

Climate Finance

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Finance for climate change-relevant activities, or climate finance, has been a central element of international negotiations on climate change. Although the actual term ‘climate finance’ is most often associated with the international climate change negotiations, different countries have developed their own strategies and institutional mechanisms around the access and use of climate finance, including from domestic sources. This chapter focuses on the evolution of the concept of climate finance in India, reviews India’s current efforts at mobilizing finance for mitigation and adaptation from various sources, and analyses the major drivers behind the flow of such funds. Although the focus of the chapter is on the Indian climate finance landscape, it recognizes the debates around climate finance at the international level, and the challenges they pose in determining both India’s requirements for as well as sources of climate finance. Next, the chapter discusses institutional arrangements around climate finance and their implications. Then, it concludes by summarizing some of the key insights that will be relevant for India from the perspective of mobilizing and delivering climate finance.

The Conceptual Foundation of Climate Finance in India

Climate finance is one of the key elements of action against climate change. Yet, there is little consensus among countries on what constitutes climate finance. The United Nations Framework Convention on Climate Change (UNFCCC) defines climate finance as follows: ‘Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts’ (Standing Committee on Finance 2014). This definition represents climate finance in its broadest form—the flow of funds to all activities, projects, and programmes that address climate change, whether mitigation or adaptation, anywhere in the world. However, even in this broad form, there is no consensus among all countries on the definition.

There are different variables that determine what counts as climate finance and what does not. These include: intent of financing or in other words, whether climate change is a motivating factor behind the funding; concessionality (grants, concessional loans, non-concessional loans, guarantees, and so on); source (public or private); and geographic origin (developed countries to developing countries, within developed nations, or from other sources). A further and highly difficult issue to address is the concept of ‘additionality’ of finance. The term ‘additionality’ refers to the idea that funds raised for climate change should not substitute or divert funds from other important developmental objectives, particularly social and economic development. However, determining additionality is complicated because of the inherent difficulty in establishing a counterfactual. It is hard to answer with certainty what countries would have given as development assistance in some year (say, 2030) if we had never heard of climate change. Yet, the choice of definition fundamentally affects the quantification of climate finance.

While climate finance has always been a central element of international negotiations, it is now most often associated with the target of developed countries mobilizing US\$100 billion per year by 2020 for developing countries—a step that helped unlock the Copenhagen Accord in 2009 (UNFCCC 2009). The Paris Agreement reinforces this commitment, and the

Green Climate Fund (GCF), an operating entity of the Financial Mechanism of the UNFCCC, will be a central institution to serve the Paris Agreement (Jha 2017). The GCF recognizes the need for country ownership of climate funding by allowing national institutions to access, manage, and disburse funds for climate action. National designated authorities (NDAs) act as the interface between the country and the GCF, and funding from the GCF is deployed in countries through various accredited entities—national, regional, or international (GCF 2016).

However, the landscape of climate finance is broader than just the GCF. For example, the climate focal areas of the Global Environment Facility (GEF), the Special Climate Change Fund (SCCF), the Least Developed Countries Fund (LDCF), and the Adaptation Fund (AF) disburse around less than US\$ 1 billion per year (Ministry of Finance [MoF] 2013). In addition, there are also funds administered by the World Bank, Asian Development Bank, among others, with clear climate change components, as well as official development assistance (ODA) targeting climate change adaptation and/or mitigation flowing through bilateral channels.

There is concern within the Government of India (GoI) that the developed countries are going back on their climate finance commitments. Specifically, there are concerns that climate finance flows do not capture climate finance arrangements as reflected in the articles of the UNFCCC, which direct developed countries to provide new and additional financial resources to meet the agreed-upon full incremental costs of climate change measures to be implemented by developing countries (MoF 2014). Different studies compile estimates from disparate sources using different assumptions and methodologies, and country positions on what counts as climate finance and what does not often vary depending on whether the country is a provider or recipient of funds.

In response to an Organisation for Economic Co-operation and Development (OECD) report that estimated that climate change finance from developed to developing countries had reached US\$ 62 billion in 2014 and US\$ 52 billion in 2013, the GoI came out with a discussion paper that strongly contested the OECD figures on primarily four counts (Dasgupta, Rajasree Ray, and Singh 2015). First, the MoF paper argues that climate finance has to be

additional, and therefore claims that only finance flowing from dedicated climate funds should be counted. Second, it argues that only disbursed funds, and not pledges and commitments, should be counted. Third, the paper argues against 'self-tagging' of projects by multilateral development banks (MDBs) and official aid agencies using methods such as the Rio markers and counting them towards climate finance. Finally, the paper argues that only the grant equivalent element of any claimed climate change financing, not the gross face value of all loans, guarantees, export credits, and other elements, should be counted. In terms of private finance, the paper calls for a distinction between climate-related investments and business-as-usual (BAU) investments, and claims that only new and additional need-based finance should be counted. India's convictions on the various determinants of international climate finance are, therefore, quite clear: such finance should be motivated by climate change concerns; it should be in the form of grants and preferably from public sources; and finally, climate finance should be new and additional.

While India is a strong advocate of additionality in international climate finance, it has been quite inconsistent in the application of the same principle when it comes to domestic climate finance. An MoF paper estimated that the annual government expenditure in India on adaptation to climate variability exceeds 2.6 per cent of the gross domestic product (GDP) (Climate Action 2012). The entire budget for a large number of ongoing developmental schemes that were in place even before India's National Action Plan on Climate Change (NAPCC) was announced was counted as adaptation spend in this study. In fact, the *Economic Survey 2011–12*, which for the first time included a chapter on 'Sustainable Development and Climate Change' with a dedicated section on 'Climate Change Finance', articulates climate finance in the context of India's need for funds and technology to finance domestic actions to address climate change and achieve sustainable development (MoF 2012).

This is also reflected in the way climate actions have been financed in India, mostly as sectoral finance in the form of government budgetary support, since some of the resources for adaptation and mitigation are built into the ongoing schemes and programmes. In case of the national 'missions', sometimes there have been dedicated budgets allocated to the ministries and departments, which are the

executing agencies of these missions, whereas, on a number of occasions, the missions had to be accommodated within the existing government programmes and schemes (Singh 2017).

However, the National Adaptation Fund for Climate Change (NAFCC), a flagship scheme of the union government launched in 2015 to provide central grant to the state governments for implementing climate change adaptation projects, marks a departure not just in terms of the delivery mechanism for domestic climate finance but also the definition of climate finance itself. The NAFCC emulates some of the international climate finance mechanisms, with the National Bank for Agriculture and Rural Development (NABARD) as the National Implementing Entity (NIE) and the activities under this scheme implemented in project mode. All project proposals require a justification framed in terms of BAU development for the targeted sector and the specific adaptation activities to be implemented to reduce climate change vulnerability compared to the BAU situation.

A review of the 21 Detailed Project Reports (DPRs) that were sanctioned in 2015–16 and 2016–17 reveals that the section on ‘project justification’ is either inadequate or simply mentions that information on BAU will be ascertained once the project is implemented. Some of the DPRs, such as the one for West Bengal, point to a huge developmental deficit that is exacerbated by the impacts of climate change. However, the cost estimates do not attempt to calculate the additional costs because of climate change. This underscores the difficulty in operationalizing the concept of ‘additionality’, something that plagues the discourse on international climate finance as well. What meanings can, therefore, be attached to additionality of climate finance relative to development finance?

Some experts have argued that a radical separation of finance for development and climate finance could be damaging, and that climate and development needs should be mainstreamed where possible in order to maximize the impact of the funds (Stern 2015). If there are relatively limited actions that are motivated only by climate and not by development, designing climate action, and finance for that action, around the Sustainable Development Goal (SDG) strategies and finance could foster the strongest climate benefits, whilst, at the same time, enhancing developmental benefits. The SDGs also

clearly and strongly recognize the importance of climate change in particular, and sustainability in general. Goal 13 is on climate action and states explicitly, 'take urgent action to combat climate change and its impacts', whereas the word sustainable appears in 11 of the 17 goals (Stern 2015). Indeed, poverty reduction, growth, and development are intricately linked with climate change.

India's Current Climate Finance Landscape: Needs, Drivers, and Sources

There are numerous estimates of India's climate finance needs, but interpreting those numbers is difficult primarily because of three issues. First, there is a conceptual lack of clarity on the definitional aspects of climate finance, particularly the concept of additionality, which likely seeps into estimates of financing needs. For example, the first articulation of domestic requirements for climate finance is found in the *Economic Survey 2012–13*, which estimated Rs 230,000 crore (Rs 2,300 billion) as the amount of finance needed to fulfil the mission objectives under the NAPCC (MoF 2013: 264). The emphasis of the national missions is on sustainable development, with climate change adaptation and mitigation as co-benefits. In contrast, the Planning Commission report estimating the total cost to the Indian economy of low-carbon strategies as US\$ 834 billion (in constant 2011 dollars) over 20 years from 2011–30 (Planning Commission 2014) is a measure of the opportunity cost to the economy for following a low-carbon growth pathway. Further, India's Nationally Determined Contribution (NDC) states that according to preliminary estimates, at least US\$ 2.5 trillion (at 2014–15 prices) will be required for meeting India's climate change actions between 2015 and 2030 (Ministry of Environment, Forest and Climate Change [MoEFCC] 2015: 31). However, based on the document, it is quite unclear how this number was arrived at.

Second, there is a lack of any citation on the methodology for coming up with any of these estimates. For example, an independent evaluation of India's NAPCC mentions that it is unclear how numbers were arrived at for the financial estimates for some of the missions (Byravan and Rajan 2012). According to another study assessing the State Action Plans on Climate Change (SAPCCs), there are marked

inconsistencies in the estimates quoted by different states, as well as a lack of objective criteria in determining the prioritized list of actions (Mandal, Rathi, and Venkataramani 2013: 16).

Third, all these estimates have been done in different contexts. For example, the Economic Survey is a key government document that is used for the preparation of union budgets and, therefore, reflects the need for domestic resources to implement various plans and programmes. In contrast, India's Intended Nationally Determined Contribution (INDC) was a document submitted to the UNFCCC in the context of a negotiation, before the 21st Conference of the Parties (COP 21) in Paris. India's NDC is conditional, implying that the achievement of some of the targets is subject to the provision of international climate finance.

It is inherently difficult to compare these different cost estimates because of their varying metrics. However, since these are all official estimates, having some conceptually consistent formulation is a part of the government's job.

There have been various efforts to map India's current sources and quantum of funds flowing into climate change activities. Figure 22.1 tries to collate information from some of these published reports and presents them in the format used in the 'Global Landscape of Climate Finance' (Buchner et al. 2017). Notwithstanding the methodological and data challenges mentioned earlier, and the fact that the numbers span different time periods, there are some insights that can be drawn from India's current climate finance landscape.

Domestic public finance represents the largest source of climate expenditure in India and most of it is in the form of budgetary support for climate-relevant government programmes. The bulk of this domestic budgetary support goes towards funding programmes relevant to climate adaptation. Yet, a larger share of the overall climate finance in India goes towards climate mitigation. This is because international climate finance is skewed towards mitigation and private finance for adaptation is insignificant. Although this may change in the future, especially because of increased focus on adaptation in international climate negotiations, given India's vulnerabilities to climate change and the uncertainties involved with international public funds, domestic spending from budgetary sources is likely to remain the major source of adaptation funding.

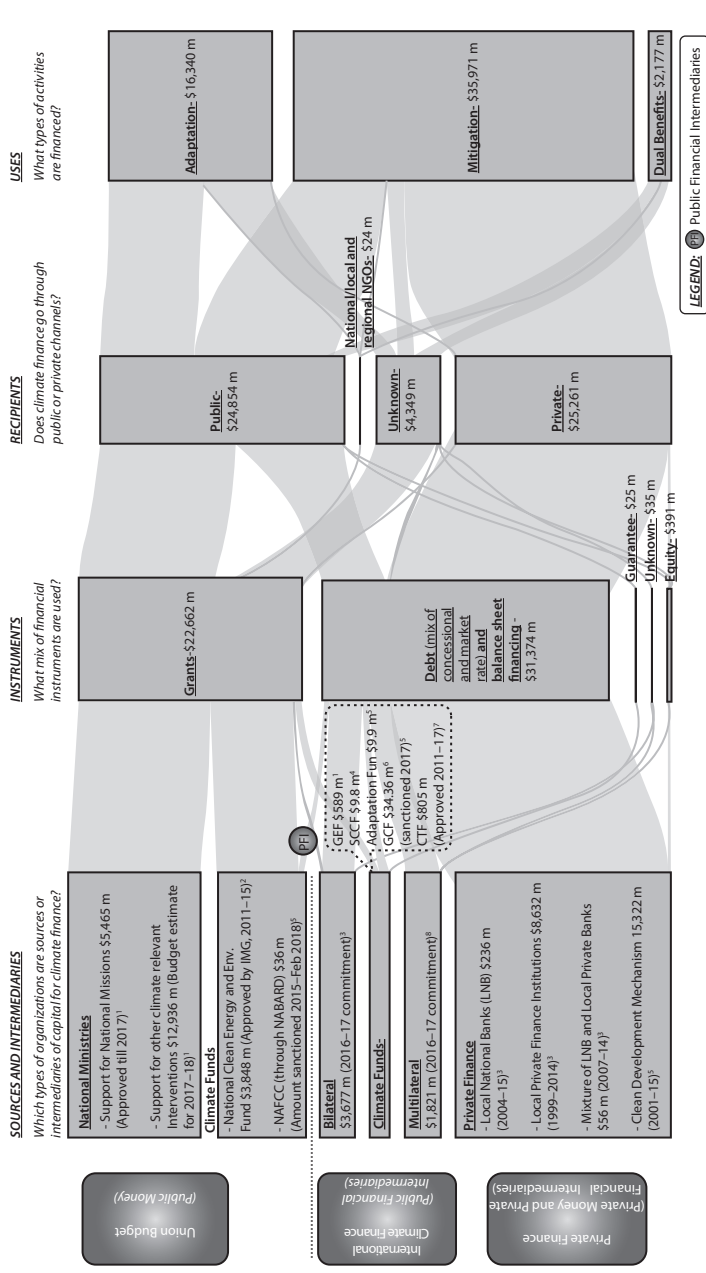


Figure 22.1 Landscape of Climate Finance in India

Sources: ¹ Singh (2017), ² Department of Expenditure (2017), ³ MoEFCC (2018), ⁴ GEF (2016), ⁵ NABARD (n.d.a), ⁶ NABARD (n.d.b),

⁷ Climate Investment Funds (2015), ⁸ OECD (n.d.).

In absolute terms, India has got approval for over US\$1 billion from climate funds, more than any other country in the world. If bilateral and multilateral sources are included in this mix, India has received more funds from international climate finance than any of its peer countries—China, South Africa, Brazil, Indonesia, and Thailand. However, India still can make a case to improve its ability to access international climate finance because the share of international climate finance in India's overall climate spend is low compared to the other sources. Unlike China and Latin American countries such as Brazil, India is not attracting climate finance in sufficient volumes relative to the country's future adaptation and mitigation needs (Steinbach et al. 2014).

Although the discussion on international climate finance tends to focus on issues of scale, international climate finance has also played an important role in leveraging private sector financing for mitigation. Bilateral donors and multilateral institutions have supported the creation of innovative financing options for energy efficiency and renewable energy projects in India. International donor-backed dedicated credit lines have been particularly important in mobilizing domestic private sector investments in energy efficiency (Varma et al. 2015).

In addition to international climate finance and domestic climate policy, the Clean Development Mechanism (CDM) has been the most important driver for private finance in climate change in India by far. With uncertainty over the future of certified emission reductions (CERs) under the second Kyoto Protocol commitment period, new restrictions for CER trading under the European Union (EU) emissions trading system, and focus on the new private sector facility of the GCF, CDM projects have already slowed down in India and are unlikely to play a significant role in leveraging private climate finance. However, Article 6 of the Paris Agreement that deals with international cooperation has given a fillip to market mechanisms (UNFCCC 2017). Though the agreement in itself does not give details about the shape and form of the new market mechanisms, and there is ample flexibility, it does mention that parties could pursue voluntary cooperation in the implementation of their NDCs to allow for higher ambition in their mitigation and adaptation actions. However, it also mentions that any such cooperative approach aimed at emission mitigation should foster sustainable development.

Despite large private investments in mitigation, the private sector has not been effectively engaged in India's climate policy formulation (Varma et al. 2015). India's official stance has always been that though alternative sources, including the private sector, can be explored to fill the gaps between the demand and supply of climate finance, public finance, with its predictable and reliable flow of funds, should be at the core (MoF 2012). The private sector is envisaged as having a greater role in climate mitigation projects where there is a potential for return and profits, as compared to adaptation projects where markets for such goods and services are either absent or unclear.

However, it is important to note that SDG 7 deals with ensuring universal clean energy access and is one of the areas where climate finance can help meet the SDGs; here, private investments will likely have an important role to play. Further, private investments in adaptation-related sectors are picking up. The recently published report, *Bonds and Climate Change: The State of the Market* (Climate Bonds Initiative 2017), found that water is the fourth-largest theme with US\$32 billion outstanding, and over a third of this was issued as labelled green bonds. Water bonds fit broadly into four categories: water treatment; flood protection and defences; conservation and restoration; and general climate resilience. This is particularly relevant for India since corporate social responsibility is now an integral part of most Indian businesses.

Overall, India has been able to draw and leverage funds for climate change from a variety of sources. The quantum of funds, however, is inadequate given the large requirements. Clear policy signals in alignment with the NDCs and balancing of funds between mitigation and adaptation needs will be important areas of concern going ahead.

Institutional Mechanisms and Implications for Scaling Up Climate Finance

The institutional arrangements for the delivery of climate finance in India have seen a marked shift over the years. Such arrangements have mostly come up as a response to specific climate policies and funding opportunities, and there has never been a formal coordination mechanism for climate finance. Although some experts, including

the MoF itself, have advocated for the creation of a national green/climate fund (MoF 2013: 264–5; Steinbach et al. 2014), others have argued that the creation of a domestic fund will not in and of itself solve issues around the need for better coordination (Jha 2014). Currently, climate finance in India flows through multiple actors and channels, and a variety of institutions, both public and private, are involved in the delivery of funds. While this may not necessarily be a problem for a diverse and decentralized country such as India, the salient question is whether the current institutional mechanism is effective enough to deliver the transformational change that India needs.

It is quite evident from the previous section that India's requirements for climate finance are large and it needs to substantially scale-up existing finances to be able to meet its needs. Most of the domestic as well as international funding labelled as climate finance has come in the form of small projects, and these are unlikely to have a transformational impact on India's development path, as may be needed to deal with climate change. Instead, such efforts need to be integrated with larger policy processes such as the national missions and SAPCCs. This integration would allow India's policy vision and implementing institutions to effectively blend domestic and international climate finance (Jha 2017). The only instance where India has been able to access a significantly large funding has been in the case of the Clean Technology Fund (CTF). However, this was largely because of the efforts of the World Bank and Asian Development Bank brokering India's investment plan in an attempt to support their existing efforts and maximize the financial gains from accessing the CTF (Jha 2014).

This also begs the question of whether domestic actors in India's climate finance landscape have the capacity to effectively access and deliver climate finance. Indian states are at the forefront of implementing climate change activities. While the national missions are funded through budgetary outlays to the nodal ministries that are in charge of the respective missions, the state departments are indirect recipients of such funds through their central counterparts. With the formation of the NAFCC, states can now also directly access funds to implement climate adaptation projects. States are also recipients of climate finance from bilateral and multilateral sources. The other

prominent domestic actor in India's climate finance is NABARD, owing to its accreditation as NIE for three funds, namely, NAFCC, AF, and GCF.

There are capacity constraints both with Indian states as well as NABARD. The SAPCCs were prepared with support from international agencies, such as the United Nations Development Programme (UNDP) and the German aid agency, GIZ (Dubash and Jogesh 2014). A review of the approved DPRs submitted by the states to the NAFCC reveals that most of them were prepared with support from the same international agencies. Similarly, four out of the five proposals submitted by NABARD to the AF have come through pilot projects carried out with the financial and technical support of GIZ (Jha 2014). This is particularly relevant given that India has been a strong proponent of direct access and greater country ownership, arguing for GCF-funded activities to be conceptualized, initiated, and owned by the developing countries in a manner consistent with its national climate change strategies and action plans (MoF 2013).

The story is not very different in case of large developmental programmes with climate co-benefits. Despite the fact that domestic public finance represents the largest source of climate spending in India and most of it is in the form of budgetary support for climate-relevant government programmes, there is limited effort to design interventions that have stated multiple objectives, such as poverty reduction, economic growth, and climate change. For example, several studies and government documents have pointed out that the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), one of the largest social protection schemes in the world, leads to reduction in vulnerabilities of rural population and has the potential to deliver climate resilience at scale (MoEFCC 2015; Tiwari et al. 2011). However, climate change does not appear as one of the stated objectives of the Act or any of its guidelines. The only conscious effort to mainstream climate change in MGNREGA has been through a bilateral cooperation project, 'Infrastructure for Climate Resilient Growth (ICRG)', with the Ministry of Rural Development, GoI, and supported by the International Climate Fund of the United Kingdom (UK) government (ICRG n.d.).

Financial institutions, such as public and private sector banks, government-backed non-banking financial companies (NBFCs),

private NBFCs, and so on, are the other important set of stakeholders in the Indian climate finance landscape. The majority of private finance in climate change, as mentioned earlier, comes in the form of investments in energy efficiency and renewable energy projects (Varma et al. 2015). Some of it is investments that would have happened in a BAU scenario, while the rest is leveraged through policy incentives and international and domestic climate finance. The Indian private sector is also showing an interest in directly accessing international climate finance. Yes Bank and Infrastructure Leasing & Financial Services Limited (IL&FS), for example, are two private sector corporations that have applied for accreditation as NIEs for the GCF. While the private sector is expected to bring in innovation and efficiency in the access and delivery of climate finance, it will be driven by profit motives, and it is therefore important to ensure that national development priorities are aligned with private sector interests. The CDM is one such example where the Indian private sector has been successful in leveraging huge investments in mitigation, but it has been criticized for neglecting sustainable development benefits (Bose et al. 2014).

India has argued for a development-first approach to climate finance, yet it has failed to demonstrate such an approach to achieving multiple goals of development and climate change—one that fully realizes and utilizes the multiple institutional arrangements that exist in the country. It is perhaps here that the need for central coordination will be extremely important. The MoEFCC coordinates all climate change policies and programmes in India. It also serves as the nodal point for coordinating the activities of the international climate funds in India. It is the NDA for the GCF as well. Given its broad mandate, the MoEFCC must, therefore, create conditions to support the various domestic processes so as to create a new pipeline of domestically owned projects that collectively add up to transformational potential (Jha 2017).

If climate finance and development finance are indeed inseparable, it makes sense to maintain and strengthen the existing delivery mechanisms. Currently, much of India's focus is on creation of new funds and accreditation of local institutions to the GCF. Experience with dedicated climate funds, especially the National Clean Energy and Environment Fund (NCEEF) that is managed by an

inter-ministerial group, is not too encouraging. The NCEEF has not been able to disburse money effectively and, in fact, most funds have been used to finance the national missions and routine activities of the MoEFCC and Ministry of New and Renewable Energy (MNRE) (Centre for Budget and Governance Accountability [CBGA] 2012). Also, while national ownership is important, mere accreditation as an NIE does not equip an institution with the capacity to access and manage funds effectively. What is more important for India right now is to coordinate the multiple actors and channels in order to align national priorities and domestic finance with the mandates of international climate funds and secure finance at scale.

Despite years of work both at international negotiations as well as by researchers and think tanks, there is no consensus on the definition of climate finance. India's own understanding of climate finance has evolved over the years and there seems to be a disconnect between the way it articulates the concept domestically and internationally. Whereas India is firm in its stand on the concept of additionality in defining international climate finance, domestically, it has articulated climate finance in the context of sustainable development. While this may sound natural from a negotiating perspective, it has implications on India's climate finance needs and how it delivers climate finance on the ground.

There are methodological issues in estimating needs and tracking of funds. However, it is clear that the requirements are large and current funds are insufficient. India has been categorical that achievement of its climate goals relies on international finance. Although India has been successful in its efforts to access international climate finance, the volumes are low compared to overall needs and most of it has been in the form of small projects. Private finance has also contributed significantly in the energy efficiency and renewable energy sectors, and this has been driven primarily by domestic and international policies and incentives.

Given that uncertainty around international climate finance will likely remain and the fact that private sector is driven by profit motives, it is important to blend different sources of finance with

domestic priorities such as those articulated in the national missions and flagship developmental schemes. Currently, there are multiple institutional mechanisms and a variety of actors that access climate finance from different sources. The key challenge from India's perspective will be to coordinate these multiple actors and channels, and enable them to integrate with larger policy processes in order to secure and deliver climate finance that serves India's interests and is truly transformational in its impact.

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