Climate Finance

Understanding India's Requirements and Opportunities

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1. Introduction

India being a developing country is categorized as a Non Annex 1 country in the international climate negotiations. This status means that currently India is not required to take up any legally binding commitments for countering climate change. However, India has voluntarily committed itself to reducing its emissions intensity by 20-25% of its 2005 levels by 2020. Furthermore, in June 2008 the Prime Minister's Council on Climate Change announced the adoption of the National Action Plan on Climate Change (NAPCC). This plan has identified eight core "national missions" and calls for "identifying measures that promote our development objectives while also yielding co-benefits for addressing climate change effectively (Prime Minister's Council on Climate Change 2008). But progress towards these goals is likely to falter over a familiar stumbling block: financing.

There are no numbers available on the total amount of funds required to achieve India's mitigation and adaptation goals. The interim report of the Expert Group on Low Carbon Strategies for Inclusive Growth provides a menu of options that can reduce India's emissions intensity keeping the 2020 target in mind. This report, however, did not work out the associated costs with these measures. The next report is supposed to provide that estimate. Going by the NAPCC Mission documents, India needs a total of $84.65 billion[i] to fund all the eight missions over the next decade. Allocations in the next two five year plans (12th and 13th) are expected to include components for the implementation of the various missions. The 12th five year plan will also have low carbon inclusive growth as one of its key pillars. India's climate finance requirements, however, are enormous and we are looking for a combination of domestic public financing, private financing and international climate finance to meet our needs. In addition to the low carbon inclusive growth strategies and the NAPCC missions, there are several projects and initiatives going on at the sub-national levels, often implemented by state governments.

2. Current Options

There are broadly three different sources that are currently being used to raise climate finance in India: private, public (domestic) & international public finance.

2.1 Private Finance

Clean Development Mechanism (CDM) is one of the flexibility mechanisms provided under Kyoto Protocol, which came into force in 2005. This mechanism allows a country with

an emission-reduction commitment under the Protocol to implement an emission-reduction project in developing countries. Such projects then earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO_2. India is the second largest recipient of CDM projects after China, with a total of 563 projects till date. This represents 33% of CDM projects in Asia and 22% of global CDM projects (Caravani and Bird 2010). Mr. Jairam Ramesh, the then Minister, Ministry of Environment & Forests quoted the following statistics on CDM and India in the Parliament on 10th August, 2010:

CDM projects have the potential to generate 43 million CERs per annum which amount to approximately 12% of the total annual CERs generated by registered CDM projects globally. As on date 79 million CERs have been issued to Indian projects and assuming a conservative price of $10 per CER, the value of actual CER issued to Indian projects amounts to US$ 790 million.

Under the National Mission for Enhanced Energy Efficiency (NMEEE), two innovative fiscal instruments have been developed by the government to leverage private capital. These are the Partial Risk Guarantee Fund (PRGF) and Venture Capital Fund for Energy Efficiency (VCFEE).

PRGF is a risk-sharing mechanism that will provide commercial banks with partial coverage of risk exposure against loans made for energy efficiency projects to mitigate the risk perception associated with the lending for new technologies and new business models associated with energy efficiency projects. Government of India (GOI) is providing initial seed finance to the tune of $20 million. It is expected that PRGF will leverage investments of 30 times[ii] the initial corpus value (Ministry of Environment & Forests 2011). While debt capital is being secured through the PRGF there is also a requirement for venture capital investment as equity in energy efficiency projects. This VCFEE, set up with initial seed capital from Government under the NMEEE, can be expanded by contributions from other agencies as well. The reason for including these funds under private funding channels is due to their huge potential to leverage private capital in the near future.

2.2 Public Finance (Domestic)

There is no reason why climate finance has to come from "innovative sources." In India's case, in particular, where most climate policies are targeted towards development with climate as a co-benefit, it is not surprising that many of these policies and initiatives are funded through broad fiscal instruments like income taxes and other government revenue sources. These funds are usually allocated through the budgetary process.

Additionally, India is also using a combination of carbon pricing instruments and regulatory policies that include Renewable Energy Certificate mechanism, Perform, Achieve and Trade (PAT) scheme, National Clean Energy Fund, and Building Codes and Energy Efficiency (EE) Standards for Appliances.

Enactment of the Electricity Act 2003 has lent support to renewable energy by stipulating purchase of a percentage of the power procurement by distribution utilities from renewable energy sources. The renewable purchase obligation as well as preferential tariff for procurement of such power has been specified by various State Electricity Regulatory Commissions. The Renewable

Energy Certificate (REC) mechanism launched in November 2010 is a market based instrument promoting the twin goals of harnessing renewable energy sources in areas with high potential and compliance with Renewable Purchase Obligation (RPO) by resource-deficit states. One REC represents tradable commodity of one megawatt-hour (MWh) of electricity from eligible renewable energy source. By the end of 2011 (i.e. within a year of its launch) the REC market was worth $ six million. Currently RECs are traded in country's two power bourses — Indian Energy Exchange (IEX) and Power Exchange India Ltd (PXIL). During the latest round of trading on 29th February 2012, RECs were cleared at $ 61.02 per certificate at PXIL.

The Energy Conservation Act, 2001 has identified 15 large energy intensive industries for energy efficiency improvements in India. These energy intensive industries are named as Designated Consumers (DCs) in the Act. Out of the 15 DCs, nine (Aluminium, Cement, Chlor-Alkali, Pulp & Paper, Fertilizers, Power Generation Plants, Steel, and Railways) are covered under the PAT Scheme. 1st phase began in April 2011 and will end by March 2014. Each DC is given a Specific Energy Consumption target to meet over a period of three years. Any additional saving will qualify for earning Energy Saving Certificates (ESCerts), which could be traded with DCs who are short of targets. This trade can be made bilaterally or through exchange. The Cabinet Committee on Economic Affairs headed by the prime minister approved the constitution of a National Clean Energy Fund (NCEF) in the public account of India in April 2011 (Press Information Bureau, GoI April 2011). This Fund is an attempt at some sort of a carbon tax by the government following the polluter pays principle. A cess on coal at an effective rate of one USD a tonne was imposed in the Union Budget 2010-11 and $ 624.28 million was collected. The government estimates to collect an additional $ 696 million into the corpus in 2011-12 (Mukul 2011). Finally, there are various standards like National Building Code (NBC), Energy Conservation Building Codes (ECBC) that has been recently made mandatory in eight Indian states, and Bureau of Energy Efficiency rating program for appliances. These market-driven voluntary programs have significant potential to save energy and reduce emissions.

2.3 Public Finance (International)

There are two sources of climate finance available post Cancun Conference of Parties (COP) to developing countries – the Fast Start Finance from 2010-2012 to the tune of $30 billion and the Long Term Finance to the tune of $100 billion per annum by 2020. The modalities and sources of the Long Term Finance are still nebulous. While developing countries have tended to argue that this amount should flow through the Green Climate Fund, this has not been agreed internationally, and a number of Annex-1 countries have explicitly stated that a significant share of the $100 billion will flow through other channels, and a significant share will be private finance.

3. Quantum of Finance

There hasn't been any comprehensive attempt at creating taxonomy and collecting data on different kinds of climate finance flowing into and within India. A rudimentary attempt based on some public sources and some broad assumptions indicate the following:

Sources	Amount (in USD billion)
Private	
Clean Development Mechanism (till date)	0.79
Partial Risk Guarantee Fund[iii] (total future potential)	0.57
Venture CAPITAL Fund for Energy Efficiency[iv] (total future potential)	0.42
Broad Fiscal Instruments (Budget 2011-2012)	
National Mission on Strategic Knowledge for Climate Change	0.03
National Mission on Sustainable Agriculture	3.6
National Water Mission	2
Green India Mission	0.15
Various Clean Energy Initiatives	0.04
Adaptation Oriented Scheme (2009-10)	25
Carbon Pricing Instruments	
National Clean Energy Fund (2011-12)	0.68
Perform, Achieve and Trade (total future potential)	16
Renewable Energy Certificate (future potential per year)	2.4

Source: Compiled from different publicly available documents

Estimates on the overall scale of international climate finance received by India are not available. Adaptation costs for the Asia Pacific region will be around $ 15 billion over the next decade and finances raised for adaptation projects in this region till December 2010 was a minuscule $65.85 million. These figures are obtained from 20 or so sources of public finance for which data is available. Under the Climate Investment Fund's Clean Technology Fund (CTF), an investment plan prepared by India for $775 million was endorsed in October, 2011 (Ministry of Environment & Forests October 2011). With this financial support, the Government of India plans to kick-start India's Super-Efficient Equipment Program (SEEP) initiative and enable the Jawaharlal Nehru National Solar Mission. Under Fast Start Finance, the total pledged amount is $28.22 billion (as of last month), and out of this $16.23 billion has been requested or budgeted (Stasio et al 2011). India is one of the recipients of such funds. About 10 projects are to be taken up with these funds to the tune of $ 67 million[v] (World Resources Institute 2011).

4. Issues and Way Ahead

The current mix of sources and corresponding funds may not be able to meet our climate financing needs. Innovative carbon pricing instruments need to be considered to raise additional funds. The popular perception that environmental taxes are politically infeasible and regressive in low income countries has been challenged. A study by A. Datta based on data from a representative household survey covering more than 124 thousand Indian households postulates that fuel tax would be progressive as would a carbon tax. Using an input-output approach, the study has found that the progressivity results hold good even when

one considers indirect consumption of fuel through its use as an intermediate input (Datta 2010). In addition, there are also other creative taxes like financial transaction tax, currency transaction tax, alcohol-sales and tobacco-sales taxes, which hold lucrative potential.

Private sources of funding will eventually form the major share of climate finance (and surpass public funding), but appropriate public institutions that are amply funded need to be created now to leverage private funding in the future. For instance, a model along the lines of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) with the mandate of improving the urban infrastructure and services, wherein the central government has committed $4.35 billion over a seven year period (2005-12), can be emulated.

Most of the international sources of public finance for climate action are plagued by the inadequacy and unpredictability of mostly voluntary contributions, which are becoming increasingly difficult to come by, given the tightening fiscal situation in industrialized countries.

Also, international funds adopt a project approach with funds to be accessed via multilateral and bi-lateral implementing agencies. The international climate finance architecture is complex and there is lack of transparency regarding the flow and use of funds. A funding mechanism with large-scale funding for programmatic sector-wide transformations in line with recipient country priorities is needed. There should also be direct access to countries and sub-national actors (civil society groups, communities and Indigenous Peoples) in order to be credible with regard to effectiveness, efficiency and equity - the 3Es. None of these is going to be easy. The government will face intense lobbying pressures. There might be a negative effect on trade and manufacturing activities, at least in the short term, from certain taxation policies. Despite such obstacles, it is time that credible and robust estimates of India's climate finance needs are produced and there are serious discussions regarding creation of a roadmap to raise such funds through creative and innovative mechanisms.

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i The figure was aggregated by referring to documents of NAPCC, Planning Commission & Union budget 2011-12. A conversion rate of $1 = Rs 50 has been used to bring uniformity in currency units.
ii Assuming the payment to be 10% of the PRGF corpus, a debt to equity ratio of 2:1, the PRGF would leverage energy efficiency investments which are 30 times the corpus value
iii Based on the assumption that $1 of public money will be able to leverage $30 in private finance
iv ibid
v India's share will be a fraction of this $67 million, as this fund is to be shared with other developing countries

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