

ENVIRONMENTAL POLICY TRENDS FOR BUILDING A DECARBONISED SOCIETY IN INDIA

INDIA-JAPAN EW

12 JANUARY 2023, NEW DELHI

R R Rashmi

Distinguished Fellow, TERI

Global Emissions in 2019

Country	CO ₂ Emissions/year (Billion Tons)/ Gross	Share of global CO ₂ emissions	Emission of CO ₂ per Capita (Tons/Person)
China	14	26%	9.7
United States	6.6	13%	20.0
EU-28	4.3	9%	8.6
India	3.7	7%	2.7
Russia	2.5	5%	17.4
Japan	1.4	3%	10.7
Germany	0.8	2%	10.1
World	57.4 (Gross) 49.5 (Net)		

Source: Trends in Global CO₂ Emissions 2020 Report. PBL Netherlands Environmental Assessment Agency)

https://www.pbl.nl/sites/default/files/downloads/pbl-2020-trends-in-global-co2-and-total-greenhouse-gas-emissions-2020-report_4331.pdf

EVOLUTION OF CLIMATE POLICY IN INDIA

- 2008** **National Action Plan on Climate Change** (*Programme based*) :
8 National Missions: Solar, Energy Efficiency, Habitat, Agriculture, Water, Green India, Himalayan Ecosystem, Strategic Knowledge.
- 2009** **Copenhagen goal:** Emissions intensity reduction by 25% over 2005
- 2015** **Nationally Determined Contributions(NDC):**
Mitigation (Target based): Emissions intensity reduction, Renewable energy capacity, Carbon sink addition
Others (No targets): 5 goals on adaptation, finance and technology
- 2021** **Net Zero goal** to be achieved by 2070
- 2022** **Updated NDCs:** 3 targets relating to EI, RE and LiFE revised
Long Term Low Emission Development Strategy (LT-LEDS) released

UPDATED NATIONALLY DETERMINED CONTRIBUTIONS (NDC)

Three quantitative goals:

- ✓ To **reduce the emissions intensity** of its **GDP by 45 percent** by **2030** from 2005 level.
- ✓ To achieve **50% cumulative electric power** installed capacity **from non-fossil fuel** sources by **2030**
- ✓ To create an **additional carbon sink of 2.5 to 3 billion tonnes** of **CO2 equivalent** through additional forest and tree cover by **2030**.

[Includes 2 indirect targets, not formally stated in NDCs]

- Renewable energy capacity to be raised to *275 GW by 2022 and 500 GW by 2030*.
- Reduce total emissions by *1 bn tons of CO2 emissions by 2030*;

Other goals:

- To put forward and further propagate healthy and **sustainable way of living** including through a mass movement for LiFE – LiFEstyle for Environment..
- ✓ To adopt a climate friendly and a **cleaner growth path**.
- ✓ To **better adapt** to climate change: by enhancing investments in development programmes in sectors vulnerable to climate change.
- ✓ To mobilize domestic and **new & additional funds**.
- ✓ To **build capacities** for quick diffusion of cutting edge climate technology in India.

ENERGY TRANSITION: STEPS TAKEN

- ❑ RE capacity reached 42%: (172 GW against total capacity of 408 GW)
- ❑ Coal as share of electricity stable since 2016;
- ❑ Gas share in energy supply to be raised to 15% by 2030
- ❑ Nuclear capacity to be increased 3 times by 2032;
- ❑ Bio-fuel blending norms of 20% to be achieved by 2025;
- ❑ Production Linked Incentives (USD 11 bn) for investment in 4 key areas:
 - Solar Cell manufacturing (USD 2.5 bn), EV auto components (USD 3.25 bn), Advanced Cell batteries (USD 2.25 bn), Green Hydrogen & Electrolysers (USD2 bn)

CARBON MARKET IN INDIA

Experiments in India

- India a large player in CDM: 1400 projects with 250 mn issued CERs
- Energy Saving Certificates under Energy Conservation Act;
 - An obligation for all industrial units under Energy Conservation Act
- Renewable Energy Certificate
 - An obligation for all DISCOMs Under Electricity Act
- Coal Cess on production and import of coal @ Rs 400 (USD6) per tone

Emerging scenario

- Renewable Energy consumption obligation for industrial units under EC Act
- Carbon Market for ESCs denominated in CO2 terms to be ready by Aug 2023
- Carbon Market with sectoral EI caps could be introduced by 2026
- Indian entities in International Voluntary Carbon Market to continue
- Green credit operations to be supported
- Art 6.2 ITMO market is likely to move faster than Art 6.4 mechanisms

LONG TERM LOW EMISSION DEVELOPMENT STRATEGY (LT-LEDS), 2022

LT-LEDS for Net Zero by 2070 released by Govt of India at Sharm El Sheikh:

7 key sectors identified for intervention:

- i. Low carbon development of **electricity systems** consistent with development
- ii. Develop an integrated, efficient, inclusive low-carbon **transport system**
- iii. Promote adaptation in urban design, energy and material-efficiency in buildings, and **sustainable urbanization**
- iv. Promote economy-wide decoupling of growth from emissions and development of an efficient, **innovative low-emission industrial system**
- v. **CO₂ removal** and related engineering solutions
- vi. Enhancing **Forest and vegetation cover** consistent with socio-economic and ecological considerations
- vii. **Economic and financial aspects** of low-carbon development

Way Forward

- ❑ Sectoral roadmaps for transition:
 - Encourage better coordination within sectoral value chains
- ❑ Provide time-limited fiscal and financial incentives
- ❑ Create markets and demand for low-carbon fuels
- ❑ Support infrastructure planning and investment in renewables and cleaner fuels including green hydrogen
- ❑ Establish institutional programme for sequestration

OPPORTUNITIES FOR COLLABORATION WITH JAPAN

- ❑ Cooperation in development and dissemination of cleaner technologies including green hydrogen, carbon capture etc.
- ❑ Capacity building, including sharing of good practices, on various themes including supporting implementation of Article 6
- ❑ FDI in various sectors including infrastructure support
- ❑ Public and private financing for industrial transitions

**THANK
YOU**