Green Flag to Green Points
- Sugandh Priya Ojha

Prime Minister Narendra Modi’s major initiatives for climate change mitigation - A brief report on emergence of India from 3rd largest emitter to frontrunner in fight against climate change.

Dr. Syama Prasad Mookerjee Research Foundation
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Executive Summary

Environment has been the agenda of world politics recently, since the scientists discovered the fatal global warming and climate change phenomenon. The international agreements and efforts have made all the countries to necessarily take steps to counter climate change and adopt green methods to clean up the environment.

However, environmental protection and sustainability has been the agenda of India since thousands of years. India, a culturally rich country, has always worshipped trees, rivers, mountains, and talked about peaceful co-existence. We worship our holy river as ‘Ganga Maa’, trees like Peepal, banana, are considered god. In the US, the Center for the Study of World Religions (CSWR) at Harvard University held a series of conferences (1996-1998) on environmental ethical themes of the three major traditions originating from India: Buddhism, Hinduism, and Jainism. Harvard University Press also published volumes on these traditions in early 2000s. Indian philosophy of Panch-Mahabhutas explains that the Five Great Elements - Earth, Air, Space, Water and Fire (Energy) are interconnected, interdependent and form the web of life. The human nose is related to earth, tongue to water, Eyes to fire, skin to air and ears to space. The relationship establishes the fact that people need to give them the same importance as they give to their sensory organs.

Hindu sages realised the importance of the forest / trees for reducing pollution and therefore people were advised not to cut trees or destroy forests: Tear not up by the roots the Kakkambira tree: destroy thou all malignity (The Rigveda 06.48.17). Also in Charak-Samhita it is stated that the destruction of the forest is equivalent to destruction of the state and conversely the reforestation is an act of rebuilding the State and advancing its welfare.

“A person, who is engaged in killing creatures, polluting wells, and ponds and tanks, and destroying gardens, certainly goes to hell” (Padmapurana, Bhoomikhananda 96.7-8, cited at http://www.hinduwisdom.info/Nature_Worship.htm, Page 1).

Thus, India has a rich culture of environmental ethics and philosophies. India has always supported the idea of ‘common but differentiated responsibilities’ since 1992 Rio Earth Summit. Our environmental laws and policies are still in making since then, and we are developing year by year or say every another month in Modi regime. Environment is a very crucial issue which should be addressed immediately to lower the effects of hazardous climatic conditions.

“Sustainability is ultimately a moral issue since it involves protection of interests of our future generations.”

- Shri Narendra Modi

(In his book Convenient Action)
The charismatic leader Mr. Narendra Modi who has got the maximum support of people comenced his prime ministerial tenure with reforming and amending the departments of the ministry.

A major step which convinced many environmentalists was to change the name of Ministry of Environment and Forest to Ministry of Environment, Forests and Climate Change.

➢ The addition itself suggests the awareness of the government to fight and mitigate climate change. Narendra Modi is also an author of a book on climate change Convenient Action: Gujarat’s Response to Challenges of Climate Change, which was released in CoP21 summit at Paris in 2015.

The next big jump of the Modi government was to adopt Sustainable Development Goals (SDGs) which was continuum of Millennium Development Goals. SDGs came in September 2015.

➢ The 17 Sustainable Development Goals signed by India and other countries at the Sustainable Development Summit of the United Nations in September 2015 promises agenda 2030.

➢ The goals are:

- Goal 1. End poverty in all its forms everywhere
- Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5. Achieve gender equality and empower all women and girls
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 10. Reduce inequality within and among countries
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12. Ensure sustainable consumption and production patterns
- Goal 13. Take urgent action to combat climate change and its impacts
- Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development
Steps taken so far by Shri Modi—

The government has taken many initiatives to achieve these targets. Some of the recent noteworthy initiatives of the government worth mentioning are the Digital India campaign (focused on providing e-governance solutions for citizen-centric projects), the Pragati platform (which is an IT-based redressal and monitoring system), and the Right to Information legislation. In this regard, the NITI Aayog has identified three Centrally-Sponsored Schemes (CSS) that would be monitored to ensure effective implementation of SDG 16. These include: Panchayat Yuva Krida aur Khel Abhiyan (PYKKA), Development of Infrastructure Facilities for Judiciary including Gram Nyayalayas (for setting up a new tier of courts – the Gram Nyayalayas - providing quick and inexpensive access to justice to citizens) and the Integrated Child Protection Scheme. Beti Bachao Beti Padhao initiative to educate and save girl child is a pathway to achieve inclusive, equitable and quality education & gender equality (goal 4). Swach Bharat Abhiyan is progressively working on sanitation (goal 6).

“We are committed to a sustainable path to prosperity. It comes from the natural instinct of our tradition and culture. But, it is also rooted firmly in our commitment to the future.”

— Shri Narendra Modi (at UN Summit)

The very next year after swearing in as Prime Minister, Shri Narendra Modi took vows to cut greenhouse gas emissions at United Nations Conference in Paris where over 150 world leaders had gathered in a bid to nail down a pact to limit global warming amid deep divisions between rich and poor countries. Mr. Modi took a firm stand for India and other developing nations by asking developed nations to take the responsibilities of the global warming. Mr. Modi said “Climate change is a major global challenge. But it is not of our making. It is the result of global warming that came from prosperity and progress of an industrial age powered by fossil fuel, but we in India face consequences. We see the risk to our farmers. We are concerned about rising oceans that threaten our 7,500 km of coastline and 1,300 islands. We worry about the glaciers that feed our rivers and nurture our civilisation.” He added India wants a “comprehensive, equitable and durable agreement”. The manner in which Mr. Modi asked the developed nations to take the charge, as they are the most responsible for the recent rise in temperature, strengthened our stand, and slammed the western criticism of India on the issues of emissions cut. “We assume advanced nations will take ambitious targets. It’s not a question of historical responsibility. They also have room for emission cuts. Climate justice demands with lethal carbon space, developing countries must have enough room to grow” — final statement by the leader made western nations to re-think the clauses of the agreement and make it friendlier for the developing nations.

An agreement was made at Paris, hence the name Paris Agreement within UNFCCC - United Nations Framework Convention on Climate Change. At the 21st Conference of the Parties of the UNFCCC in Paris, 196 countries negotiated the agreement. On 12th December, 2015 the agreement was adopted by consensus, as of August 2017, 195 UNFCCC members have signed it and 195 ratified the agreement.

What is Paris Agreement?

The Paris Agreement builds upon the Convention and — for the first time — brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement’s central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the
most vulnerable countries, in line with their own national objectives NDCs—Nationally Determined Contributions. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

**What are NDCs?**

The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts.

**What are India’s major plans?**

- India has ensured that the greenhouse gas emission from one unit of GDP in 2030 is at least one third lesser than what it used to be in 2005.
- India intends to produce about 40 per cent of its electricity in 2030 from “non-fossil fuel based sources” like solar, wind or hydropower.
- India is also keenly interested in electric vehicles, exploring options to fully electrify vehicles by 2032. It’s a radical idea, with a lot of challenges, and is not an official government goal (yet). But the excitement and interest in clean innovation is palpable.

**Reduce emission intensity by 33 to 35 per cent by 2030 compared to 2005 levels by**

- Introducing new, more efficient and cleaner technologies in thermal power generation.
- Reducing emissions from transportation sector.
- Promoting energy efficiency, mainly in industry, transportation, buildings and appliances
- Developing climate resilient infrastructure
- Pursue Zero Effect, Zero Defect policy under Make in India programme.

**Produce 40 per cent of electricity from non-fossil fuel based energy resources by 2030, if international community helps with technology transfer and low cost finance by**

- Installing 175 GW of solar, wind and biomass electricity by 2022, and scale up further in following years.
- Aggressively pursuing development of hydropower.
- Achieving the target of 63 GW of installed nuclear power capacity by 2032

**Create an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent by 2030 through additional forest and tree cover by**

- Full implementation of Green India Mission and other programmes of afforestation.
- Developing 140,000 km long tree line on both sides of national highways.

**Develop robust adaptation strategies for agriculture, water and health sectors by**

- Active implementation of ongoing programmes like National Initiative on Climate Resilient Agriculture, setting up of 100 mobile soil-testing laboratories, distribution of soil health cards to farmers.
- Additional impetus on watershed development through Neeranchal scheme
- Effective implementation of National Mission on Clean Ganga
- Early formulation and implementation of National Health Mission
- Complete Integrated Coastal Zone Management plan. Mapping and demarcation of coastal hazard lines.
Cost Involved

- At least USD 2.5 trillion (at current prices) required between now and 2030 to implement all planned actions.
- USD 206 million required for adaptation actions. Much more needed for strengthening resilience and disaster management.
- About USD 834 billion, at 2011 prices, required for mitigation actions till 2030.
- A total of INR 834 billion collected through cess on coal production. Being used for funding clean energy projects.
- National Adaptation Fund has been created with initial allocation of Rs 3500 million.
- Tax free infrastructure bonds of INR 50 billion being introduced for funding renewable energy projects.

What India has done so far?

- The progress in emission intensity reductions thus far has been enabled mostly by energy efficiency measures, like the shift, first, to CFL bulbs, and then, to LED lights- UJALA program.
- The cabinet has already approved a proposed legislation to manage a huge afforestation fund that is built using money that companies are charged as compensation if they set up projects on forest land.
- Delhi Metro has become the world’s first such system to follow all green building norms for 10 of its residential colonies. A pilot project, of 500 kWp rooftop grid connected Solar PV Project will be installed at one of the identified rooftops of the Delhi Metro Stations. Delhi Metro Rail Corporation (DMRC) has installed nine new solar power generation facilities. These solar power plants with a total generation capacity of 1,660.4 kWp, have been installed under RESCO (Renewable Energy Supply Company) Model, wherein the capital cost has been invested by the Solar Developer.
- The cess on coal production has been increased from Rs 200 per tonne to Rs 400 per tonne with the new budget and Clean Energy Cess would be renamed as Clean Environment Cess. This increase would limit the use of one of the great emitters of carbon. An estimate says it would contribute about Rs 15,000 crore to National Clean Energy Fund (NCEF) every year.

It’s a big step for a country like India where majority of the population are still poor and coal dominates the India’s power supply. Considering our per capita income and population, Mr. Modi has made a tough decision which would strengthen India’s pledge to save the environment at world forum.

- Solar power tariffs in India have reached record lows recently, dropping 25 percent in just three months to reach 1¢/kWh to 5.6¢/kWh in recent auctions. While these rock-bottom prices may not be sustainable in the near term (or desirable), they are a clear indication of which way the market is headed
- The Draft Energy Plan concluded that no new coal-fired power plants would be needed through 2027, beyond the 50 GW currently under construction. In fact, just last month India cancelled nearly 14 GW of proposed coal-fired power plants, and found that 8.6 GW of existing coal-fired power plants may no longer be economically viable.
- India is adding 50 percent more solar and wind than the U.S. currently has installed. It is replacing 210 million street and household lights with energy-saving and long-lasting LEDs and bringing electric access for the first time to tens of thousands of poor rural villages.
"India is the poster boy for clean energy... showing this is not a burden, just the opposite," said Vivien Foster, an energy economist at the World Bank. “It’s a great opportunity.”

Mr. Modi astonished many by announcing India would add 160 gigawatts (GW) of wind and solar by 2022 to the existing 26 GW. The U.S. currently has just over 100 GW in total. One GW can power 100 million LED lightbulbs used in homes. Two of the Indian states are considering 100% renewable energy which is remarkable.

"India’s energy revolution may soon transform the country but it is also creating “solutions that other countries across the world can replicate and use to support their own sustainable energy transition,” said Rachel Kyte, CEO for Sustainable Energy for All and Special Representative of the UN Secretary-General."

"What’s happening with solar in India gives hope for the future, as the costs of solar continue to fall India has a real opportunity to become a world leader in the transition to a clean, 21st century energy system.”– Alasdair Cameron from Friends of the Earth."
Bilateral Cooperation

Ministry of Environment, Forests & Climate Change has entered into bilateral cooperation agreements with a number of countries such as Norway, Sweden, France, Finland, Canada, Bangladesh, etc. Most of these agreements are operated through the Joint Working Groups. These agreements provide a mechanism for interaction and consultation in the field of environment.

The main activities undertaken in recent times:

1. 2nd Indo-German Environment Forum convened on 28-29 January, 2015 at New Delhi. The theme of the Forum was Solutions for Waste and Water Management, Resource Efficiency and Sustainable Urban Development. A number of official and business dignitaries in the respective fields participated and exchanged views and explored opportunities for further cooperation.

2. On the sidelines of the 2nd Indo-German Environment Forum, Shri Prakash Javadekar, Hon’ble Minister of State (Independent Charge), Environment, Forest and Climate Change held bilateral meeting with Dr. Barbara Hendricks, German Federal Minister of Environment, Nature Conservation, Building and Nuclear Safety on 27th January, 2015. During the meeting environmental and climate change issues of mutual interest between the two countries were discussed. As a follow-up of this discussion, two Indo-German Working Groups on (i) Waste Management & Circular Economy; and (ii) Water, have been constituted.

3. On the sidelines of the Delhi Sustainable Development Summit, 2015 (DSDS), Shri Prakash Javadekar, Hon’ble Minister of State (Independent Charge), Environment, Forest and Climate Change held bilateral meetings with Ministers / Member of Parliaments / high level officials from the following countries:

- Mongolia (Mrs. S. Oyun, Member of Mongolian Parliament and Former Minister of Environment and Green Development),
- Mauritius (Mr. Jayeshwur Raj Dayal, Minister of Environment, National Emergency and Beach Authority, Republic of Mauritius),
- Poland (Mr. Maciej H. Grabowski, Minister of Environment, Republic of Poland),
- Mexico (Dr. Juan Jose Guerra Abud, Minister of Environment and Natural Resources, Mexico),
- Malta (Dr. Leo Brincat, Minister for Sustainable Development, Environment and Climate Change, Malta),
- Norway (Mr. Lars Andreas Lunde, Deputy Minister of Climate and Environment, Norway),
- Russia (Mr. Sergey Efimovich Donskoi, Minister for Natural Resources and Ecology, Russia),
- France (Mr. Laurent Fabius, Minister for Foreign Affairs and International Development, France),
- Australia (Mr. Kevin Rudd, Former Prime Minister of Australia),
- Maldives (Mr. Maumoon Abdul Gayoom, Former President of Maldives).

During the bilateral meetings, Hon’ble Minister informed the delegates about the new initiatives taken by the Indian Government under the leadership of Hon’ble Prime Minister, Shri Narendra Modi, especially in the field of environment and sustainable development. The existing bilateral cooperation in different areas of environment as well as
opportunities for future cooperation/collaboration was discussed.

4. 7th India-European Union Environment Forum convened on 25th February, 2015 at New Delhi. The Forum provided an opportunity to address the challenges and to discuss resource efficiency in the context of a Circular Economy with a specific focus on waste management. Participants engaged in an active and open debate on practices and opportunities offered by better Resource Efficiency and the role of business, civil society and public authorities in making that happen.

5. A bilateral meeting took place between Shri Prakash Javadekar, Hon’ble Minister of State (Independent Charge), Environment, Forest and Climate Change and Mr. Greg Hunt, Hon’ble Minister for Environment, Australia on 12th March, 2015 wherein issues related to climate change, wildlife, great barrier reef and possibility of having a MoU on Environment were discussed.
It is surprising to note that India was already a leader in clean energy, the most important technology of the future. Indian government doesn’t brag about its achievements, with its 1.3 billion people, nearly 300 million of whom do not have access to electricity and where the average income is $1,600 a year, India is emerging from the 3rd largest emitter to a frontrunner in the climate change mitigation race. India is already doing all of this faster than anyone believed possible. India was committed to using coal to develop its economy, just as China had done 25 years ago. But now Mr. Modi is trying to hitch India’s future to 21st century technologies.

The energy savings from replacing 770 million household and street lights will slash emissions of climate-heating CO₂ by nearly 80 million tonnes annually. India has severe power demand supply gap, especially from past two decades. India derives most of its energy from fossil fuels such as coal, natural gas and oil where coal is dominant fuel. But now India is vehemently moving towards solar energy and other renewable energies. Many such facts presented above show the willingness and preparedness of the current government to tackle climate change process.

The world is counting on India and Mr. Modi has made his stand stronger by standing with the developing nations and holding the developed countries responsible for the present situation. Though, he strongly made western nations responsible for the carbon emission, he took his duty seriously by adhering to the environmental ethics of traditional India, leading the path of clean energy. The leaders and scholars across the world see India as a potential world leader for clean energy in 21st century.

The bilateral agreements and major support given to Paris Accord post American President Donald Trump’s withdrawal from the agreement has proved Indian government’s intentions at the world forum. Apart from these initiatives for cleaner and greener future, India has also initiated exercising Blue Economy which is an affordable & sustainable approach for a better tomorrow. These approaches and a major shift from using coal to looking towards ocean based resources are shaping a stronger green policy of India making it a guide for others to follow and replicate.

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“The gigantic task of reconstruction, cultural, social, economic and political can be rendered possible thought coordinated efforts of bands of trained and disciplined efforts of bands of trained and disciplined Indians. Armed with the knowledge of Indian’s past glory and greatness, her strength and weakness, it is they who can place before their country a programme of work, which while loyal to the fundamental traditions of India civilisation will be adapted to the changing conditions of the modern world.”

- Dr. Syama Prasad Mookerjee
Convocation Address delivered at Gurukul Kangri Viswavidyalaya, Haridwar, 1943