



India Climate Report

Vol.: 3

September 2016

This paper is part of a series of briefing papers designed to provide an up-to-date account and analysis of India's efforts to address climate change. As the third in the series, this paper covers an update on climate finance, new policies announced by various states in India, and other recent developments.

KPMG in India is the knowledge partner for this briefing paper

Recent developments

The Paris Agreement opened for signatures at the United Nations (UN) Headquarters in New York on April 22, 2016 coinciding with Earth Day. Including India, 175 Parties signed the agreement on the opening day, establishing a record for first-day signatures to an international agreement. The agreement will enter into force thirty days after 55 Parties accounting for at least 55 per cent of global emissions deposit their instruments of ratification to the United Nations Framework Convention on Climate Change (UNFCCC). Like many other countries, India now needs to initiate the domestic processes to accept or ratify the agreement¹.

India submitted its First Biennial Update Report (BUR) to the UNFCCC in January 2016 in fulfilment of its reporting obligations under the convention. The report observes that while the country's Greenhouse Gas (GHG) emissions have increased by almost 45 per cent between, 2000 and 2010, the emission intensity of Gross Domestic Product (GDP), excluding the agriculture sector, has reduced by 12 per cent, thus keeping the country on course to meet the voluntary target of a 20-25 per cent reduction by 2020, pledged under the Copenhagen Accord².

Domestically, the Ministry of Environment, Forest and Climate Change

(MoEFCC) has set up five thematic inter-ministerial groups with representation from industries to assess the changes in schemes, programmes and laws required for India to achieve its emission intensity reduction commitment for 2030. The groups are expected to submit their findings by the end of the year³.

During the cabinet reshuffle in July 2016, Anil Madhav Dave was appointed as the new Minister of State with Independent Charge of Environment, Forests and Climate Change. Prior to this, other key staffing changes in the ministry were announced in May 2016. While Ajay Narayan Jha joined as the new Secretary, Rajani Ranjan Rashmi returned as Additional Secretary with the mandate of working on matters related to climate change and India's National Action Plan on Climate Change (NAPCC), among other responsibilities⁴.

The 'Clean Energy Cess' that is levied on coal, lignite and peat was renamed as 'Clean Environment Cess' in the Union Budget 2016-17, and simultaneously increased from INR 200 (USD 3.33) per tonne to INR 400 (USD 6.67) per tonne. The proceeds of the cess contribute to the corpus of the National Clean Energy Fund (NCEF), which is used to finance, promote and fund research on clean environment and energy initiatives⁵.

1. Record Support for Advancing Paris Climate Agreement Entry into Force; <http://newsroom.unfccc.int/paris-agreement/closing-paris-agreement-signing-press-release/>
2. India's First Biennial Update Report to UNFCCC; <http://unfccc.int/resource/docs/natc/indbur1.pdf>

3. Govt sets up panels to help meet Paris climate change pact targets; http://www.business-standard.com/article/economy-policy/govt-sets-up-panels-to-help-meet-paris-climate-change-pact-targets-116080400036_1.html

4. MoEFCC Notification dated May 02, 2016; <http://www.moef.gov.in/sites/default/files/02-05-2016.PDF> and MoEFCC Notification dated May 26, 2016; <http://www.moef.gov.in/sites/default/files/26-05-2016%20-1.pdf>

5. Budget Speech by Hon'ble Finance Minister; <http://indiabudget.nic.in/ub2016-17/bs/bs.pdf> and all conversions assume USD 1 = INR 60

The second three-year cycle of the Perform, Achieve and Trade (PAT) scheme, a market-based mechanism to incentivise energy efficiency in industries, was notified by the Ministry of Power on March 31, 2016. In addition to the eight energy-intensive industrial sectors that were part of the first cycle, electricity distribution companies, petroleum refineries and the railways have also been included in the second cycle. The number of plants notified have increased from 478 to 621, and the target energy savings from 6.686 million tonnes of oil equivalent (mtoe) to 8.869 mtoe⁶.

In January 2016, the Ministry of Urban Development announced 20 winners of the Smart City Challenge competition. Arranged in descending order of ranking, the selected cities are Bhubaneswar, Pune, Jaipur, Surat, Kochi,

Ahmedabad, Jabalpur, Visakhapatnam, Solapur, Davanagere, Indore, New Delhi Municipal Council, Coimbatore, Kakinada, Belagavi, Udaipur, Guwahati, Chennai, Ludhiana and Bhopal. While each of these cities will be provided assistance of INR 500 crore (USD 83 million) by the central government, the required total investment estimated by these cities is INR 50,802 crore (USD 8.47 billion). Public-Private Partnerships are likely to be relied upon for bridging this funding gap⁷.

In March 2016, Piyush Goyal, Minister of State with Independent Charge for Power, Coal, New and Renewable Energy, announced that the government has created a small working group to evaluate the possibility of switching over to 100 per cent electric vehicles in India by 2030. The group would consider

implementing a self-financing model that monetises consumer savings from lower operating expenses of such vehicles due to the replacement of expensive fossil fuels with grid electricity⁸.

The price of Light-Emitting Diode (LED) bulbs dropped significantly to INR 54.90 (USD 0.9) in a round of procurement done by Energy Efficiency Services Limited (EESL) under the Unnat Jyoti by Affordable LEDs for All (UJALA) scheme in March 2016. The price in the first round of procurement held in January 2014 was INR 310 (USD 5.2). The government attributes this drop in price to demand aggregation and the transparent procurement model of EESL⁹.

Climate finance

In an effort to provide hands-on training to state governments for accessing funds under the UNFCCC Adaptation Fund, GCF and NAFCC corpus, MoEFCC, in collaboration with NABARD, has organised a series of regional workshops for state government officials on effectively formulating and submitting proposals. A total of four workshops have been conducted till date, with the most recent one taking place in Lucknow

during June 27-28, 2016¹⁰.

The Union Budget 2016-17 estimates that INR 12,623 crore (USD 2.1 billion) was collected through the Clean Environment Cess in the FY 2015-16 and a further INR 26,148 crore (USD 4.4 billion) is expected to be collected in the FY 2016-17. This takes the total cess expected to be collected by March 2017 to INR 54,336.17 crore (USD 9.06

billion)¹¹. In comparison, the cumulative support required by projects approved for financing from NCEF till April 2015 is INR 34,811.19 crore (USD 5.8 billion), for which INR 25,810 crore (USD 4.3 billion) has been transferred to NCEF. The aggregate funds disbursed to projects currently stand at INR 9,021 crore (USD 1.5 billion)¹². The table below provides a year-wise performance summary for the NCEF:

All amounts in INR crore (USD billion)

Year	Clean Environment Cess collected	Approved NCEF projects	Actual amount transferred to NCEF	Amounts disbursed from NCEF to projects
2010-11	1,066.46 (0.18)	-	-	-
2011-12	2,579.55 (0.43)	566.50 (0.09)	1,066.46 (0.18)	220.75 (0.04)
2012-13	3,053.19 (0.51)	2,715.11 (0.45)	1,500.00 (0.25)	246.43 (0.04)
2013-14	3,471.98 (0.58)	1,060.22 (0.18)	1,650.00 (0.28)	1,218.78 (0.20)
2014-15	5,393.46 (0.90)	12,000.17 (2.00)	4,700.00 (0.78)	2,087.99 (0.35)
2015-16 (RE)	12,623.33 (2.10)	18,469.47 (3.08)*	4,700.00 (0.78)	5,247.09 (0.87)
2016-17 (BE)	26,148.20 (4.36)	-	8,447.00 (1.41)	-
Total	54,336.17 (9.06)	34,811.19 (5.80)	25,810.46 (4.30)	9,021.04 (1.50)

* Includes projects recommended till the 12th meeting of Inter Ministerial Group held on April 30, 2015

The National Steering Committee on Climate Change, a committee constituted by MoEFCC to oversee and approve the preparation and

implementation of climate change plans and projects at the state level, held its ninth meeting in February 2016 and approved a number of projects for

funding under the National Adaptation Fund on Climate Change (NAFCC)¹³.

6. Ministry of Power Notification S.O. 1264(E); <https://beeindia.gov.in/sites/default/files/PAT2%20Target.pdf> and Presentation on PAT Scheme, Status and Way Forward; https://beeindia.gov.in/sites/default/files/PAT_Status_Powerline_Conference_09-05-2016_-_Copy.pdf
7. Press Information Bureau, January 28, 2016; <http://pib.nic.in/newsite/PrintRelease.aspx?relid=135889> and Press Information Bureau, April 22, 2016; <http://pib.nic.in/newsite/PrintRelease.aspx?relid=139083>

8. Press Information Bureau, March 25, 2016; <http://pib.nic.in/newsite/PrintRelease.aspx?relid=138340>
9. Press Information Bureau, May 25, 2016; <http://pib.nic.in/newsite/PrintRelease.aspx?relid=145660>
10. Press Information Bureau, June 29, 2016; <http://pib.nic.in/newsite/PrintRelease.aspx?relid=146611>
11. Union Receipt Budget; <http://indiabudget.nic.in/rec.asp>
12. Rajya Sabha Unstarred Question No. 9 answered on July 18, 2016; <http://164.100.47234/question/annex/240/Au9.pdf>

13. Press Information Bureau, February 22, 2016; <http://pib.nic.in/newsite/PrintRelease.aspx?relid=136645>
14. NABARD website accessed on June 14, 2016; <https://www.nabard.org/English/NAAdaptFund.aspx>
15. NABARD Climate Change Newsletter Issue No. 2, March 2016; <https://www.nabard.org/pdf/ClimateChangeNewsletterIssue2.pdf>

A snapshot of the projects sanctioned under the NAFCC thus far is provided below¹⁴:

S. No	Name of project	State	Executing entity/ies	Project outlay in INR crore (USD million)
1	Climate adaptation strategies in wetlands along Mahanadi river catchment areas in Chhattisgarh	Chhattisgarh	State Centre for Climate Change, Department of Forest, Government of Chhattisgarh	21.47 (3.6)
2	Sustainable livelihoods of agriculture-dependent rural communities in drought prone district of Himachal Pradesh through climate smart solutions	Himachal Pradesh	Department of Environment, Science and Technology, Government of Himachal Pradesh	20.00 (3.3)
3	Climate resilient sustainable agriculture in rain-fed farming (Kandi) areas of Jammu and Kashmir	Jammu and Kashmir	Agriculture Production Department, Government of Jammu and Kashmir	22.52 (3.8)
4	Promotion of integrated farming system of Kaipad and Pokkali in coastal wetlands of Kerala	Kerala	Agency for Development of Aquaculture (ADAK), Department of Fisheries, Government of Kerala	25.00 (4.2)
5	Model carbon positive Eco-Village in Phayeng of Manipur	Manipur	Directorate of Environment, Government of Manipur	10.00 (1.7)
6	Spring-shed development works for rejuvenation of springs for climate resilient development in the water stressed areas of Meghalaya	Meghalaya	Directorate of Soil and Water Conservation, Government of Meghalaya	22.92 (3.8)
7	Sustainable agriculture development through expansion, enhancement and modelling	Mizoram	Department of Agriculture (Crop Husbandry), Government of Mizoram	10.38 (1.7)
8	Conserve water through the management of run-off in the river basin to reduce vulnerability and enhance resilience for traditional livelihood in Nuapada	Odisha	Department of Water Resources, Government of Odisha	20.00 (3.3)
9	Integrated surface water management through rejuvenation of 20 tanks and 32 village ponds for climate change adaptation in Puducherry	Puducherry	Department of Science and Technology, Govt. of Puducherry	16.76 (2.8)
10	Towards climate resilient livestock production system in Punjab	Punjab	Punjab State Council for Science and Technology, Government of Punjab	17.40 (2.9)
11	Management and rehabilitation of coastal habitats and biodiversity for climate change adaptation and sustainable livelihood in Gulf of Mannar, Tamil Nadu, India	Tamil Nadu	Department of Environment, Government of Tamil Nadu	24.74 (4.1)
12	Resilient agricultural households through adaptation to climate change in Mahabubnagar district, Telangana	Telangana	Environment Protection Training and Research Institute (EPTRI), Government of Telangana	24.00 (4.0)
Total				235.19 (39.2)

As of March 2016, the National Bank for Agriculture and Rural Development (NABARD) had received 12 project proposals for the Green Climate Fund (GCF). Four of these have been submitted to MoEFCC, of which two are undergoing Detailed Project Report (DPR) development. A brief description of these projects is provided below¹⁵:

Name of project	State	Amount in INR crore (USD million)
Project in DPR Development Stage		
Mitigating climate change and enhancing adaptation for farmers through agro-forestry in Haryana	Haryana	278.28 (46.4)
Ground water recharge and solar micro irrigation to ensure food security and enhance resilience in vulnerable tribal areas of Odisha	Odisha	189.78 (31.6)
Project Concept Note (PCN) submitted to MoEFCC		
Renewable Energy Programme in India	Pan India	-
Mission Kakatiya — Restoration of minor irrigation tanks for mitigation of climate change impact and enhancing the adaptive capacity	Telangana	1,938.00 (323.0)

State-level initiatives

In March 2016, Uttar Pradesh became the first state to launch a mini-grid policy with the objective of promoting the generation and supply of decentralised renewable energy, thereby stimulating private sector participation. Subsidies for private developers installing projects in villages identified by the state government is one of the main incentives being provided under the policy¹⁶. The revised Tariff Policy of Ministry of Power directs all State Electricity Regulatory Commissions to incentivise mini-grid projects by developing appropriate regulatory frameworks¹⁷.

The state government of Haryana announced its solar power policy on March 14, 2016 declaring numerous incentives for developers, including providing industrial status, exemptions from change of land use approval and cess, free wheeling and banking facility and exemption from T&D and cross-subsidy charges. In September 2014, the government had mandated the installation of solar power plants for residential, educational, industrial and commercial establishments that exceed a

defined threshold area or connected load¹⁸.

The Government of Delhi finalised its solar policy on June 06, 2016 aiming to make Delhi a Solar City. The policy includes mandatory deployment of solar PV plants on government-owned rooftops, introduction of the concept of Virtual Net Metering and Group Net Metering and approval of the Generation Based Incentive (GBI) for domestic households, among other measures¹⁹.

Lakshadweep became the first Union Territory (UT) to join the 24x7 Power for All initiative of the Ministry of Power on May 27, 2016. The UT, which primarily uses diesel for electricity generation, plans to increase the solar installed capacity of the region from 2.15 MW to 8.45MW and reduce the Aggregate Technical and Commercial losses from 21 per cent to 6.7 per cent by 2019, by increasing the revenue collection efficiency to 99 per cent²⁰.

In a major initiative to kick-start overdue reforms in India's largely unorganised brick making sector, the Bihar State Pollution Control Board has ordered kilns operating

in and around the state capital Patna to upgrade to cleaner technologies, post the current brick-making season. The order also prevents the setting up of new kilns unless they use cleaner technology; further, it obligates existing kilns in the rest of the state to upgrade to cleaner technologies by mid-2017²¹. In India, brick kilns are estimated to consume about 35 million tonnes of coal annually, making the sector the second-largest industrial consumer of coal after the steel industry. They are also a large source of particulate matter and black carbon emissions. Retrofitting the existing kilns can reportedly save about 6 million tonnes of coal per year (equivalent to 14 million tCO₂e emissions)²².

The Government of Delhi piloted a vehicle rationing scheme, popularly referred to as the 'Odd-Even' scheme, for 15 days each in January and April 2016 to curb air pollution. The World Health Organization's Global Urban Ambient Air Pollution Database of 2016 places 10 Indian cities in the list of the top 20 most-polluted cities in the world²³.

International negotiations and cooperation

The 37th meeting of the Open-Ended Working Group (OEWG 37) of the Parties to the Montreal Protocol convened in Geneva, Switzerland, in April 2016, and resumed discussions in Vienna, Austria, in July 2016. The 38th meeting of the group (OEWG 38) and the third Extraordinary Meeting of the Parties to the Montreal Protocol (ExMOP 3) also took place in the same month thereafter. During these sessions, participants worked on the mandate outlined in the Dubai Pathway on Hydrofluorocarbons (HFCs) agreed upon in November 2015²⁴.

The first session of the *Ad Hoc* Working

Group on the Paris Agreement was convened in Bonn, Germany, during May 16-26, 2016. At this session, technical work on the agreement was initiated, including development of the Paris Agreement 'Rulebook' and the modalities and procedures for a public registry for nationally determined contributions (NDCs) and adaptation communications²⁵.

The International Civil Aviation Organization (ICAO) convened a high-level meeting in Montréal, Canada during May 11-13, 2016 to address international aviation emissions through a global Market-Based

Measure (MBM) scheme. While the draft text for the scheme was discussed in the meeting, a group of countries, including India, expressed concern that the proposal on MBM may impose an inappropriate economic burden on developing countries²⁶.

The Indian Prime Minister visited the United States of America in June 2016, and the two countries committed to work together to promote the full implementation of the Paris Agreement. Both countries resolved to adopt an HFC amendment in 2016 and work together at the upcoming ICAO Assembly in October this year²⁷.

16. Uttar Pradesh Mini Grid Policy 2016; <http://upneda.org.in/sites/default/files/all/section/Mini%20Grid%20Policy%202016.pdf>
17. Tariff Policy, January 28, 2016; http://powermin.nic.in/sites/default/files/webform/notices/Tariff_Policy-Resolution_Dated_28012016.pdf
18. Haryana Solar Power Policy, 2016; <http://hareda.gov.in/writereaddata/news/hareda810061259.pdf>
19. Directorate of Information and Publicity Notification, June 06, 2016; http://delhi.gov.in/wps/wcm/connect/doit_publicity/Information+and+Publicity/Press+Release/Chief+Minister/Cabinet+takes+a+major+step+towards+making+Delhi+a+solar+city%2C+06th+June+2016
20. Press Information Bureau, May 27, 2016; <http://pib.nic.in/newsite/PrintRelease.aspx?relid=145750>

21. Bihar State Pollution Control Board Order dated December 31, 2015
22. Towards Cleaner Brick Kilns in India, March 2013; http://www.gkspl.in/reports/energy_efficiency/Towards%20Cleaner%20Brick%20Kilns%20in%20India.pdf
23. WHO Global Urban Ambient Air Pollution Database (update 2016); http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/
24. OEWG 37 Discusses Challenges for HFC Amendment; <http://climate-iiisd.org/news/oewg-37-discusses-challenges-for-hfc-amendment/> and Summary of the Montreal Protocol Meetings in Vienna; <http://www.iiisd.ca/vol19/enb19125e.html>

25. Earth Negotiations Bulletin Meeting Coverage, May 26, 2016; <http://www.iiisd.ca/climate/sb44/>
26. Joint Statement of Argentina, Brazil, China, India, Panama, Russian Federation and Saudi Arabia on ICAO; http://www.icao.int/Meetings/HLM-MBM/Documents/Joint_Statement_1.pdf
27. The White House, Office of the Press Secretary, June 07, 2016; <https://www.whitehouse.gov/the-press-office/2016/06/07/joint-statement-united-states-and-india-enduring-global-partners-21st>

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