

US AND INDIA AS PARTNERS IN CLIMATE ACTION

A Clean Energy Agenda

US INDIA PARTNERS FOR CHANGE

ISSUE BRIEF

US and India as Partners in Climate Action: A Clean Energy Agenda

The project

The Centre for Public Policy Research (CPPR) is conducting a 10-month long project on US – India Relations: Change, Continuity and Transformation. This project is supported by the US Consulate General Chennai, Public Affairs Section. The project aims at studying the US – India partnership across the following focus areas – titled U.S. and India: Partners in Global Climate Action, Indo-Pacific Strategy: Reimagining the Maritime Outlook, U.S.-India Trade Relations: To the Next Level and Transformational Technologies and U.S.-India Science and Technology Cooperation. The project aims to prepare a platform for conducting informed discussions and sharing concrete and actionable policy recommendations for private and government functionaries from India and the United States on the focus areas. To that effect, CPPR will conduct four webinars on the selected topics with the participation of subject matter experts from the two countries.

The first webinar of the series, on US and India as Partners in Climate Action: A Clean Energy Agenda, was held on June 17, 2021. The speakers at the webinar were Dr Jessica Seddon and Prof. Damodaran.

Dr. Jessica Seddon is Global Lead for Air Quality at the World Resources Institute. She is a non-resident Fellow at the Centre for Strategic and International Studies (CSIS) and a visiting research scholar at the Chadha Centre for Global India at Princeton and at the Princeton Environmental Institute. She founded and served as the managing director for Okapi, an India based strategy group focused on institutional design for social innovation.

Prof. Damodaran is a professor for Economic and Social Sciences at the Indian Institute of Management (IIM) Bangalore. He led the initiative on biodiversity financing with the United Nations Convention on Biodiversity in 2011 which has now morphed into the UNDP driven BIO-FIN project. Since 2015, he is the Chairperson of the Indian Government's technical advisory committee on BIO-FIN. He was a part of India's delegation to COP11 as well.

The discussion was moderated by Mr. R Edsley Neeson Daniel. He is a Research Fellow for urban mobility and climate change with CPPR. Formerly working with the C40, Cities Climate Leadership Group, he was instrumental in creating a greenhouse gas inventory for multiple Indian cities and also for making Chennai commit to net neutrality by 2050.

The discussions at the webinar were synthesised into this issue brief by Purvaja Modak, Research Fellow, International Relations – Geoeconomics at CPPR, with assistance from Namita Sharma and Juhi Jain, International Relations Interns at CPPR.

Introduction

Today, we are more aware of the impacts of global warming and climate change on our lives and our future. We witness the impact in the form of extreme weather events and natural disasters - from heavy rainfall, floods and droughts to an increased frequency of cyclones. In recent years, the devastating impact of climate change has reached catastrophic levels. The economic loss due to climate change alone is expected to touch anywhere between 4-18 percent of the GDP, depending on which part of the globe one is in and how much of the Paris Climate agreement targets have been met. Faster and greater carbon reduction is the need of the hour. Innovative inventions are more crucial today than ever.

Increasing instances of monsoon disruptions, floods and the high dependence of agriculture on rain, paint a dismal picture every year. Rising sea levels are also another cause of concern, which if not attended to immediately, will lead to many cities getting fully submerged in water in the coming years. Places like New York, Chennai, and Mumbai are particularly prone to such environmental disasters.

At COP 21 on December 12, 2015 in Paris, 197 countries, including the US and India, adopted the Paris Climate Agreement, a legally binding international treaty on climate change pledging to limit global warming to below 2 degrees Celsius, preferably to 1.5 degrees Celsius compared to pre-industrial levels. To achieve this goal, countries aim to reach the global peaking of greenhouse gas emissions as soon as possible to achieve a carbon neutral world by 2050. The US and India are among the world's top 5 greenhouse gas emitting countries and so they have a mutual interest in achieving the goals of the Paris Climate Agreement.

Reducing greenhouse gas emissions means investing in renewable energy and phasing out coal. Investments in renewable energy yield economic benefits as well. The global renewable energy market is projected to exceed \$2 trillion by 2025 and the countries that take decisive action now, to create the industries of the future will be the ones that reap economic benefits of the clean energy revolution.

Thus, both countries must align their individual goals to tackle climate change and pursue a clean energy agenda, giving them an opportunity to strengthen their bilateral cooperation for a better future for all.

But the solutions to environmental concerns, global warming and climate change cannot be realised by governments alone. To be successful and sustainable, global efforts require partnerships between governments, businesses, civil society organisations and individuals.

The U.S. administration's commitment to climate action

Addressing the climate crisis is central to U.S. foreign policy today. It is also central to the national security of the United States and other countries around the world, including India.

On January 20th, 2021, during his first day in office, U.S. President Joe Biden signed an executive order on behalf of the United States to re-join the Paris Climate Agreement after having withdrawn from it under the previous administration.

In signing the 'Tackling the Climate Crisis at Home and Abroad Executive Order' President Biden directed his administration to:

- a) Ensure federal infrastructure investment that reduces pollution;
- b) Promote ending fossil fuel subsidies;
- c) Encourage new opportunities for innovation, commercialisation and deployment of clean energy technologies in infrastructure;
- e) Pass new oil and gas leasing on public land and offshore waters;
- f) Establish a goal of doubling offshore wind power by 2030; and Develop a comprehensive federal clean energy and zero emission vehicle procurement strategy and ensures that every government agency makes addressing climate change a top priority.

On January 27th, while signing the executive order, President Biden said: *"We can't wait any longer. We see it with our own eyes, we feel it, we know it in our bones and it is time to act."*

On that occasion, emphasising the need for action, John Kerry, the first US Special Presidential Envoy for Climate said: *"The stakes for climate change just simply couldn't be any higher than they are right now. The world will measure us for what we can do here, at home."*

On Earth Day in April 2021, President Biden invited 40 world leaders to participate in the 2021 Leaders' Climate Summit, urging them to announce and outline their plans to achieve their nation's climate ambitions. Other than those of major economies, leaders of countries that have demonstrated strong climate leadership or are especially vulnerable to climate impacts or are charting innovative pathways to net zero economy, were also invited to the summit. The summit was held in the lead up to the UN Climate Change Conference, COP26 to be held in November 2021 in Glasgow, Scotland.

Nations accounting for half of the world's economy have now committed to the emissions reduction targets set by the Paris Climate Agreement. Addressing the climate crisis is both an imperative and an opportunity to speed up economic recovery, build a more sustainable future, contribute to job creation and promote resilience to a changing climate. To enshrine this commitment, the United States, at the April 2021 Climate Summit admitted a new Nationally Determined Contribution, or NDC, under the Paris Agreement, setting an economy-wide target of reducing its net greenhouse gas emissions by 50-52% percent below 2005 levels by 2030.

U.S. India Climate and Clean Energy Agenda 2030 Partnership

Emphasising the importance of international partnership on climate change during an April 2021 speech in Minneapolis, Maryland, US Secretary of State Antony Blinken said: “The United States is responsible for 15% of global carbon emissions and plans to lead by example in reducing them.” The US Government has expressed its willingness to work with India and other countries around the world to curb the remaining 85% of global carbon emissions through diplomatic initiatives and public private partnerships.

The US government reiterated its target of achieving 45 Gigawatts of renewable energy by 2030 and launched the ‘US India Climate and Clean Energy Agenda 2030 Partnership’ in April 2021. Led by US President Biden and Indian Prime Minister Modi, the partnership will:

- a) Mobilise finance and speed clean energy development;
- b) Demonstrate and scale innovative clean technologies needed to decarbonise sectors, including industry, transportation, power and buildings; and
- d) Build capacity to measure, manage and adapt to the risks of climate related impacts.

In the United States, solar and wind technologies are already among the fastest growing job sectors. The US private sector is now prepared to equip other partner countries like India with the same technology. Through this collaboration, the United States and India aim to demonstrate how the world can align climate action with inclusive and resilient economic development taking into account one’s national circumstances and sustainable development priorities.

US and India Partnership in Climate Action to Create a Clean Energy Agenda: Ideas for the Biden administration

To kickstart the ‘US India Climate and Clean Energy Agenda 2030 Partnership’, India and the US must work together to reform the energy sector and re-evaluate the way we use energy in our day to day lives - as a source of electricity and also for daily activities like cooking, heating, lighting, travelling, using liquid energy. So far, we have been using fossil fuels to carry out the above-mentioned activities.

An interesting and daunting fact to note is that 1 out of 5 deaths worldwide is attributed to particulate matter, a kind of air pollution that stems from fossil fuels. The harmful components of fossil fuels and their impact on the health and crop productivity call for a realistic and economical transition from fossil fuels to renewable energy to conduct our daily chores. Such energy transitions must be the first step in any climate action efforts since we will not be able to achieve our sustainable development goals without changing our strategies in the energy

Before such transitions are made, the two countries must acknowledge that they have had very **different energy histories**. Historically and even now, India’s energy consumption patterns are different from those of the United States. India is the world’s third-largest energy consumer and has around one third of the world’s per capita energy usage. According to the International Energy Agency’s 2021 report, that is around 10% of U.S. per capita energy usage. Thus, the bilateral energy partnership will have to acknowledge this fact before setting realistic energy transition goals and crafting mutually workable transition strategies.

The **geopolitics of energy security** plays a crucial role in the crafting of an energy partnership between two countries. The US and India must acknowledge their positions and roles in the global energy market as they develop this partnership. Also in the current times, while climate change affects the whole world, the advent of the COVID-19 pandemic, its disproportionate impact globally, post-COVID economic recovery prospects and the possibility of having to live alongside the virus throws up daunting realities that will affect existing and upcoming global partnerships. The US and India must rebuild their economies in ways that are more inclusive, equitable and more in line with these existing global realities.

Also, **the digital revolution and its implications on the energy sector**, mainly on energy efficiency and better grid management, must be factored in when a realistic energy partnership is being discussed. The two countries have a joint interest in harnessing the digital revolution to develop its renewable energy sector in its attempt to tackle climate change.

Thus, India and the United States must acknowledge each other's energy histories, the current geostrategic scenario and the existing geopolitics of energy and new technologies in the digital space, to realise a common vision for a cleaner world.

The two countries can explore collaborations in the following areas to craft out a clean energy partnership under the Biden administration:

1. Developing secure energy technologies along the entire supply chain – from production to storage to distribution

It is currently cheap and convenient to generate solar energy in India and well as the US. However, the raw materials used along the entire solar supply chain come from other countries. For example, a large amount of the PV grade polysilicon used in solar panels is sourced from China. In today's geopolitical scenario, it is important to find ways to make solar energy accessible, inexpensive and secure by diversifying the source and quality of the raw materials used. Thus, the two countries must work towards building manufacturing and innovation capabilities domestically and also source minerals from different parts of the world so that the solar renewables supply chain will be more secure. This requires commercialising scientific research, encouraging applied research and innovations in the solar energy space and accelerating their conversion into commercial opportunities.

2. Exploring collaborations between regulatory bodies in the two countries

The United States and India both have a fully federal electricity system with state level and national level regulators. However, energy is a subject on the concurrent list. Thus, any reform of the sector including the introduction of innovations, will require the state and national regulators to work in tandem. This often poses an enormous coordination challenge in countries that have a large number of states, such as India and the United States. Thus, the two countries must explore ways in which renewable forms of energy can be regulated better, energy production and storage can be organised better and best practices and lessons learnt can be shared in an effective manner.

There are a few initiatives under way to enable this. The Regulatory Assistance Project (RAP), initiated to accelerate the transition to a clean, reliable, and efficient energy future, pairs state regulators in the two countries to understand the following:

- how to price energy technologies;
- how to dispatch energy;
- how to encourage additional investments in distribution grids; and
- how utilities with complex and often politicised financing can be transitioned into carriers of electricity for a vibrant market.

There is enormous potential for joint research and learning on such issues. In fact, the Centre for Strategic and International Studies (CSIS) supports a partnership between the Indian state of Tamil Nadu and the U.S. state of Massachusetts. Such partnerships must be encouraged and facilitated.

3. Safeguarding biodiversity while planning a renewable energy project

Global energy programs today are unfortunately very land intensive. While they are celebrated to be energy efficient, they must also safeguard biodiversity. Countries must focus their efforts on building infrastructure that is less land consuming and forest consuming. For instance, when a renewable energy project is being planned, the use of land and forest resources to create the distribution system, distributed power storage mechanisms and distributed power generation techniques etc should be examined and economised. The US and India must work together to ensure that the programs planned as part of the clean energy partnership are not causing any harm to forests and biodiversity.

In fact, the Forest Conservation Act of India (1980) clearly states that not even one square kilometre of forest can be used for non-forestry related activities, even if they are related to generating renewable energy. Thus, instead of using up large areas of land to create power generation and distribution infrastructure for renewable energy, a more centralized approach to power generation and distribution must be adopted.

4. Collaborating to build sustainable infrastructure using energy efficient raw materials

In India, a large part of carbon dioxide emissions come from the construction industry. There is a need to evaluate the possibility of building infrastructure without using traditional raw materials like steel and cement. There is potential for technical collaborations and partnerships between India and the US to develop energy efficient raw materials. To benefit from such collaborations, both countries must share their experiences, practices, technical expertise and future plans for developing such sustainable infrastructure.

Transport is the third largest source of carbon dioxide emissions in India. India and the US are exploring ways to make their transport sector more energy efficient. Discussions in both countries are currently focussed on how trains, inland waterways, etc can run on renewable energy more effectively. India is introducing electric vehicles and discussing the use of hydrogen as fuel at the moment. India has also announced the National Hydrogen Mission in the 2020-21 budget. India must leverage the US' competence in this area.

The US can learn from India's centuries old experience of designing buildings that remain cool without using much electricity. Joint collaborations on green buildings and passive cooling techniques must be explored.

5. Using alternative raw materials to create a clean supply chain

At times, in the pursuit to create renewable energy, it is important to evaluate the environmental costs of the raw materials that are being used and to understand how clean the supply chain of renewable energy actually is. Unless the whole supply chain is green, it will not be fair to say that the transition to net zero emissions has been successful. To ensure a clean supply chain for renewable energy, scientists and climate specialists are researching the use of alternative raw materials that are less taxing on the environment.

Ideally, climate change conventions that take up matters on climate governance, must look into these issues. Unfortunately, such issues are included in national environmental laws in mineral rich countries in Africa, Asia and South America and are not viewed as a global climate change concern. Thus, these are actually considered to be beyond the scope of climate change conventions and must be addressed by the heads of state at the level of the G7 or G20. The US and India can lead discussions at the G7 or G20 on how the supply chain for renewable energy can be cleaned up.

6. Improving the governance structure to ensure a louder voice for cities in the climate change discourse

The US and India both have a three-tiered governance structure – the nation, the state and the city. The national government has the money, the state has the power and the city faces the problem. Thus, all three stakeholders are equally vested in participating in any climate related effort. The US and India must share best practices and experiences that they both encounter at these different levels. The two countries must use their cities to push climate related issues upwards and influence policies at state and national levels. Cities, today are unfortunately just observers in international discussions and not parties involved in driving these discussions. This must change. There have been several initiatives to broaden the role of cities in the global discourse but none of them have succeeded. The challenge lies in creating and aggregating the willingness and intention in the higher levels of government to deal with local environmental challenges.

Cities and local governments need to have a say in the way states manage environmental concerns, how they invest in building climate resilience and how national schemes and programs are formulated. This will not just have economic and social benefits but will ease overall environmental governance.

7. Easing the transition to a low carbon pathway in a post-COVID-19 pandemic world when the focus will primarily be on rebuilding economies

In a post-COVID-19 pandemic world, as countries focus on rebuilding their economies, it will be difficult for emerging economies to invest in clean energy unless there is a tested roadmap on how low carbon investments will materialise and reap returns. The post-COVID-19 era should see a quicker transition from fossil fuels to renewables than what was previously planned. There should be a global consortium of all the leading companies of the world that will conduct joint R&D on the critical technologies that will enable such transitions. A multilateral funding mechanism must be in place to back this effort.

To make informed progress in the above-mentioned areas, the two countries must take some immediate steps:

- a) Respect and acknowledge their shared and individual histories in the energy sector;
- b) Recognise shared problems and mutual lessons;
- c) Pool these lessons for joint benefit and focus on a transition from coal to clean energy as a first step;
- d) Ensure that their carbon markets are well prepared for this transition to clean energy;
- e) Collaborate to introduce climate related reforms to global capital markets by encouraging central banks to enforce climate targets and create efficient carbon markets; and
- f) Use monetary policy interventions to push the climate change agenda.

These are some areas that the U.S. and India can explore to further their clean energy agenda and become climate leaders in the lead up to COP26 in Glasgow, Scotland.



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