



Background

- **1997** Kyoto Protocol- Annex I Parties commit to take binding reduction targets
- **2007 Bali COP:** Introduction of Nationally Appropriate Mitigation Actions (NAMA), to engage developing countries in voluntary mitigation effort
- **2009- 2010 (Copenhagen & Cancun COP):** comprehensive international system for collective action and major developing countries (including India) announced voluntary mitigation pledges
- **2011 Durban COP:** ADP launched for evolving a new agreement for post-2020 period
- **Warsaw & Lima COP :** INDC concept for all countries
- **Gradually Developing countries have assumed greater responsibilities**

INDC Mandate

19th COP in Warsaw (2013)

- All countries required to prepare INDCs and present them before COP 21 in Paris

20th COP in Lima (2014)

- Further clarity on form of INDC: not mitigation centric and can include other components as per country priorities

Climate Change History

- Historical Emissions since 1880 has resulted in rise in global temperature by 0.85° Celsius
- **Historical carbon space occupied by various countries in 2009 (1850 as base year):**
 - **USA:** 29%
 - **Other Developed countries:** 45%
 - **China:** 10%
 - **Other Emerging Economies:** 9%
 - **India:** 3%
- **India, even though not part of problem, wants to be part of solution.**

Emissions by Countries (2012)

Country	CO ₂ Emissions per year (billion tons)	%age Share in Global Annual Emissions	CO ₂ Emissions per capita (tons/person)
World	34.5	100%	4.9
China	9.86	28.6%	7.1
United States	5.19	15.1%	16.4
European Union	3.74	10.9%	7.4
India	1.97	5.7%	1.6
Russia	1.77	5.1%	12.4
Japan	1.32	3.8%	10.4

National Circumstances & Challenges

- **India:** 2.4% of world surface area
17.5% of world's human population
17.5% of world's cattle population
- **Poverty:** 30% of the population lives in poverty
- **Housing :** 20% of population without proper housing
- **Electricity:** 25% without electricity
Per capita consumption 1 / 10th of developed world
- **Drinking Water:** 92 million without safe drinking water
- **Human Development Index:** 0.586
Global rank of 135
- India's priority: **Poverty eradication**
Sustainable growth

Process for Developing INDC

- Multiple consultations with Ministries, Niti Aayog, State governments, Industry Associations, Civil Society Groups, Academic Institutions and Think tanks
- Consultations with members of PM Council on Climate Change
- Prime Minister level consultation with Ministers
 - Based on existing & contemplated plans, policies & programs
 - National & State Action Plans for Climate Change lay the foundation
 - Planning ahead over a 15year frame— instead of 5 year
 - **Interests of farmers and poor protected**

Leadership of Hon'ble Prime Minister of India

- Guided the process of formulating India's INDC
- Ambitious target for renewable & electricity to all:
 - **175 GW** Renewable energy target by 2022
 - 100 GW of Solar, 60 GW of Wind, 10 GW of biomass and 5 GW of small hydel
- *Swachh Bharat Mission, Cleaning of rivers, Zero Effect Zero Defect, Make in India, Smart Cities Mission, Housing for all*
- Laid emphasis on: **Sustainable Development**
Climate Justice
Lifestyles

Current Climate Change Pledge

- **Current voluntary pledge by India:**
 - 20-25% reduction in **Emission intensity of GDP** by 2020 compared to 2005 levels
 - Achievement : **12% reduction** between 2005 and 2010 (estimate)
 - India is confident of achieving this pledge
- UNEP Emission Gap Report 2014 recognized India as achiever of voluntary goal

India's INDCs

- Comprehensive and balanced: includes Adaptation, Mitigation, requirement for Finance, Technology transfer, Capacity Building
- Considers rapid growth till 2030
- For a population of about 1.5 billion, with 40% living in urban areas
- Incorporates development priorities such as:
 - Electricity for all
 - Housing for all
 - Poverty eradication
 - Infrastructure for Education & Health for all
 - Make in India
 - Infrastructure development

Reduce Emission Intensity of GDP

- Goal: *To Reduce the emissions intensity of its GDP*
By 33 - 35% by 2030 from 2005 level.
75% jump in ambition over 2020
- **Avoided emissions:**
3.59 billion tonne of CO₂ equivalent over BAU
- Our national plans ambitious and purposeful:
 - Thrust on Renewable Energy and Promotion of Clean Energy; Enhancing Energy Efficiency
 - Climate Resilient Urban Centres and Sustainable Green transportation Network
 - Swachh Bharat Mission, Cleaning of rivers, Zero Effect Zero Defect, Make in India

High Economic growth possible with low per capita emissions

India's Per capita emissions in 2030:
remain lower than
the current global average of Developed Nations -
8.98 metric tonnes of CO₂ equivalent

Increase the Share of Non Fossil Fuel Based Electricity

- Goal:
 - To achieve 40% of electric power installed capacity from non-fossil fuel by 2030
 - A jump of 33% over non-fossil fuel capacity of 2015
- India running one of the largest renewable capacity expansion programs in world
- The 175 GW target by 2022 will result in abatement of 326 million tons of CO₂ equivalent/year. More progress after 2022.
- To include wind power, solar, hydropower, biomass, waste to energy and nuclear power.

Increase the Share of Non Fossil Fuel Based Electricity

- Solarization of all petrol pumps, toll plazas across country
- Ongoing scheme for development of
 - 25 Solar Parks
 - Ultra Mega Solar Power Projects
 - Canal top solar projects
 - One hundred thousand solar pumps for farmers
- India to anchor a **global solar alliance**
- New missions on wind energy and waste to energy
- Green Energy Corridor projects being rolled out to ensure evacuation from renewable energy plants

Enhancing Forests Carbon Sink

- Goal:

To Create additional carbon sink of 2.5 -3 billion tonnes of CO₂ equivalent through additional forest and tree cover (increase of about 680 - 817 million tonne of carbon stock)

- Emphasis on India's Plans to enhance its carbon sink:

- Full implementation of Green India Mission
- Launched Green Highways Policy: 140,000 km long “tree-line” along both sides of national highways. 1% of project cost to be earmarked for plantation
- Plantation along Rivers: part of the Namami Gange Mission

Cont...

Enhancing Forests Carbon Sink

- Finance Commission (FC) Incentive for creation of carbon sink: devolution of funds to states from federal pool (attaches 7.5 % weight to area under forest).
- Reduction in consumption of wood/ biomass as fuel
- Funds from Compensatory Afforestation Fund Management and Planning Authority (CAMPA): USD 6 billion proposed to be given to States
- Other Policies including:
 - REDD-plus
 - National Agro-forestry Policy (NAP)
 - Joint Forest Management
 - National Afforestation Programme

Adaptation Component

- Goal:

To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health and disaster management

- High vulnerability of India to climate change impacts due to poverty & dependence of a large population on climate sensitive sectors for livelihood.

Cont...

Adaptation Component

- Strategies and initiatives include actions in agriculture, water, health, coastal region & islands, disaster management, protecting biodiversity and Himalayan ecosystem and securing rural livelihood.
- New missions on Health and Coastal Areas. redesigning National Water Mission & National Mission on Sustainable Agriculture
- India has set up a INR 350 Crores (USD 55.6 million) National Adaptation Fund

Mobilizing Finance

- Goal:

To Mobilize Domestic and New & additional funds from developed countries to implement the above mitigation and adaptation actions in view of the resource required and the resource gap.

- USD 2.5 trillion (at 2014-15 prices) required for meeting India's climate change actions between now and 2030 as per preliminary estimates
- Ratio of emission avoided per dollar invested & economic growth attained would be relatively more favourable in case of investments made in India

Technology Development & Transfer

- Goal:

To build capacities, create domestic framework and international architecture for quick diffusion of cutting edge climate technology in India and for joint collaborative R&D for such future technologies.

- Critical technologies need to be facilitated via GCF
- Global collaboration in R&D
- Preliminary and illustrative list of select technologies given in India's INDC

Sustainable Lifestyle

- Goal:
To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation
- Extravagant lifestyles will require 5 planets
- Sustainable lifestyle will require 1 planet
- Promote “Sustainable Lifestyles” based on needs based consumption.

Cleaner Economic Development

- Goal:

To adopt a climate friendly and a cleaner path than the one followed hitherto by others at corresponding level of economic development

- At comparable levels of income, India's Growth Path much more cleaner and greener & will continue to be so
- India's current per capita GDP in PPP terms (Purchasing Power Parity) achieved at a substantially lower level of emissions compared to developed countries
- Emission Intensity of **Developed countries at similar economic level** as India's today was approx. **0.9 kgCO₂/\$**
- **India's** emission intensity: **0.36 kg CO₂/\$** (60% less compared to developed countries)

Conclusion

- India's contributions represent the utmost ambitious action in the current state of development
- It incorporates our developmental challenges and priorities
- Recent decisions of the Government represent a quantum jump in our aspirations & demonstrate unparalleled vision
- India's development plans will continue to lay a balanced emphasis on economic development and environment
- India expects an ambitious, equitable and effective global agreement in Paris

Recent Initiatives of the Government

- Revisiting national missions, creation of new missions and enhancing of targets etc.

Mitigation Initiatives

- **Renewable Energy** target 175 GW & **National Solar Mission** from 20 to 100 GW
- **Kochi Airport** worlds' first airport powered by solar energy
- **Solar powered toll plazas**
- **Delhi Metro & other MRTS**
- **National Smart Grid Mission & Green Energy Corridor** for efficient transmission & distribution network

Initiatives of the Government (contd.)

- Swachh Bharat Mission
- 100 smart cities
- Atal Mission for Rejuvenation & Urban Transformation, urban renewal of 500 cities
- Zero Effect, Zero Defect to enhance energy & resource efficiency
- Launched Green Highways Policy- develop 140,000 km long tree-line along highways
- FAME India (faster adoption and manufacturing of hybrid electric vehicles)
- Country's first passenger vehicle fuel-efficiency standards finalized
- National Air Quality Index launched.

Initiatives of the Government (contd.)

Adaptation Strategies

- Paramparagat Krishi Vikas Yojana - organic farming
- Pradhan Mantri Krishi Sinchayee Yojana - efficient irrigation.
- Neeranchal - watershed development.
- Namami Gange
- National Initiative on Climate Resilient Agriculture (NICRA)
- Bureau for Water Use Efficiency
- Lifestyle & culture of sustainability

Initiatives of the Government

Climate Finance Policies

- National Adaptation Fund
- Reduction in fossil fuel subsidies.
- Coal Cess increased from INR 50 to INR 200 per ton.
- Tax free infrastructure bonds introduced for renewable energy



THANK YOU