



IEAGHG Information Paper 2015-3; U.S. and India Climate and Clean Energy Cooperation

After the US President's headline grabbing bi-lateral agreement on emissions reduction with China in November 2014 (see Information Paper (IP) 2014/23, US-China joint agreement on climate change and clean energy co-operation), there was a lot of media interest in the US-India bilateral discussions on climate change held last week.

The BBC conveyed that Indian media had reported that the US was quite keen to have a significant climate deal with Delhi along the lines of the US-China agreement. But the Indian government was not willing to make any commitment, particularly about when its carbon emissions may peak (see <http://www.bbc.co.uk/news/world-south-asia-31008165>).

The two countries did agree to enhance co-operation of climate change and the White House issued a fact sheet (see overleaf) that lists some 10 initiatives for future cooperation.

From a greenhouse gas perspective the most significant initiative was the one on HFC's.

'Cooperating on Hydrofluorocarbons (HFCs): Building on their prior understandings from September 2014 concerning the phasedown of HFCs, the leaders agreed to cooperate on making concrete progress in the Montreal Protocol this year.'

This is a step change in India's position on the phase-down of climate-warming refrigerant gases under the Montreal Protocol. Prior to this, India had resisted for several years any dialogue on reducing HFC emissions.

At the 25th Meeting of the Parties of the Montreal Protocol in October 2013, India and Saudi Arabia had jointly blocked an agreement to include an amendment of the Protocol to include HFC's. Such an amendment would have meant that HFC's would then be phased out as have CFC's under the Montreal Protocol (see IP 2013-29, HFC amendment stalled). The agreement by the US and India should now open the way for HFC's to be included under the Montreal Protocol and allow for an international agreement on phasing them out to be discussed. Hopefully progress on this issue will be made at the 27th Meeting of the Parties to be held in Abu Dhabi, UAE in the autumn of 2015.

The United States welcomed India's intention to increase its share of renewable energy in electricity generation consistent with its intended goal to increase India's solar capacity to 100 GW by 2022.

On the flip side, the new Indian government wants to double coal production – to one billion tonnes annually within five years. More than 80% of electricity generation in India comes from fossil fuels and the power sector consumed nearly 70% of the coal the country produced in 2011. With an installed electricity generation capacity of nearly 250 gigawatts (GW), it plans to add more than 70 GW to its grid by 2017, with almost all of it from coal-fired power plants. There are no plans to add CCS to this new capacity, therefore India's carbon emissions (being the third largest CO₂ emitter after China and the US) will likely increase by 2020.



The White House: <http://www.whitehouse.gov/the-press-office/2015/01/25/fact-sheet-us-and-india-climate-and-clean-energy-cooperation>

Fact Sheet: U.S. and India Climate and Clean Energy Cooperation

To further support the achievement of our ambitious climate and clean energy goals, the United States and India have pledged to enhance our cooperation in this area. The United States welcomes India's intention to increase the share of renewable energy in electricity generation consistent with its intended goal to increase India's solar capacity to 100 GW by 2022, and intends to support India's goal by enhancing cooperation in clean energy and climate change. Our two countries already have a robust program of cooperation, including the highly successful U.S.-India Partnership to Advance Clean Energy (PACE) umbrella program, and we will expand policy dialogues and technical work on clean energy and low greenhouse gas emissions technologies.

The United States and India agreed on:

- **Enhancing Bilateral Climate Change Cooperation:** President Obama and Prime Minister Modi, stressing the importance of working together and with other countries on climate change, plan to cooperate closely this year to achieve a successful and ambitious agreement in Paris.
- **Cooperating on Hydrofluorocarbons (HFCs):** Building on their prior understandings from September 2014 concerning the phasedown of HFCs, the leaders agreed to cooperate on making concrete progress in the Montreal Protocol this year.
- **Expanding Partnership to Advance Clean Energy Research (PACE-R):** Both sides renewed their commitment to the U.S.-India Joint Clean Energy Research and Development Center (PACE-R), a \$125 million program jointly funded by the U.S. and Indian governments and private sector. The renewal includes extending funding for three existing research tracks of solar energy, building energy efficiency, and advanced biofuels for five years and launching a new track on smart grid and grid storage technology.
- **Accelerating Clean Energy Finance:** Prime Minister Modi emphasized India's ongoing efforts to create a market environment that will promote trade and investment in this sector. USAID will install a field investment officer in India this summer, backed by a transactions team to help mobilize private capital for the clean energy sector. In February, The United States will host the Clean Energy Finance Forum and government-to-government Clean Energy Finance Task Force to help overcome strategic barriers to accelerating institutional and private financing. The Department of Commerce will launch a trade mission on clean energy. The Export-Import Bank is exploring potential projects for its MOU with the Indian Renewable Energy Development Agency for up to \$1 billion in clean energy financing. OPIC plans to build on its existing portfolio of \$227 million in renewable energy and continue to identify potential projects to support utility-scale growth and off-grid energy access.
- **Launching Air Quality Cooperation:** The United States will implement EPA's AIRNow-International program and megacities partnerships, focused on disseminating information to help urban residents reduce their exposure to harmful levels of air pollution, and enable urban policy planners to implement corrective strategies for improving ambient air quality in cities, allowing for estimates of health and climate change co-benefits of these strategies.
- **Starting Technical Cooperation on Heavy-Duty Vehicles and Transportation Fuels:** Both countries will discuss how to reduce the environmental and emissions impact of heavy-duty vehicles and transportation fuels by working to adopt cleaner fuels, emissions, and efficiency standards in India.



- **Initiating Climate Resilience Tool Development:** Jointly undertaking a partnership on climate resilience that will work to downscale international climate models for the Indian sub-continent to much higher resolution than currently available, assess climate risks at the sub-national level, work with local technical institutes on capacity building, and engage local decision-makers in the process of addressing climate information needs and informing planning and climate resilient sustainable development, including for India's State Action Plans.
- **Promoting Super-Efficient Off-Grid Appliances:** Strengthening our joint commitment to promote super-efficient off-grid appliances that can dramatically extend the range of energy services available to those lacking electricity, the United States and India intend to support the deployment of these resources to help meet India's energy access goals.
- **Transforming the Market for Efficient and Climate-Friendly Cooling:** The United States will develop an Advanced Cooling Challenge to catalyze the development of super-efficient, climate-friendly, and cost-effective cooling solutions optimized to perform in India's climates.
- **Demonstrating Clean Energy Initiatives on the Ground:** The United States will work with India on additional pilot programs and other collaborative projects, including developing an innovative renewable energy storage project and hosting a smart grid workshop.

The two countries concluded negotiations on a five-year MOU on Energy Security, Clean Energy and Climate Change to carry this work forward, to be signed as early as possible at a mutually-agreed upon date.

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29th January 2015