CENTRE FOR EXCELLENCE IN SUSTAINABLE DEVELOPMENT

SUSTAINABILITY HORIZON

Quarterly Newsletter of
Centre for Excellence in Sustainable Development, Goa Institute of Management
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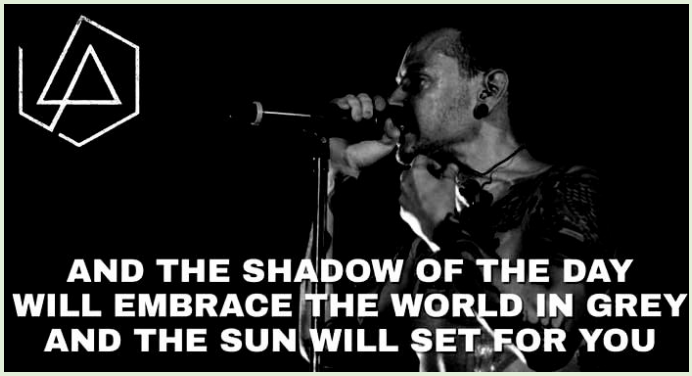
CONTENTS



EDITORIAL

Prof. Avik Sinha
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Complexities are rising, so as the political propaganda around the global climatic actions. The Sustainable Development Goals (SDGs) came into existence as its predecessor Millennium Development Goals (MDGs) failed to deliver. Now, while SDGs are talking about achieving the climate action by 2030, the carbon neutrality target is aiming 2050. This gives a clear indication that the climate action is not going to be addressed soon. Moreover, the climate diplomacy is getting all the more complex, as the pursuit to achieve environmental sustainability might be recognized as a way to have a strong financial control over the developing and least developed nations. The thorny fuel future, the American dream of $100 Billion financialization, playing defensive on the global warming – all these incidents in the COP26 Summit might signify the rising economy-wide rebounds of the innovative measures aimed at ecological fortification. These rebounds can not only be at the economic fronts, but also at the social fronts. The policy myopia prevailing among the global thought-leaders might lead towards the Jevons' Paradox.

With this contextual backdrop, it gives me heartfelt pride to present to you the first issue of the second volume of the quarterly newsletter "**Sustainability Horizon**" of the Centre for Sustainable Development at Goa Institute of Management. This edition of "**Sustainability Horizon**" has brought forth the aspects of the climate financing, robust climate action, and criticising the COP26 and national policies. The COP26 has stressed again on the mobilization of finances towards the developing and least developing economies for enabling them resilient against climatic shift. However, accomplishment and sustenance of this aspect necessitates the development of human capital, for which the financialization will be required. In course of this financing mechanism, the political economy of climate gradually comes into picture, and thereby, diluting the very objective of COP26. This dilution might have a negative impact not only on the existence of the Paris Accord, but also on the attainment of the SDGs. The academicians and industrial sectors might have different perspectives regarding this debate. On these discussed aspects, by bringing the industrial and academic expertise on this platform, "Sustainability Horizon" aims at presenting a wholesome perspective on the global future of sustainability.

We hope that through this newsletter, we are able to contribute to the transition to a new normal which is environmentally sustainable.

BASEL CONVENTION AND THE "KHIAN SEA" SAGA

Ms. Apoorva Apte

Research Assistant
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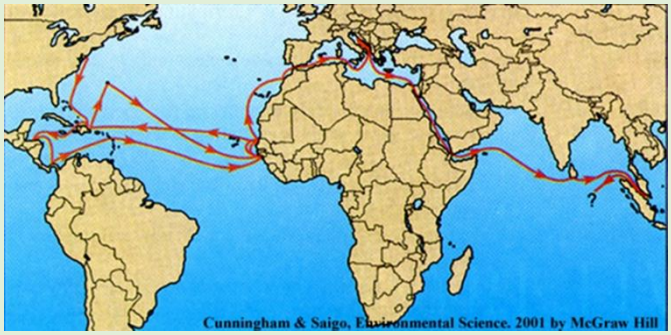

Route of the "Khian Sea"
(Image source: https://slideplayer.com/slide/3810618/)

The climate action ecosystem bears a long history and revisiting the events in the past provides insights about what led to the formulation of various conventions that govern important environmental actions today. One such convention is the Basel convention, a treaty of the United Nations which was signed in March 1989. The purpose of this Convention was to prohibit the transboundary movement of hazardous waste which was rampant especially from the developed nations to the developing nations, and to ensure responsible management of such waste by doing away with the "not-in my-backyard" syndrome.

This article wishes to bring out the incident of the "Khian Sea" ship whose journey was one of the triggers behind the Basel convention. This ship carrying 14,000 tons of toxic incinerator ash from the city of Philadelphia in the U.S. started on its mission of lookout for a place to dump the ash, since local landfills were unavailable [1]. Little did the ship crew know that what began as a simple exercise of dumping the ash and returning would turn into a nightmare.

The ship initially travelled to the Bahamas in 1986, but was refused to unload the ash. As a result, the ship continued its search for a dumping place, travelling to the following locations after facing repeated refusals: Bahamas, Dominic Republic, Honduras, Panama, Bermuda, Guinea Bissau, Netherlands Antilles, Haiti (where it partially unloaded 4000 tons of the ash on the beach), then to Senegal, Morocco Yugoslavia, Sri Lanka, Philippines [2]. When it finally reached Singapore in 1988, the remaining ash had mysteriously disappeared. Later the captain of the ship confessed in court that the ash had been dumped somewhere in the Atlantic and Indian Oceans.

The Khian Sea incident led to a strong environmental movement with Greenpeace stepping in to launch Project "Return to Sender", ultimately contributing to the Basel Convention that globally has 189 parties on-board today [3].

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TRENDS IN SUSTAINABILITY RESEARCH

Though the energy efficiency improvement endeavors are aiming at reducing the fossil fuel usage and protecting natural resources, the increase in the economy-wide rebound effects are showing the unforeseen negative sides of those efficiency measures. Existence of this Jevons Paradox has always been the debate between the economists and the policymakers [1]. While the economists debate that rising efficiency will paradoxically lead to higher consumption of resources, the policymakers take an opposite stand [2]. Clearly, this stand is largely driven by the satiation of political motives, which is gradually crippling the basis of sustainable development. In view of COP26, this issue is becoming all the more prominent, and this might need rethinking about the planetary justice mechanism [3]. The work of Stern [4] on estimating the rebound effect clearly indicates that the economically and technologically developed economies have not been able to achieve the resource efficiency. This phenomenon might have a negative impact on the resource utilization pattern, and therefore, maintaining intergenerational equity might be extremely difficult. Perhaps the withdrawal of the overutilized resources might pave a way to achieve the full potential of efficiency improvement measures [5].

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MATCH ME IF YOU CAN

1. Kyoto Protocol	a. To enhance action on adaptation, including through international cooperation and coherent consideration of matters relating to adaptation under the Convention.
2. Copenhagen Accord	b. To achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".
3. Paris Agreement	c. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.
4. Cancun Agreement	d. An aspirational goal of limiting global temperature increase to 2 degrees Celsius.

A CRITIQUE OF COP26: IS THERE REALLY A SOLUTION?

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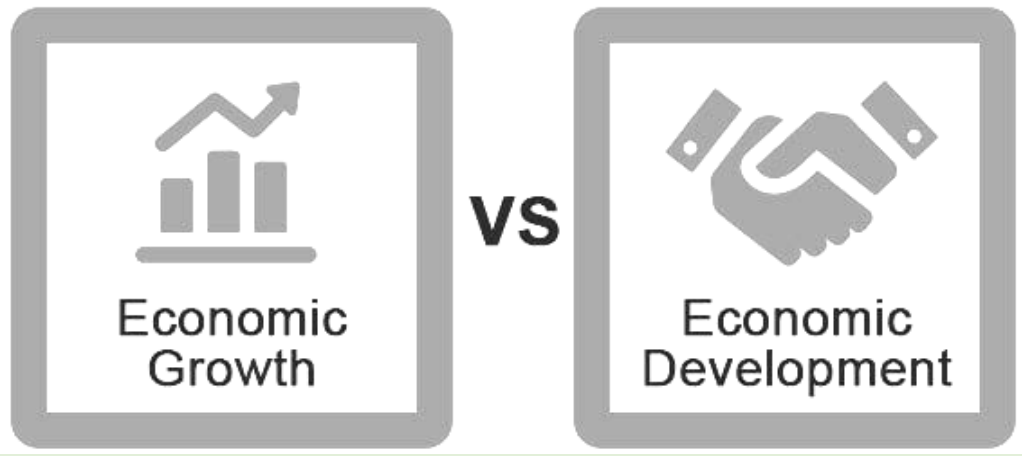
While the world is envisaging the growing concern for improving environmental quality, the COP26 has given a platform to the world leaders to initiate a dialogue for handling this concern. Given the rapid changes in the geopolitical scenario, climate diplomacy is also undergoing a transformation. This process is evident from the re-joining of the USA in the Paris Accord, under the leadership of President Biden. Following the 47th G7 Summit in Cornwall, this decision of the USA was critical from the climate diplomacy perspective. This move is significant from the climate finance perspective. As redemption for creating pollution havens in the developing and underdeveloped economies, the developed economies need to join hands in helping those countries in combating the adverse climatic impacts. Though it has been promised in the earlier meetings, the climate funding is not channelized correctly. Hence, the developed countries have now promised to fully deliver on the US$100 billion goal by 2023. However, it is speculated about whether this goal will be achieved, or the same story like all the previous meetings will be repeated.

The economic growth drivers were also discussed, along with the discussion on climate finance. Herein the negative environmental impacts of fossil fuels (i.e., coal, crude oil, and natural gas) were discussed. Surprisingly, in this meeting, the global leaders emphasized phasing down fossil fuels rather than phasing them out. Though the "inefficient" fossil fuel subsidies were agreed to be phased out, it is unclear why the global leaders were reluctant upon replacing the fossil fuel solutions. One possible reason might be the economic downturn caused by the COVID-19 outbreak, and hence, this replacement of fossil fuels can cause a negative shock to the economic growth. Yet, the ambitious objective of climate action seems to have encountered the classic growth-development tradeoff, where the economic growth agenda takes the front seat, and the ecological fortification takes a back seat. Under such a policy dilemma, achieving the 1.5°C target might be a far-fetched dream.

On the flipside, the role of the Santiago Network becomes all the more political. While the developed nations are unclear about their fossil future, along with the climatic risks faced by the developing countries, which have been historically the pollution havens, strengthening the Santiago Network might indicate a new form of colonialism, i.e., "Environmental Colonialism". The failure of the developed countries in delivering the climatic aids reinstate this argument.



The COP26 Summit has posed some serious questions to academics and policymakers around the world. Is the greed of control plaguing environmental sustainability? Is the financial aid to the developing economies is opening a new avenue of "Crony Consumerism"? Is it possible to maintain intergenerational equity? The questions are many, but the answers are unknown. Hope that the countries can at least fulfil the promises made during the COP26 Summit and make the world a better place than yesteryear.

STRENGTHENING THE CLIMATE FINANCE ECOSYSTEM

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According to United Nations (UNFCC, 2022), Climate Finance refers to finance from different sources employed to support the transition, mitigation and adaption targeted to solve issues and take action on climate change. Climate finance is a sub-set of a broader concept of Sustainable Finance that takes into consideration the environmental, social and governance issues associated with economic activity. It is estimated that $ 90 trillion worth of investments in infrastructure will be needed till 2030 but help build a green, climate resilient economy (United Nations, 2022).

Keeping in mind the principle of "common but differentiated responsibility and respective capabilities" under the United Nations Framework Convention on Climate Change, both the Kyoto Protocol and Paris agreement call for the larger contribution from the parties with better resources to help parties that are vulnerable but lack the resources. Therefore, in 2009, developed nations across the globe agreed to jointly mobilize $100 billion annually in climate finance by 2020 to provide the required support to various developing countries in reducing their carbon foot-prints and also to adapt to effects of climate change. This agreement was reaffirmed while the signing of Paris agreement during the COP21 in 2015, and extended till 2025. However, the contributions from the developed nations have been far from the original commitments.

A study by (OECD, 2021), finds that the total contribution from the developed nations was close to $80 billion (data available is with a lag of two years) which means they would have to contribute additional $20 billion in 2020 to meet the targets. There are several questions that need to be asked at this stage:

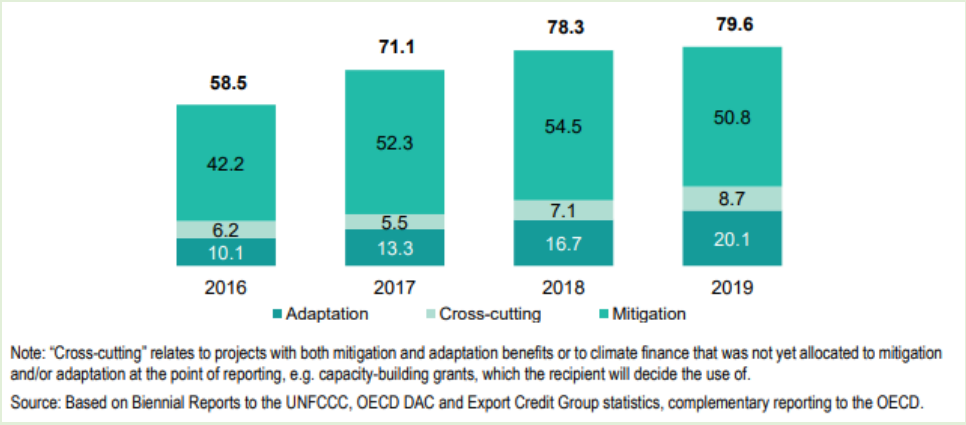

Chart1: Thematic split between climate fund provided and mobilized (US billion $)

a) Have the developed nations honored their commitment? If not, it would be a huge set back to the efforts being made by the developing nations to fulfil their commitments. A Report indicates that various developed nations are not contributing their fair share (World Resources Institute, 2021). This conclusion is based on the data of 2018. The major issue in answering this question is in terms of availability of reliable data from various countries in a standard format and in a timely manner.
b) Is this money being utilized equally for mitigation and adaptation as was originally decided? A study by OECD (2021) finds that the split between mitigation and adaptation is 75:25 rather than 50:50 (refer to chart 1). With lower funds employed towards adaption there is a possibility of increased income disparity as the poor continue to struggle with the severe climate events.
c) Is this money enough for the developing nations to achieve their targets? These amounts were calculated in 2009 and things have changed drastically since then. Covid' 19 pandemic is an unforeseen, unprecedented event that has a significant impact on climate finance as the focus needed to shift to the healthcare sector. Estimates from various agencies indicate much larger amounts. In fact, an Adaptation Gap report by United Nations Environmental Programme indicates that the least developed nation's current need $70 million per year for adaptation and this number is likely to be between $140-300 billion as the temperature rises (UNEP, 2021).

With the increased frequency of extreme weather events over the last couple of years and the Inter-Governmental Panel on Climate Change issuing a code red warning (The Hindu, 2021), the fear of the impacts of climate change looms large. Though the contribution as well as the coping capacity to effects of climate change differ from nation to nation, not adhering to the global temperature rise limit of 1.5°C shall threaten the life on the entire planet. Hence, it is imperative that climate action is considered a top priority and is addressed through international cooperation and responsible behavior.

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COP26 AND INDIA - WHERE LIES THE INDUSTRY SENTIMENT?

Dr. Abhinav Jindal
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In the runup to COP26, India exhibited commendable leadership by enhancing the economy-wide carbon intensity reduction target from 33-35% to 45% by 2030. India also enhanced the target for installed renewable energy (RE) capacity by 2030 from 450 GW to 500 GW, and committed that 50% of its total electricity would be generated from RES by 2030. Further, India pledged to achieve net-zero emissions by 2070.

Industry experts argue that the India's commitment of 500 GW of RE by 2030, which is more than twice its installed capacity of coal currently, could set the stage for a rapid transformation of the energy sector. Ajay Mathur, the director-general of International Solar Alliance termed India's COP26 commitments as bold, enormous and transformative. According to the Central Electricity Authority (CEA), India's announcement of 500 GW of non-fossil-based electricity capacity by 2030 is in line with its domestic commitment for 450 GW of RE capacity by end of the decade.

These COP outcomes, on the one hand, would lead to emergence of new regulatory mandates for the industry, on the other hand they necessitate significant movement in the climate finance particularly in light of costs associated with net zero. Some of these include costs towards large scale R&D projects for reducing reliance on imports related with clean energy and decarbonization of industry in general and electricity in particular. On its part, Industry is looking for engagement with key stakeholders on issues of rehabilitation and reskilling of those who are likely to be displaced from the sectors which will be adversely impacted including thermal power and coal mining; and the handholding support that MSME will require on technologies, finance, and capacity building.

As part of a study with Imperial College London, the author investigated the potential financial risk of the energy transition on the performance of three key industrial players in the Indian coal value chain namely NTPC Ltd. Indian Railways and Coal India Limited. The study found that they are exposed to transition risks due to the ongoing decline in the value of their core business as demand for high carbon products drops as a result of higher RE penetration. Given the systemic importance of these industry players to the Indian economy, the firm-level risks may pose spillover risks to the Indian sovereign as well to the tune of at least USD 9 billion over the next decade.

COP26 showed that the shift to net zero is urgent and industry has a critical role in guiding this transition. Yet many of the board members in the related industries have little training or background in sustainability. The boards need to reskill - a vacuum existing in industry which needs to be filled by academia/research so as to operate sustainably and profitably in this new paradigm. These include training on many aspects of ESG and sustainability, understanding the measurement and management of risks embedded in current ways of doing things and the reputational challenges involved for the industry.

In light of India's COP26 commitments and its national policies, the academic/research institutions need to build awareness and capability in Indian industry (with a focus on public sector firms in the energy sector) for carbon transition through outreach and training on carbon transition finance and business strategy. Specifically, the academic/research institutions could undertake the following initiatives:

- Create knowledge on how to accomplish an effective and just carbon transition,
- Build awareness and train executives of industries in best practice on transition,
- Build awareness and expertise among students at Institutes on low carbon transition finance
- Develop a network of professionals working in the related areas
- Disseminate the new knowledge through open-source networks
- Develop policy advisories for business and governments

Dr Abhinav Jindal is a Senior Manager (Commercial) with NTPC and holds a PhD in Economics from the Indian Institute of Management (IIM) Indore. He has considerable experience in issues related to commercial and economic aspects of energy industry in India. He has authored a number of international peer reviewed publications at the intersection of energy, economics and environment. Recently, he co-authored a paper for the World Bank on repurposing coal plants in India and another paper for Imperial College London on energy transition in India. He is also a recipient of Karamveer Chakra Puraskar 2012.

MARCHING TOWARDS NET ZERO: ROLE OF FINANCE

Jeenia Bhadra
PGDM-BIFS, 2020-22

According to the latest report by PWC, there is a need to spend about $7 trillion yearly on climate-resilient infrastructure and low carbon aspects [1]. The transition is not easy but will take anything but reluctance in appropriate financial assistance.

The pathway is filled with hurdles, and with the above assistance, only half the feat can be achieved. However, there has been tremendous enthusiasm among countries when United Nations launched the Race to Zero Initiative in June 2020. The mission is to bring down the rise in global temperature to about 1.5 degrees Celsius, for which more than 1700 companies have signed up.

Capitalization Techniques for a Greener Economy

The role of financial institutions globally has been well defined so far, and it is expected to enable the framework of sustainable finance and help in moving towards a net-zero economy. Additionally, the specific institutions and bodies individually play an even important role in making this happen. The same has been discussed as:

- **Creditors**
  Creditors, e.g., banks and other financial institutions have funded green finance largely. In the upcoming years, the financing for decarbonization and climate finance is likely to increase significantly [2]. Banks are also looking forward to *originate and distribute models*. however, these are likely to be short-term models, and credit from other sources would be required.
- **Insurers**
  Insurance providers have a two-pronged action consisting of both safeguarding from risks as well as financing. As of now, they are financing green bonds and look forward to financing more underwritings along similar lines, besides defining their role in the financial sector.
- **Asset owners**
  The breakthrough is likely to be achieved through the asset owners as they move towards investing in technologies that consider past track records of risks and returns of investment areas.

Altogether, the transition towards a net-zero economy is a welcome one. However, it is going to take a lot more effort than anticipated to execute the same in reality.

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CLIMATE ACTION ECOSYSTEM

Rohit
PGDM-BDA, 2021-23

COP26 held at Glasgow was perceived as one more chance to mitigate climate change. The meeting began with enthusiasm but ended on a more modest note. The summit saw a disturbing fact that the world was set to reach nearly +3°C by the end of the century, which is above the COP21 target of "well below 2°C" and preferably 1.5°C above pre-industrial levels. COP 26 urged countries to make strong their 2030 targets by COP27 (Egypt). 140 countries announced their targets for reducing G.H.G emissions down to net zero which is a great achievement because in the COP21, the developing countries did not agree to reduce emissions but just the "emissions-intensity" (i.e., the total amount of greenhouse gas emissions emitted for every unit of GDP) of GDP. India also declared to be a net-zero emitter by 2070.

Probable Way Forward for India and the World

- **India:** India has made no promises regarding mitigating the coal-based power; however, its renewable energy targets 2030 will help in reducing the share of the same from the current 72% to about 50% by 2030.
- **Encouraging Electric Vehicles (EVs):** India needs to phase out conventional Vehicles and shift towards EVs. Vehicle scrappage policy is also a great step in the same direction.
- **Data Science:** With the power of Data Science and Analytics generated reports, satellite gathered data, and interactive dashboards related to green and clean energy availability, hunger, poverty, crop yield based on weather conditions we can come up with solutions to the majority of the problems related to temperature rise, its reasons, problems related to inclusive and sustainable development.

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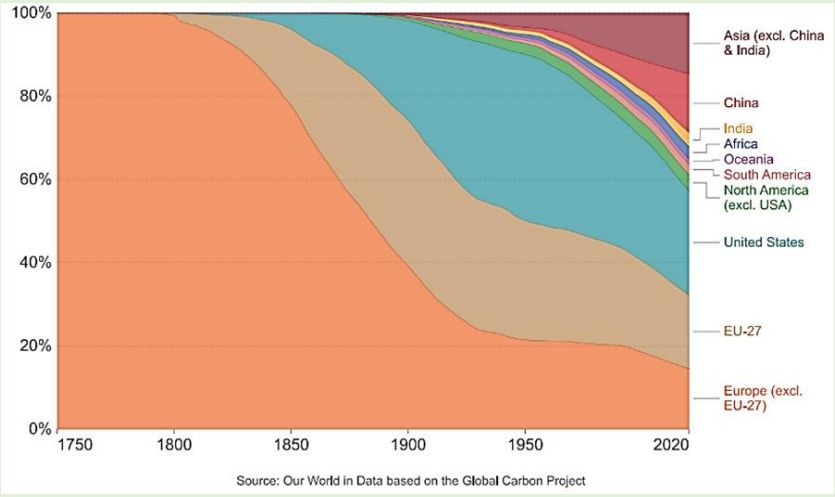
IS INDIA REALLY THE NEW CLIMATE VILLAIN?

Society for Public Policy
Goa Institute of Management

India has somehow emerged as the new climate villain for opposing a commitment to "phase out" coal at COP26 held in November. The developing nation agreed to "phase down" coal while negotiating the final agreement of the Glasgow climate deal. COP26 President, Alok Sharma, expressed that he was "deeply frustrated" and warned that India and China will "have to explain themselves to poor nations" after watering down the pact.

India is highly dependent on coal for its energy needs. Before we proceed, we need to understand that India, which has 3 percent of the global landmass while possessing 16 percent of the global population, consumes more than 1.2 kWh of energy per capita. Around 21% of this energy comes from renewable sources. Yet, India only emits 7% of the global emissions, despite having 16% of the world's population. India's coal consumption on a per capita basis, when normalized for the coal quality, is half the world's average.



As can be seen from the graph, India's historic share of cumulative CO2 emissions since 1750 is minimal compared to developed regions of the world.

However, India still relies on coal for 70% percent of its electricity needs, which largely fuels the growth and development of the emerging economy. It is critical to note that India still needs to lift millions out of poverty in the coming decades. This herculean task requires affordable energy, and that is the reason why developing economies such as India are dependent on coal for the immediate future.

Moreover, 4 million people in India depend on the coal industry for their livelihood. In light of the facts shared beforehand, India's 2070 pledge to net-zero emissions is quite ambitious. Moreover, the specifics that India is putting on the table as far as its 2030 ambitions are concerned i.e., reducing its non-fossil energy capacity to 500 GW by 2030, meeting 50 percent of its energy requirements from renewable energy by 2030, and reducing the total projected carbon emissions by one billion tonnes from now to 2030, will require large investments in renewable energy.

The current climate crisis has been precipitated by unsustainable lifestyles and wasteful consumption patterns historically found in developed countries. Developed nations, despite having vast financial resources and access to cleaner fossil fuels have failed to keep their climate-finance promises to the poorer countries (most notably the $100 billion promised at Copenhagen 2015). India, therefore, was right in demanding $1 trillion of public cash by end of the decade in climate finance. India also highlighted the fact that a lot more needs to be done apart from mere lip service as the responsibility towards achieving a sustainable future should be a global endeavor with principles of equitable development at the forefront of a change.

A BRIEF SNAPSHOT OF THE COP SERIES

COP-1: Berlin, 1995
Held after UNFCCC entered into force

Action: "Berlin Mandate" on binding emission targets

COP-3: Kyoto, 1997
"Kyoto Protocol"

Action: Binding climate targets, emission trading, JI and CDM

COP-13: Bali, 2007
"Bali Road Map"

Action: Adoption of the Adaptation Fund to vulnerable countries adapt to the impacts of climate change

COP-17: Durban, 2011
"Durban Platform for Enhanced Action"

Action: established a new treaty to limit carbon emissions

COP-21: Paris, 2015
"Paris Agreement"

Action: Binding international treaty on climate change, adaptation, mitigation and finance

COP-24: Katowice, 2018
"Katowice Rulebook"

Action: Rule book for implementation of the Paris agreement

COP-26: Glasgow, 2021
"Glasgow Climate Pact"

Action: Enhanced commitments towards mitigating climate change

Source:
A Timeline of COP
by **Hannah Harrison**
(climatalk.org)

ABOUT THE CENTRE

GIM has always been conscious about the impact of its decisions on the ecosystem around it and has continuously strived to reduce its carbon footprint. Along with measures like rain water harvesting, solar-powered street lamps, treatment of water for reuse, tree plantation drives and many more, the institute has expressed its commitment to this philosophy also through its mission statement which talks about sustainable business and an inclusive society for India and the world. In line with this commitment, the Centre for Excellence in Sustainable Development was officially formed in July 2018 to contribute to GIM's quest for sustainability. The Centre started working with three core objectives in mind:

1. KNOWLEDGE CREATION

- To develop a model institute for green campus in India and transform GIM community into a more sustainable community. At the same time, use these processes for action research in the field of sustainable development.
- To help develop knowledge through research in the aforesaid fields.

2. KNOWLEDGE DISSEMINATION

- To increase awareness about green living and sustainable development in the community around us
- To carry out activities to try to reduce the carbon footprint of the state of Goa and India as a whole.

3. KNOWLEDGE APPLICATION

- To develop a resource Centre for sustainable development at GIM for imparting training, providing consultancy and participating in policy making.
- To contribute to the development of start-ups and ventures for sustainable development at the grassroots level.

Over the next few years, Centre plans to contribute towards the following five sustainable development goals adopted by United Nations member states in 2015:

CESD believes that every graduate of GIM should be a sustainability ambassador and every employee should be a part of GIM's journey towards environmental sustainability.
Some of the current projects and activities of the Centre include:

- A study of the sustainable campus development initiatives of national level institutions in India
- Development of a Biodiversity Register of the GIM Campus
- Development of a Sustainability Report for GIM
- Webinars and trainings about energy conservation, energy policy, sustainable finance, etc.

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