# Sustainable Development Goal of Climate Action and India's Policy Approach

**Dr. Anamika Kaushiva**

Professor, Department of Economics, Sahu Ram Swaroop Mahila Mahavidyalaya, Bareilly, U.P, India

**Author Email:** econanamika@gmail.com

**Abstract**—The rapid industrialization across the globe is the root cause of climate change phenomenon because this growth was fostered by large scale production in industries using fossil fuels. The concentration of greenhouse gasses in the earth's atmosphere is directly linked to the rising average global temperature on Earth. This global warming is causing changes in weather patterns or 'climate change'. The long-term consequences of climate change are already visible as the world is facing extreme weather conditions. The nations across the world realised that it was critically important to take climate action and make development 'sustainable'. Global agreements have been signed to discuss the climate change issue, initiate climate action and monitor its progress. All agreements primarily emphasise on its mitigation, adaption and reduction of impact. Countries are switching from use of fossil fuels to renewable energy sources to reduce the emissions causing pollution. The developed countries have made a commitment of 'Net Zero' by 2050 and the developing economies too have to follow suit in the next half of the century. This research paper outlines the issue global warming and climate change and the factors causing it, traces the evolution of the concept of sustainable development i.e. the integration of environment policies with development strategies. It explores the SDG 13: Climate Action and the the Paris Agreement and the subsequent Climate Change Conference of Parties. It then discusses India's commitment to climate action commitments.

**Keywords:** Climate Action, COP, Global Warming, Sustainable Development

## I. INTRODUCTION

The past two centuries, and especially during the last five decades, global warming has occurred due to the rapid pace of industrialisation and globalisation. As the growth rates in the developed countries increased, pollution and deforestation increased causing a sweeping environmental degradation. Rapid industrialization fostered large scale production in industries using fossil fuels. High and uncontrolled emissions greenhouse gasses, mainly carbon dioxide and methane, due to use of fossil fuel has resulted in a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures. The concentration of greenhouse gasses in the earth's atmosphere is directly linked to the rising average global temperature on Earth. (IPCC) This global warming is causing changes in temperatures and weather patterns or 'climate change'. The top five emitters (China, The United States of America, India, the European Union, The Russian Federation) accounted for about 60 per cent of greenhouse gas emissions in 2021. (UNEP Gas Emission Report 2023) Increasing global population and the consequent rise in demand for food supplies and land areas for housing, has led to unsustainable agriculture, receding forests, illegal logging and about 47% of the world's forests are at high risk for deforestation or degradation by 2030. (WWF) The long-term consequences of climate change are already visible as the world is facing extreme weather conditions -heatwaves, droughts, flooding, winter storms, hurricanes and wildfires. (IPCC) Besides these, other disastrous effects are - water scarcity, severe forest fires, disappearing islands due to rising sea levels, flooding, melting glaciers, cyclones and declining biodiversity.

The nations across the world realised that it was critically important to decrease global warming through economic, social and environmental, strategies and make development sustainable. Global agreements have been signed to discuss the climate change issue, initiate climate action and monitor the progress. All agreements primarily emphasise on: decreasing emissions of greenhouse gasses, introducing sustainable measures to adapt to climate change, develop policies of sustainable development. Countries are switching from use of fossil fuels to renewable energy sources like solar and wind resources to reduce the emissions causing pollution. The developed countries have made a commitment of 'Net Zero' by 2050 and the developing economies too have to follow suit.

## II. OBJECTIVE OF STUDY

This research paper outlines the issue global warming and climate change and the factors causing it, traces the evolution of the concept of sustainable development i.e. the integration of environment policies with development strategies. It explores the SDG 13: Climate Action and the international strategies of the Paris Agreement and the subsequent Climate Change Conference of Parties. It then discusses India's commitment to climate action commitments.

## III. RESEARCH METHODOLOGY

The research is a historical analysis of global environment and sustainability issues as well as an insight into the current views regarding climate action at international levels and India's commitment. It is based on secondary data available in reports and documents related to the discussed issues.

### III.I. GLOBAL WARMING AND CLIMATE CHANGE

A widespread shift in the planet's weather patterns and average temperatures in the past century has been interpreted by scientists as an indication of catastrophic global warming and climate change. The average global temperature on Earth has increased by at least 1.1° Celsius since 1880. (NASA's Goddard Institute for Space Studies) This is a major indicator of rapid climate change which needs immediate attention. Global warming and climate change has resulted in

- Very high and unhealthy concentrations of greenhouse gases in the atmosphere.
- Unpredictable weather across the world
- Unbearably hot summer season and increasing frequency of heat waves
- Retreating glaciers and rising sea levels
- Disruption of food supply chains
- Decreasing biodiversity and extinction of species

### III.II. SUSTAINABLE DEVELOPMENT

The developed countries adopted policies pursuing rapid economic growth without taking into account the negative global impacts in the form of environmental damage it was causing. The Stockholm Declaration on 1973 was the first document, presented in the United Nations Conference on Human Environment, which emphasised on the need of environmental governance at national and international level. Twenty-six principles related to environmental issues were outlined to analyse the link between economic growth, pollution and sustainability. Subsequently the United Nation Environment Programme came into being.

The Brundtland Report, "Our Common Future" 1987, raised the call for SD and defined it as "development that meets the needs of the present, without compromising the ability of future generations to meet their own needs". (Brundtland et al. 1987) The report stated that economic growth involves a risk of environmental degradation and unsustainable development if it fails to control pollution and puts excessive pressure on Earth's ecological resources. Sustainable development is possible only through environmental protection and "sustainable development should be seen as a global objective. No country can develop in isolation from others. Hence the pursuit of sustainable development requires a new orientation in international relations" (Brundtland et al. 1987) This landmark conference changed the world's outlook towards development polies and led to The Rio Earth Summit 1992. 154 countries at The United Nations Framework Convention on Climate Change (UNFCCC) decided to control 'dangerous human interference with climate system" by decreasing greenhouse gas emission and signed a treaty which came into force in 1994. UNFCCC started meeting at the Conference of the parties (COPs) annually to deal with climate change issue.

Other major UN conventions which followed were - The Johannesburg World Summit on Sustainable Development 2002 and United Nations Conference on Sustainable Development, Rio+20, 2012.

## III.III. SUSTAINABLE DEVELOPMENT GOALS

In June 2012, at the UN conference of SD (Rio+20), The Outcome document, "The Future We Want" presented the decision of the member countries to adopt the Sustainable Development Goals (SDGs). The 2030 Agenda for Sustainable Development was adopted by all UN member nation in 2015. The 2030 Agenda stated that the race to achieve high growth rates had plunged the Earth into a planetary crisis of climate change, loss of biodiversity, and pollution. Protection of planet will be possible only when a balance is maintained between economic, social, and environmental sustainability. Of the seventeen SDGs, Goal 13: Climate Action, (Box 1.) asks governments to 'take urgent action to combat climate change and its impacts' and it connects the successful achievement of all 16 other Goals to climate change.

| **Box 1. Sustainable Development Goal 13: Climate Action – Targets** | |
|---|---|
| **Target 13.1** | Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters |
| **Target 13.2** | Integrate climate change measures into policies and planning |
| **Target 13.3** | Build knowledge and capacity to meet climate change |
| **Target 13.4** | Implement the United Nations Framework Convention on Climate Change |
| **Target 13.5** | Promote mechanisms for raising capacity for effective climate change-related planning and management |

Source : https://www.globalgoals.org/goals/13-climate-action/

SDG 13 emphasises on the need to improve education and awareness on climate change, mitigation and development of the adaptive capacity of nations to deal with climate-related hazards.

## III.IV. THE PARIS AGREEMENT AND THE CLIMATE CHANGE CONFERENCES OF PARTIES

In order to achieve SDG13, UNFCCC set up a goal of mobilizing jointly $100 billion annually by 2020 to give financial assistance to developing countries to enable them to take up mitigation actions and to develop the Green Climate Fund. The countries adopted the Paris Agreement in 2015 at COP21 and the UNFCCC took up the responsibility its implementation.

The key decision of The Paris Agreement, which is now legally binding on 194 countries and the European Union was achieving NET ZERO. "…..global temperature increase needs to be limited to 1.5°C above pre-industrial levels. Currently, the Earth is already about 1.1°C warmer than it was in the late 1800s, and emissions continue to rise. To keep global warming to no more than 1.5°C …. emissions need to be reduced by 45% by 2030 and reach net zero by 2050."

Accordingly, it was decided that countries will adopt measures for reducing greenhouse emissions and will assess their progress regularly. It was also decided that financial assistance will be provided to developing countries for implementation of measures necessary to achieve SDG 13. Attention was to be focused on least developed countries and small island developing states, women, youth and marginalized communities. Each country also decided to submit its national climate action plan – The Nationally Determined Contribution( NDC) every five years to help the world in achieving Net Zero. Each Climate Change Conferences of Party COP has played a significant role in developing the global climate action plan as is presented in Box.2.

| **Box. 2 The UN Climate Change Conferences of Parties (COP)** | | |
|---|---|---|
| **UN Climate Change Conference (COP)** | **Date** | |
| **COP3 Kyoto protocol** | **Kyoto Japan 1997, enforced in 2005** | 39 developed countries decided to adopt measures to cut down their greenhouse gas emissions to 4.2% below 1990 level by 2012. |

| | | |
|---|---|---|
| **COP15: Copenhagen Accord** | **Copenhagen 2009** | United States and BASIC countries (Brazil, South Africa, India and China) signed a non-binding agreement on 2°C warming limit, financial provisions, the Copenhagen Green Climate Fund, and a technology mechanism. |
| **COP16: Cancun Agreements** | **Cancun 2010** | It formalised the pledges of the Copenhagen Accord and established financial and technological mechanisms to support developing nations to reach their emissions and development goals. |
| **COP 21: The Paris Agreement** | **Paris 12 Dec 2015** | A legally binding agreement between 194 countries and the European Union for achieving 'Net Zero'<br>Nationally Determined Contributions (NDC)<br>Long term Low Greenhouse Gas Emission Strategies (LT-LEDS)<br>Enhanced Transparency Framework (EFT) |
| **COP22** | **Marrakesh, Morocco 2016** | Marrakesh partnership for Global Climate Action – to provide financial assistance and technology to developing economies for accelerating the pace of global climate action. |
| **COP23 Fiji Momentum for Implementation** | **Bonn, Germany Nov. 2017** | Fiji Momentum for Implementation and the Talanoa Dialogue – steps to achieve the Paris agreement goals and to ensure implementation of NDC by 2020 |
| **COP24 Katowice Rulebook** | **Katowice, Poland, Dec. 2018** | The rulebook outlined the rules for governments of participating countries to adopt and report emission cutting measures undertaken as per the Paris Agreement |
| **COP25** | **Madrid, Spain Dec. 2019** | The conference failed to give any concrete results and the decisions about carbon market and emission cuts were not made. Many countries like US, Russia, India, China and Brazil apposed propsed measures |
| **COP26 Glasgow Climate Pact Global Methane Pledge Global Alliance for net Zero** | **Glasgow Scotland, Nov. 2021** | Important decisions – phase down use of coal, phase out inefficient fossil subsidies. |
| **COP27 Sharm El-Sheikh Adaption Agenda, Bridgetown Initiative** | **Sharm El-Sheikh, Egypt Nov. 2022** | Decision to provide financial support to developing countries and countries facing the worst impact of climate change - $230 million received by Loss and Damage fund for providing the assistance. |
| **COP28 UAE Consensus** | **Dubai, UAE Dec. 2023** | In order to ensure a just and equitable move away from carbon energy sources, the participant countries pledged $85 billion Dollars to achieve ten pledges related to climate health, finance, relief, efficiency, use of energy renewable, sustainable agriculture, gender responsiveness and global cooling. |

Source : Based on https://climatechampions.unfccc.int/events-archive/

## III.V. INDIA AND CLIMATE CHANGE

India, the world's second largest populous country, is currently the third largest emitter of greenhouse gasses globally. (World Resource Institute, 2023) India is facing the impact of global warming and climate change. Heatwaves in summer seasons with unexpectedly high temperatures, declining monsoon rainfall coupled with increasing cyclonic pressures, cloudbursts and heavy unseasonal rain, above average rainfall in coastal regions, droughts in north western regions, melting glaciers - all indicate an unsustainable future. This is having an impact on agricultural output which will jeopardize the country's food security in the

long run. It has resulted in water scarcity, particularly in urban areas and power scarcity. The health impact of climate change too is visible in the form of rampant diseases like malaria and dengue, diarrheal infections and heat strokes.

Environmental Sustainability was an integral part of India's governance framework since many years. The Ministry of Environment, Forest and Climate Change adopted The National Environmental Policy, 2006 for the implementation of environmental quality standards. The National Action Plan on Climate Change (NAPCC) was launched in 2008 with eight National Missions. These missions focused on enhanced energy efficiency, sustainable habitat, water, sustaining the Himalayan eco-system, Green India, sustainable agriculture and development of strategic knowledge for climate change. In 2009, the state governments too adopted these missions into their developing policies. In 2016, the NITI Ayog appointed the National Institution for Transforming Urban India to coordinate and map the initiative's taken to achieve the SDGs. The MoEFCC was identified as the nodal ministry for Goal 13.

## III.VI. INDIA AND COP

India has developed into a powerful economic and political force on the global stage. As the country's bilateral relationship with various global entities have increased, participation in international climate negotiations has gained importance. India realized its challenge to secure its views in these international polies, on the one hand, and to undertake concrete domestic climate action, on the other. India voiced its commitment towards the global efforts of climate change and adopted the emissions reduction targets of the Paris Agreement. Subsequently India has presented its strategies in all the annual COPs.

**a. COP26:** At COP26, India announced its five short term Net-Zero targets titled "Panchamrit" or five nectars, to bring economy's carbon intensity down to 45 per cent by 2030.

- Decrease fossil energy capacity to 500 gigawatts (GW).
- Bring down India's carbon intensity down to 45 per cent.
- Provide the country's 50 per cent energy requirement through renewable energy.
- Reduce one billion tons of carbon emissions from the total projected emissions.
- Achieve net-zero emissions by 2070.

**Mission Life, A LIFEstyle for Environment campaign** - was announced to call for "mindful and deliberate utilization, instead of mindless and destructive consumption" to protect and preserve the environment.

**Energy Conservation Act 2001**, which focused on increasing use of non-fossil energy and decrease in consumption of electricity through the Energy Conservation Building Code (ECBC), was amended in 2022.

The Indian government is steadily increasing its budgetary allocations for projects of clean energy and renewable energy, domestic solar module manufacturing. The green hydrogen policy has been formulated for decarbonisation of refineries and fertiliser plants with a target of five million tonnes per annum (MTPA) of green hydrogen production by 2030.

**Nationally Determined Contributions 2022**

India's Nationally Determined Contribution (NDC) i.e; long term goals to reach net zero emissions by 2070 are outlined in Box 3.

| **Box 3: India's Nationally Determined Contribution (NDC)** | |
|---|---|
| **Quantified Goals** | **Non-Quantified Goals** |
| To reduce the emissions intensity of its GDP by 45 per cent by 2030, from the 2005 level. | To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation, including through a mass movement for 'LIFE'– 'Lifestyle for Environment' as a key to combating climate change. |
| To achieve about 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of the transfer of technology and low-cost international | To adopt a climate-friendly and cleaner path than the one followed hitherto by others at the corresponding level of economic development. |

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|---|---|
| finance including from the Green Climate Fund (GCF). | |
| To create an additional carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent through additional forest and tree cover by 2030 | To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, the Himalayan region, coastal regions, and health and disaster management. |
| | 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. |
| | To build capacities, create a domestic framework and international architecture for quick diffusion of cutting-edge climate technology in India and joint collaborative R&D for such future technologies. |

**Source:** PIB, Government of India

**b. COP27**

At COP 27, India presented its 'Long-Term Low Emissions and Development Strategies' (LT-LEDS) for low carbon transition pathways in six key areas - electricity, urbanization, transport, forests, finance, and industry.

**Net Zero Emissions Bil 2022**

The "Net Zero Emissions Bill" proposes a sanction of emissions budget every five years, establishment of a climate change commission to give policy recommendations and monitor the progress towards attaining the net zero target.

India also emphasised on the issue of 'climate justice' which is possible only through an equitable distribution of climate change efforts between nations and a human centred approach.

**c. COP28**

The New Collective Quantified Goal (NCQG) of climate finance discussed in COP28. The process of establishing the NCQG had been initiated at COP26. The climate finance implies financial assistance given to developing countries by developed countries for financing the costs of implementation of measures of low-carbon emission in energy, transport, agriculture. India presented its submission on NCQG and voiced its commitment and support in negotiations on climate finance for mitigation and adaptation funds. India called for developed countries to provide "at least" $1 trillion/year in climate finance to developing countries from 2025. The NCQG is meant to be adopted in COP29 in 2024 Azerbaijan.

The Climate Action Tracker, which monitors government climate action for reducing greenhouse emissions as per the Paris Agreement, in its 2023 report, ranked India fourth in its progress in installation of renewable energy capacity measures. However, itt rated India's climate actions as "highly insufficient". The major factor for this is India's high dependence on power generation through coal currently and plans to create additional coal capacity by 2030. India can achieve its NDC only by adopting the following measures:

- Stop building new coal power capacity and phase out existing capacity by replacing it with renewable energy.
- Ensure efficiency in utilisation of existing coal power capacity and the electricity distribution system
- Decrease LNG imports.
- Strengthen the presently "Critically insufficient" non-fossil capacity target and accelerate reduction in emissions.
- Develop State Action Plan on Climate Change to decentralise the process and formulate it on the basis of each region's geographical profile.
- Establishes a better coordination between ministries and departments at the central and state level to remove existing institutional bottlenecks.
- Increase allocation of budgetary funds towards climate action measures.
- Implementation of green hydrogen policy for decarbonisation of refineries and fertiliser plants at a large scale.
- Adopt transparency and accountability in carbon emission reports.

- Increase investment in R&D in climate action projects
- Climate change education and awareness amongst masses

## IV. CONCLUSION

India has made a commitment to achieve the net-zero target by 2070. To achieve it, the country has to adopt large scale emission mitigation policies across all sectors. India's net zero target performance is currently ranked 'poorly' in terms of its scope, target architecture and transparency and there is significant room for improvement. In the meantime, as the global warming impacts are rampant in the form of climate change triggered natural disasters, the economy is suffering loss of lives, livelihoods and infrastructure. The issue can no longer be ignored. A shift towards green energy and afforestation for developing a carbon sink, at the earliest, is necessary to achieve SDG 13. It is also necessary to balance the domestic needs and financial capabilities with international commitments. Our commitments to COP can be achieved with the combined efforts of all stakeholders at the regional, state, national level.

## REFERENCE


1. Climate Action Tracker. (2023): https://climateactiontracker.org/
2. GOI. Ministry of Environment, Forest and Climate Change (MoEFCC). (2016): National Action Plan on Climate Change [Online]. New Delhi, India: Ministry of Environment and Forests, Government of India. https://moef.gov.in/wp-content/uploads/2018/04/Pg0152.pdf
3. GOI. PIB. Aug. (2022): India's Updated First Nationally Determined Contribution Under Paris Agreement https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1847812
4. Navroz K. Dubash and Anu Jogesh. (Feb 2014): From Margins to Mainstream? Climate Change Planning in India as a 'Door Opener' to a Sustainable future. Centre for Policy Research. Climate Initiative, Research Report https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2474518
5. Prime Minister's Council on Climate Change (2010): National Action Plan on Climate Change. New Delhi: Government of India. https://archivepmo.nic.in/drmanmohansingh/climate_change_english.pdf
6. Rattani, V. 2(018): Coping with Climate Change An Analysis of India's national Action Plan on Climate Change, CSE. https://cdn.cseindia.org/attachments/0.55359500_1519109483_coping-climate-change-NAPCC.pdf
7. Sami N., Singh C., Bazaz A. (2016): Climate Change Policy in India and Goal 13. Indian Institute of Human Settlements. https://iihs.co.in/knowledge-gateway/wp-content/uploads/2017/10/Climate-Change-Policy-in-India-and-Goal-13.pdf
8. Sharma. Sonali. (2023): India's Climate Change Policy: Challenges and recommendations.https://www.ispp.org.in/indias-climate-change-policy-challenges-and-recommendations/
9. United Nations Report of the World Commission on Environment and Development: Our Common Future https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf
10. UN Climate Change High-Level Champions Racing to a batter World, https://climatechampions.unfccc.int/events-archive/
11. Net Zero https://www.un.org/en/climatechange/net-zero-coalition
12. Sustainable Development Goals 2015. https://sdgs.un.org/goals
13. UNFCCC. COP https://unfccc.int/process-and-meetings/what-are-united-nations-climate-change-conferences
14. World Resource Institute. (2023): Changes in the World's Top 10 Emitters. https://www.wri.org/insights/interactive-chart-shows-changes-worlds-top-10-emitters