



Climate Change: A Clarion call for action World's Climate Strife and India's Climate Commitments

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ABSTRACT

In 2015, India had committed to achieving 40% of all installed electricity generation capacity to be from non-fossil energy sources by 2030. For the first time, India announced the target of achieving **net zero** emission by 2070 and that it will reduce carbon emissions by one billion tonnes by 2030. Climate change is recognized as inherently unfair and unjust. Not only are the **Least Developed Countries (LDCs)** extremely vulnerable to its impact, facing the largest cost of inaction by those who are responsible for it, they are also not equally represented in global decision-making because of a lack of capacity and resource constraints. Justice requires that these concerns should be addressed. While the importance of this has received increased attention through recent UNFCCC decisions, actual progress through systematic implementation has been slow. A **carbon sink** is anything that absorbs more carbon from the atmosphere than it releases – for example, plants, the ocean and soil. In contrast, a carbon source is anything that releases more carbon into the atmosphere than it absorbs – for example, the burning of fossil fuels or volcanic eruptions. **Green Imperialism** is a succinct yet richly nuanced study of the genealogy of European environmentalism. The **Kigali Amendment** to the Montreal Protocol is an international agreement to gradually reduce the consumption and production of hydrofluorocarbons (HFCs).

Keywords: electricity, net zero, climate change, sink, Kigali, green, imperialism

INTRODUCTION

Energy use is changing fast. The shift to renewable sources, however, needs to happen faster, not just in power generation but in heating, buildings and transport, to check the rise in global temperatures. **Renewables** could supply four-fifths of the world's electricity by 2050, massively cutting carbon emissions and helping to mitigate climate change. But solar and wind power have to be fully integrated, with sustainable bioenergy providing another key part of the mix. All this means speeding up innovation in business

and technology. Above it all, it means taking action to promote renewable energy today. [1]

The **Least Developed Countries (LDC)** Group represents 46 nations and around one billion people at UN climate talks. Many LDCs, despite having contributed the least to the causes of climate change, are among the worst hit by its impacts. By emphasising the need for urgent action to support the world's most vulnerable countries, the LDC Group has a critical role to play in climate talks, at which access to finance, adaptive capacity building and technological support from developed nations remain problems. The climate

change context is increasingly the focus of decision-makers, indices capable of helping them in the transition to a low-carbon economy are considered necessary.[2]

- a) There is currently no nation that fully guarantees climate justice to its population;
- b) There is a difference in the performance of climate justice between the Annex I, Non-Annex I and Least Developed Countries (LDCs) groups;
- c) Nations located in Africa, Latin America and the Caribbean, Asia and Eastern Europe are similar in terms of climate justice index performance.

Carbon is an element that is essential to all life on Earth. Carbon makes up the fats and carbohydrates of our food and is part of the molecules, like DNA and protein, that make up our bodies. Carbon, in the form of carbon dioxide, is even a part of the air we breathe. It is also stored in places like the ocean, rocks, fossil fuels, and plants.[3]

The carbon cycle describes the flow of carbon between each of these places. For example, carbon continually flows in and out of the atmosphere and also living things. As plants photosynthesize, they absorb carbon dioxide from the atmosphere. When plants die, the carbon goes into the soil, and microbes can release the carbon back into the atmosphere through decomposition.[4]. Forests are typically carbon sinks, places that absorb more carbon than they release. They continually take carbon out of the atmosphere through the process of photosynthesis. The ocean is another example of a carbon sink, absorbing a large amount of carbon dioxide from the atmosphere.

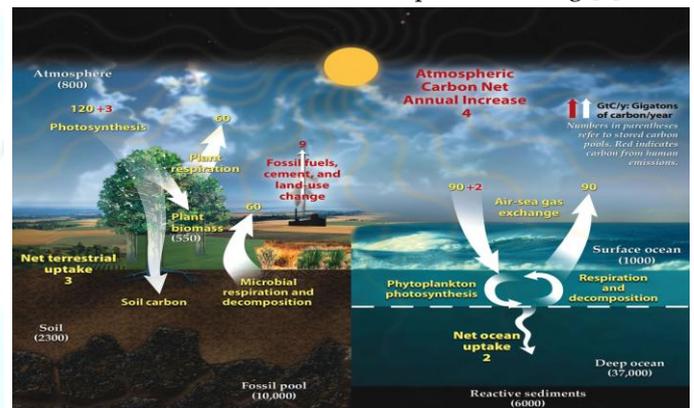


Least developed countries

Some processes release more carbon dioxide into the atmosphere than they absorb. Any process that uses fossil fuels—such as burning coal to make electricity—releases a lot of carbon into the atmosphere. Raising cattle for food also releases a lot of carbon into

the atmosphere. These processes that release carbon into the atmosphere are known as carbon sources.[5,6]

Ideally, the carbon cycle would keep Earth's carbon concentrations in balance, moving the carbon from place to place and keeping atmospheric carbon dioxide levels steady. However, the carbon cycle is changing because of human activity. People are releasing more carbon into the atmosphere by using fossil fuels and maintaining large livestock operations. Deforestation is depleting Earth's supply of **carbon sinks**. As a result, the amount of carbon in the atmosphere is rising.[7]



Carbon sink

OBSERVATIONS

A **carbon credit** is a tradable permit or certificate that provides the holder of the credit the right to emit one ton of carbon dioxide or an equivalent of another greenhouse gas – it's essentially an offset for producers of such gases. The main goal for the creation of carbon credits is the reduction of emissions of carbon dioxide and other greenhouse gases from industrial activities to reduce the effects of global warming. Carbon credits are market mechanisms for the minimization of greenhouse gases emission. Governments or regulatory authorities set the caps on greenhouse gas emissions. For some companies, the immediate reduction of the emission is not economically viable. Therefore, they can purchase carbon credits to comply with the emission cap. Companies that achieve the carbon offsets (reducing the emissions of greenhouse gases) are usually rewarded with additional carbon credits. The sale of credit surpluses may be used to subsidize future projects for the reduction of emissions.[8]

The introduction of such credits was ratified in the **Kyoto Protocol**. The Paris Agreement validates the

application of carbon credits and sets the provisions for the further facilitation of the carbon credits markets.[9]

There are two types of credits:

- **Voluntary emissions reduction (VER):** A carbon offset that is exchanged in the over-the-counter or voluntary market for credits.
- **Certified emissions reduction (CER):** Emission units (or credits) created through a regulatory framework with the purpose of offsetting a project's emissions. The main difference between the two is that there is a third-party certifying body that regulates the CER as opposed to the VER.[10]



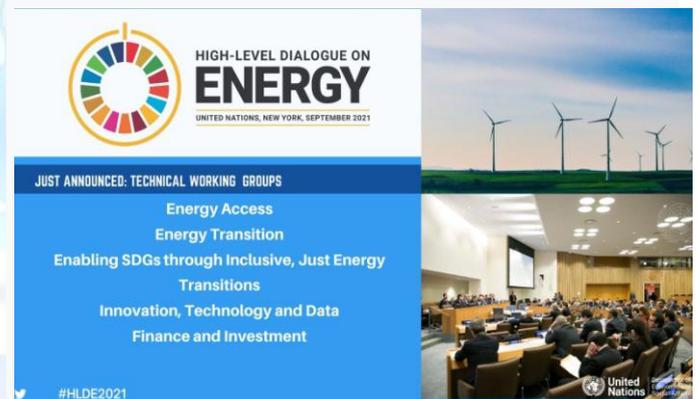
Carbon credit

Green colonialism... or the fight against climate change as an excuse for **imperialism**. Countries now use the fight against climate change as a reason for pursuing imperialist activities. This has been designated as green colonialism. Green colonialism, whether exercised consciously or unconsciously, is causing serious harm to indigenous populations as well as populations from the least developed countries. This issue is almost absent from the media, which can be explained by the difficulty the impacted populations have to raise awareness about their situation. It is therefore the most important fight to lead: make sure that their voices are heard so that policymakers listen to them. [11]



Green imperialism

Additional input was received from representatives of some of the Member State Global Champions for Enabling SDGs through Inclusive, Just Energy Transitions: the Global Champions for Enabling SDGs through Inclusive, Just Energy Transitions are the European Union (supporting role), Iceland, Honduras, Nauru, Panama, Portugal, and the United Arab Emirates. The views expressed in this publication do not necessarily reflect those of the Member State Global Champions.[12]



Policymakers can and should explicitly prioritize the needs of the vulnerable through the just energy transition pathways by:

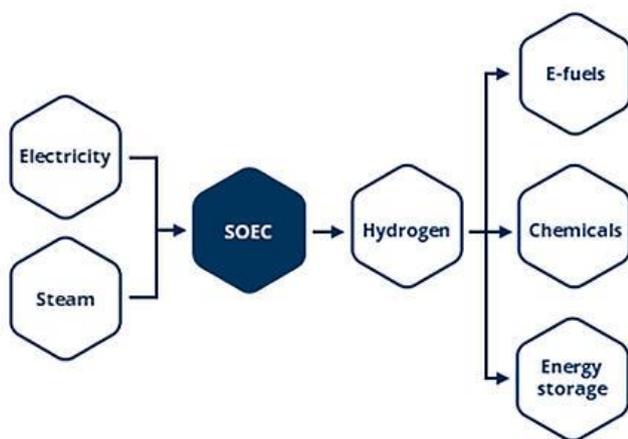
- Empowering people** by ensuring gender equality in its multiple dimensions; enhancing win-win outcomes for health and education, putting the needs of children, youth, local communities and other vulnerable populations first, including safeguarding and protecting the rights of indigenous peoples and addressing the essential energy needs of displaced people and affected communities.

ii. **Protecting the planet** by ensuring a pathway to net-zero emissions and the sustainable use of finite resources, such as water, food, and ecological systems; also ensuring biodiversity, high levels of air and water quality and sustainable life on land, below water, and in cities.

iii. **Enhancing prosperity** and reducing inequality by empowering populations through modern energy access; creating new jobs and employment opportunities; implementing the framework of a circular economy and promoting diversification within it; increasing the role of the private sector and entrepreneurship development; ensuring sustainability and affordability; and building capacity to reap the full benefits of digitalization while maximizing human potential.

DISCUSSION

Green hydrogen is produced by electrolysis. This process uses electrical power to split water and produce hydrogen. In the case of green hydrogen, the electricity comes from renewable sources such as wind turbines, solar panels, or hydropower. The electrolysis process emits no carbon or harmful substances.



Less than 0.1% of the hydrogen produced today comes from water electrolysis. Now, as the availability of renewable electricity is increasing and the cost goes down, interest in green hydrogen is booming.

The Kigali Amendment to the Montreal Protocol is an international agreement to gradually reduce the consumption and production of hydrofluorocarbons (HFCs). It is a legally binding

agreement designed to create rights and obligations in international law. The Montreal Protocol was originally created to preserve and restore the ozone layer, and it worked. The Protocol was an agreement between participating countries to phase out certain ozone depleting gases. HFCs were used to replace the substances banned in that agreement because they have zero impact on the ozone. However, HFCs are powerful greenhouse gases that contribute to climate change,^[3] so this amendment adds HFCs to the list of chemicals that countries promise to phase out.[13]

26th UN Climate Change Conference of the Parties (COP26) in Glasgow on 31 October – 12 November 2021. The COP26 summit will bring parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. The UK is committed to working with all countries and joining forces with civil society, companies and people on the frontline of climate change to inspire climate action ahead of COP26.

Companies and industry groups often join together to promote their products. Far more unusual was the step taken last month by 10 major European energy companies and two of the continent's top renewable industry bodies, which joined up to launch a campaign touting a product that none of them actually sell.[14]

That product is renewable or "green" hydrogen. And while it's not a central concern today for those companies (Enel, EDP, BayWa and others) or industry groups (SolarPower Europe and WindEurope), all see green hydrogen playing a vital role in achieving deep decarbonization of the energy system.[15]



Interest in green hydrogen is skyrocketing among major oil and gas firms. Europe is planning to make hydrogen a big part of its trillion-dollar Green Deal package, with an EU-wide green hydrogen strategy expected to be published in July. [16]

RESULTS

The Sustainable Development Goals (SDGs) were adopted by the United Nations in 2015. They are a group of 17 integrated global goals designed as a 'blueprint to achieve a better and more sustainable future for all' and are to be met by 2030. Some of the global challenges that the SDGs are designed to overcome include climate-change and sustainability, environmental degradation, inequality, peace and justice.

To achieve the SDGs by 2030, it is paramount that industries as well as individuals harness their knowledge of materials and financial resources to ensure the safety and prosperity of people and natural environments worldwide.[17,18]



Solving the climate crisis needs sustainable, resilient & inclusive infrastructure! We need immediate action & ambitious ideas to fight climate change. The Biden administration has applauded India for stepping up its climate change commitment including the partnership with the United States. Prime Minister Narendra Modi said the country is on track to achieving its climate goals well before the target date as it switches over to energy-efficient mediums and uses waste to generate energy. Speaking after accepting the 2021 CERAWEEK Global Energy & Environment Leadership Award for his commitment to energy sustainability and

the environment, Modi said climate change and calamity are major challenges facing the world.[19]

CONCLUSION

While switch over to energy-efficient LED bulbs has helped save 38 million tonnes of carbon emission, modern techniques of irrigation as well as reducing the use of pesticides with greater awareness of improving soil health has greatly helped, Modi said. The share of non-fossil sources in India's installed capacity of electricity has grown to 38 per cent and the nation adopted Bharat-VI emission norms in April last year to cut vehicular pollution. Climate change is impacting communities in every country, across every continent. Rising sea levels. Extreme weather events.



Disrupted economies. Food and water insecurity. Resource scarcity. [20,21] Conflict. We need urgent action, new partnerships and ambitious ideas. We believe infrastructure is central to addressing climate change and is key to climate mitigation and adaptation efforts. The infrastructure decisions made today will impact generations to come because it's built to last. [22,23] But without radical change to how infrastructure is planned, delivered and managed, we will not achieve the objectives of the Sustainable Development Goals. Our latest report – Infrastructure for climate action – published together with the UN Environment Programme and the University of Oxford, explores the role infrastructure will play in defining our climate. [24] The landmark study calls for radical changes in the way governments plan, design and manage infrastructure to support a low-emission and resilient future. As countries begin to plan for a post-COVID-19 recovery, we have a

unique opportunity to make the right infrastructure decisions. But the clock is ticking.[25,26]

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