using a blend of sources (e.g. public and private) and instruments where necessary?</p>	<p>There has been limited use of innovative financing mechanisms and blending of finance instruments for low carbon projects in India</p> <ul style="list-style-type: none"> • The majority of international climate finance to-date has been grant and concession based loans, so there has been limited experience blending various sources and instruments for project implementation. • Existing institutions do not have the mandate or capacity to match the different type of climate activities (by sector, maturity and scale) with the right type of instruments or modalities. This is one of the main issues for developing bankable projects and scaling up technologies with strong climate and other co-benefits. • Blending of various financing sources such as international climate finance, domestic public & private finance will result in better capital availability for low carbon projects. • Different projects may have different risk profiles; matching of risk profiles with appropriate financing instrument will result in effective financing. <p>DFIs (SIDBI, IREDA) have managed some climate related programmes that have leveraged private finance, but capacity to blend various instruments remains low</p> <ul style="list-style-type: none"> • India has strong experience and capacity in specific sectors such as RE and EE. • However there is a need to develop institutional capacities which could build on programmatic approach of financing. • Also there is a need to build capacity to enable these institutions to blend finance from a variety of funding sources to implement complex climate change mitigation programmes. 	1
	<p>3.3 What experiences do institutions that can provide NIE type functions have in managing large international projects?</p>	<p>Indian DFIs' climate-related management experience is limited to small and medium size projects</p> <ul style="list-style-type: none"> • Existing DFIs have experience of managing small and medium sized projects • Some medium size projects get support from multilateral institutions such as the World Bank or UNDP for execution. Such project management support may include capacity building, setting up of Project Management Unit for project planning, coordination & monitoring as well as stakeholder engagement. 	1

4. Institutional delivery of climate finance Does the country have a strong institutional structure to deliver climate finance through institutions that can provide NIE type functions? <i>NIE functions include:</i> <ul style="list-style-type: none"> • Project development • Proposal writing and fund accessing • Project selection & technical appraisals • Fund management • Adhering to fiduciary standards • Risk management and mitigation • Ensuring environmental & social safeguards • Programme management • Project delivery and project management • Monitoring & evaluation 	4.1	Are there one or more institutions that deliver international climate finance?	<p>India has DFIs with good experience of accessing climate finance but experience is still limited in delivering finance to specific sectors and geographies</p> <ul style="list-style-type: none"> • Financial institutions such as NABARD, IREDA, SIDBI, PFC, IDBI, IDFC as well as institutions such as BEE have strong experience in accessing & delivering international climate finance for EE, RE and resource efficiency projects. • These institutions have acted as executing agencies for various international funds, or have successfully used line of credits from various bilateral funding sources. • However to deal with larger quantum of international finance, additional sectors, and to meet strong MRV requirements, capacities need to be enhanced for these institutions. Areas that show room for improvement include technology appraisal, due-diligence, fiduciary responsibilities, environmental and social impact assessments, and vulnerability assessment. <p>DFIs have experience deploying climate finance, but this is often limited to specific sectors (and in some cases limited in scale and volume)</p> <ul style="list-style-type: none"> • SIDBI, IREDA, PFC, IDFC etc. have experience in delivering mitigation finance. • NABARD, as the new Adaptation Fund NIE, has started delivering adaptation finance. • Rural banks and micro-finance institutions provide finances to rural areas; these channels could be used for adaptation finance as well. 	1
	4.2	Do institutions that can provide NIE type functions easily meet international accreditation requirements and funds' fiduciary, environmental and social standards?	<p>Indian institutions have some capacity to meet fiduciary, environmental and social standards, but additional capacity-building is required</p> <ul style="list-style-type: none"> • NIEs have struggled to meet some international standards, particularly environmental and social standards and MRV requirements. • Additional capacity building will be required to improve capacity in these institutions. <p>NABARD has been accredited as the NIE for Adaptation Fund</p> <ul style="list-style-type: none"> • NABARD has been accredited as a direct access NIE for the Adaptation Fund. • The AF has recently approved 3 projects in India, which NABARD will manage. 	1
	4.3	Do institutions that can provide NIE type functions have experience delivering complex climate-related programming, including projects that involve private	<p>DFIs have delivered some climate related programmes that have leveraged private finance, but capacity to deliver more complex projects involving multiple financing instruments, scale and institutions is limited</p> <ul style="list-style-type: none"> • India has strong experience & capacity in specific sectors such as RE and EE. • However there is a need to develop institutional capacities which could build on programmatic approach of financing which focus on designing and implementing 	1

	climate finance?	programmes with standardised approaches and complex requirements of multiple financing institutions & instruments to fund specific projects under these programmes.	
	4.4 Do institutions that can provide NIE type functions have experience identifying climate risks, vulnerability, technological options appraisal, etc. to prepare the establishment of a pipeline of bankable projects?	Indian institutions (DFIs) have very limited ability to establish climate finance additionality in projects to develop a regular pipeline of projects <ul style="list-style-type: none"> NIEs have modest experience in financing programmes through routine financing instruments such as loans or grants. Most DFIs lack technical and programme design capabilities to climate proof mainstream projects or develop bankable projects to meet eligibility criteria of key donors and climate funds. Many DFIs have limited geographical reach, restricting their abilities to identify and deliver bankable projects. This also limits their ability to replicate and scale up projects. 	1
	4.5 Are there regional institutions that might also be well placed to deliver climate finance?	Regional and rural banks, micro-finance institutions, Non-Banking Finance Companies can play an important role to deliver climate finance <ul style="list-style-type: none"> India is a big country and current DFIs do not have a large enough reach to channel climate finance more broadly. In this context, the role of regional and rural banks, micro-finance institutions, Non-Banking Finance Companies, etc. can be very important. However these institutions will need extensive capacity building to make them suitable to access and channel climate finance. 	1

MRV Function

Tier 1 Indicators	Tier 2 Indicators	Detailed Analysis	Score
1. MRV of domestic climate finance Are there systems and structures in place to conduct MRV of domestic public climate finance?	1.1 Have efforts been made to identify, track and report climate-related spending in the national budget?	Budget allocations have been made for NAPCC's national missions, but there is no systematic tracking of domestic climate-related spending <ul style="list-style-type: none"> Budgetary allocations have been made for the eight 'national missions' under the NAPCCC. Each mission is responsible for tracking these funds and reporting of spending to PMO and MoEFCC. As funding is provided through budgetary allocations, each mission also has to provide performance reports to the Ministry of Finance. However there is no identification of total outlay planned for all climate change activities. 	1

	1.2 Are public institutions able to track the impact (emissions, vulnerability reduction) of major domestic climate related investments?	<p>DFIs can track the emissions impact of individual programmes, but do not have the mandate, capacity or coverage to do so on a broader level</p> <ul style="list-style-type: none"> • DFIs such as IREDA, SIDBI, and NABARD can track the emissions and resultant emissions reduction of specific programmes. • There is a growing trend of using indicators such as investments/ton of CO₂ reduction for evaluating low carbon projects for investments • However there is limited tracking of the emissions impact of national programmes. DFIs don't have the mandate, coverage, and capacity to holistically track the emissions reduction impact of their large programmes. • Estimating the impact of programmes/projects on vulnerability is not widely carried out – and is mainly conducted by public science institutes. 	1.5
<p>2. MRV of private climate finance</p> <p>Are there systems and structures in place to conduct MRV of private climate finance?</p>	2.1 Have efforts been made to identify, quantify and report private investment in low carbon and climate resilient approaches?	<p>There has been no systematic effort to track and quantify private sector CF in India. Individual studies on private sector CV have been limited to RE</p> <ul style="list-style-type: none"> • There have been some market studies which capture information on RE or clean tech finance. However these reports are limited in scope. 	1
	2.2 Are private institutions able to track the impact (emissions, vulnerability reduction) of major climate related investments?	<p>The private sector has the capacity to track and quantify impact of mitigation programmes only. However this has only been done on a project-by-project basis, and has not been applied more broadly</p> <ul style="list-style-type: none"> • A few clean tech focussed private funds track emissions and emissions reduction through their investments. However these funds are limited in numbers, which means estimates don't cover all investments in India. • Due to the success of the CDM in India, the private sector has strong capacity to estimate emission reductions. • There is no known work done by the private sector to assess climate change vulnerability. 	1
<p>3. MRV of international climate finance</p> <p>Are there systems and structures in place to conduct MRV of international</p>	3.1 Have efforts been made to identify, quantify and report external (international) finance for low carbon and climate resilient approaches?	<p>International flows in India are not systematically tracked and reported</p> <ul style="list-style-type: none"> • Some studies have been initiated recently to track and quantify international climate finance. However as of now not much information is available and international flows are not systematically being tracked by the GoI. 	1

climate finance?	3.2 Have systems for measuring and reporting the impact (emissions, vulnerability reduction) of international climate finance been developed?	<p>MRV systems have only been put in place for individual projects in order to meet donor requirements, and have not been applied systematically. None of these systems cover vulnerability reduction</p> <ul style="list-style-type: none"> • DFIs such as IREDA, SIDBI, and NABARD track the emissions and resultant emissions reduction through climate change programmes which are funded by international climate finance. • Systems exist to measure and report emissions reductions from multilateral investments (e.g. GEF, CTF) and bilateral funding (e.g. KFW, JICA). These systems are not uniform, but rather are individually designed for the project or programme being MRV-ed. • MRV systems only track emissions estimates and not vulnerability reduction. 	1.5
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