

IS THE CALL FOR CLIMATE NEUTRALITY AN UTOPIA?

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ABSTRACT

In recent years, the idea of achieving climate neutrality has garnered considerable interest due to the growing recognition among the international community of the pressing need to tackle climate change. Climate neutrality refers to the state in which an entity's net greenhouse gas (GHG) emissions are equal to zero, meaning that the entity is not adding any additional GHGs to the atmosphere. While this goal is ambitious, some argue that it is an unattainable utopia due to a variety of legal and practical challenges. In this article, we will explore the legal and regulatory frameworks that support and challenge the pursuit of climate neutrality and consider whether it is indeed an achievable goal.¹

Keywords: Climate neutrality, greenhouse gas, environmental justice, international environmental law, multi-level conflict.

INTRODUCTION

Climate neutrality, also known as net-zero discharge means achieving a state of equilibrium between the amount of greenhouse gases produced and the amount removed from the atmosphere. To put it differently, attaining climate neutrality entails ensuring that the quantity of greenhouse gas (GHG) emissions discharged into the atmosphere is equivalent to the amount extracted from it, leading to no net rise in GHG levels.

To achieve climate neutrality, countries and organizations must reduce their minimizing greenhouse gas (GHG) emissions to the greatest extent feasible and counterbalance any residual emissions through the use of carbon removal technologies or the purchase of carbon credits. Technologies for removing carbon dioxide from the atmosphere include afforestation, soil carbon sequestration, and direct air capture. The right to discharge carbon dioxide or its corresponding amount equal to one metric ton is represented by carbon credits, a type of tradable permit.

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¹ Jing M. Chen, 'Carbon neutrality: Toward a sustainable future' (2021) 2 (3) National Library of Medicines 2 < <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8454731/> > accessed 24 April 2023

Achieving climate neutrality is regarded as a crucial objective in combating climate change since greenhouse gas (GHG) emissions are the primary factor behind global warming and climate disruption. The Intergovernmental Panel on Climate Change (IPCC) has stated that worldwide GHG emissions must attain net zero by approximately 2050 to restrict global warming to 1.5°C above pre-industrial levels and prevent the most severe consequences of climate change.²

INTERNATIONAL LAWS PERTAINING TO CLIMATE NEUTRALITY

United Nations Framework Convention on Climate Change: The UNFCCC is the primary global legal agreement for addressing the challenges of climate change. The Convention was established in 1992 and has been ratified by 197 countries, including the United States. It outlines a structure for managing climate change through actions such as mitigation, adaptation, and technology transfer, with the end goal of stabilizing greenhouse gas concentrations in the atmosphere to prevent harmful human interference.

Paris Agreement: The Paris Agreement was adopted in 2015 under the auspices of the UNFCCC, sets out more ambitious goals for reducing GHG emissions, including a goal of limiting global temperature rise to well below 2 degrees Celsius above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius. The Paris Agreement also includes a mechanism for countries to voluntarily increase their ambition over time and requires countries to submit national GHG inventories and mitigation plans, and to report progress towards their targets.

Kyoto Protocol: The Kyoto Protocol is a worldwide agreement that was adopted in 1997 under the United Nations Framework Convention on Climate Change (UNFCCC). Its objective is to compel signatories to decrease greenhouse gas (GHG) emissions by an average of 5.2% below 1990 levels during the 2008-2012 period. The Kyoto Protocol contains regulations for international emissions trading, which enables countries to trade emissions credits to fulfill their targets.³

² Saloni Neema, International Convention on Climate Change and Its Implications, (*Legal Service India*) < [International Convention On Climate Change and Its Implications \(legalserviceindia.com\)](https://legalserviceindia.com) > accessed 24 April 2023

³ Craig and Jeffrey, International Climate Change Law, (*Research Gate, 10 June 2016* < <https://www.researchgate.net/publication/312320726> International Climate Change Law > accessed 24 April 2023

International Maritime Organization (IMO): The International Maritime Organization (IMO) is a dedicated agency under the United Nations that is accountable for overseeing global shipping. In 2018, the IMO approved a plan to diminish greenhouse gas (GHG) emissions from shipping, which incorporates a target to decrease emissions by a minimum of 50% by 2050 relative to 2008 levels. The plan also comprises a goal of obtaining climate neutrality in the shipping sector as quickly as possible in the latter half of this century.

International Civil Aviation Organization (ICAO): The International Civil Aviation Organization (ICAO) is a particularized agency within the United Nations that is accountable for regulating global aviation. In 2016, the ICAO implemented a Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), whose objective is to achieve carbon-neutral growth for the aviation industry beginning in 2020. The CORSIA mandates airlines to procure carbon credits to balance out any emissions growth beyond 2020 levels.⁴

At the national level, many countries have established legal frameworks for addressing climate change and pursuing climate neutrality. For example, the European Union has established an aim to reach net-zero greenhouse gas (GHG) emissions by 2050 and has undertaken measures to achieve this goal to establish a legal framework to support this goal, including emissions trading schemes, renewable energy targets, and energy efficiency standards. Similarly, the United Kingdom has established a legally binding objective of reaching net-zero greenhouse gas (GHG) emissions by 2050, and a Climate Change Committee has been instituted to offer autonomous recommendations and monitoring of progress towards this goal.

NATION'S TARGET TO ATTAIN CLIMATE NEUTRALITY

As of now, no country has achieved climate neutrality means attaining net-zero greenhouse gas (GHG) discharge. However, several countries have set ambitious targets to accomplish net-zero greenhouse gas (GHG) emissions in the coming decades. Here are some examples:

Sweden: Sweden has established a goal to reach net-zero greenhouse gas (GHG) emissions by 2045. The country has made significant progress in transitioning to renewable energy sources and currently generates over half of its electricity from renewables.

⁴ Reuters Staff, EU Commission wants ICAO, IMO to do more on climate, (*Reuters*, 19 November 2007) < <https://www.reuters.com/article/environment-climate-aviation-dc-idUSL1923336020071119> > accessed 24 April 2023

Denmark: Denmark has established a target to reach net-zero greenhouse gas (GHG) emissions by 2050. The nation has made notable advancements in decreasing its dependence on fossil fuels and is at the forefront of wind energy generation.

Costa Rica: Costa Rica has established a goal of reaching climate neutrality, with no net greenhouse gas emissions, by 2050. The country has made significant progress in transitioning to renewable energy sources and has already achieved nearly 100% renewable electricity generation.

Finland: Finland aims to achieve net-zero greenhouse gas emissions by 2035 and has implemented policies and regulations to promote energy efficiency and reduce emissions. The country has also made significant progress in transitioning to renewable energy sources.

Norway: Norway has established a goal of attaining climate neutrality by achieving net-zero greenhouse gas (GHG) emissions by 2050. The country has made significant progress in transitioning to electric vehicles and renewable energy sources and is a leader in carbon capture and storage technology.

It should be emphasized that attaining climate neutrality necessitates continuous cooperation and work from all sectors of society, such as governments, corporations, and individuals. Moving towards an economy with zero net emissions would demand substantial investments in renewable energy, energy efficiency, and carbon capture technologies, as well as the implementation of policies and rules that encourage greenhouse gas emissions reduction.⁵

CHALLENGES TO CLIMATE NEUTRALITY

Despite these legal frameworks, there are significant legal and practical challenges associated with pursuing climate neutrality. One of the most significant challenges is the potential conflict between climate policies and existing international trade agreements. For example, some countries have argued that measures such as carbon taxes or emissions trading schemes could be seen as a form of protectionism and could be challenged under international trade law.

Another legal challenge to pursuing climate neutrality is the potential conflict between climate policies and existing property rights. For example, in the United States, there have been legal

⁵ [Megan Darby](https://www.climatechangenews.com/2019/06/14/countries-net-zero-climate-goal/) and [Isabelle Gerretsen](https://www.climatechangenews.com/2019/06/14/countries-net-zero-climate-goal/), Which countries have a net zero carbon goal? (*Climate Hot News*, 14 April 2019) <<https://www.climatechangenews.com/2019/06/14/countries-net-zero-climate-goal/>> accessed 24 April 2023

challenges to regulations that restrict the extraction of fossil fuels from public lands, on the grounds that these regulations violate the property rights of fossil fuel companies. Similarly, there have been legal challenges to regulations that restrict the use of private property for renewable energy development, on the grounds that these regulations violate the property rights of landowners.

Practical challenges to pursuing climate neutrality include the scale of the problem, the issue of technological readiness, and the need for significant cooperation and coordination at the global level. Achieving climate neutrality will require a massive transition away from fossil fuels, and will require significant investments in new infrastructure, technologies, and energy sources. Additionally, there may be challenges associated with ensuring that the benefits and costs of this transition are distributed fairly and equitably across different sectors and populations.⁶

DOUBLE-SIDED FACE OF WORLD SUPERPOWERS ON CLIMATE NEUTRALITY MAKING IT AN UTOPIA

The world's superpowers, including the United States, China, Russia, and the European Union, have all taken positions on climate neutrality, but their approaches to achieving this goal have been mixed. Here are some examples of the double-sided face of world superpowers on climate neutrality:

United States: The United States is among the major contributors to global greenhouse gas emissions and has a significant track record of political and ideological divides on climate change. Under the Obama administration, the US made significant progress in reducing its emissions, and promoting the country's efforts towards renewable energy have resulted in its commitment to the Paris Agreement. However, under the Trump administration, the US pulled out of the Paris Agreement and reversed several of its climate-related policies put in place by the previous administration. The Biden administration has promised to re-enter the Paris Agreement and has established ambitious goals to decrease emissions and move to renewable energy. However, the United States continues to encounter difficulties in implementing these policies at both the federal and state levels.⁷

⁶ Alicja Sikora, 'European Green Deal – legal and financial challenges of climate change' (2020) 21 (4) PMC 4 <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7607896/>> accessed 24 April 2023

⁷ Sushant Agarwal, Paris Agreement and Environment problems, (*iPleaders*, 29 May 2020) <<https://blog.ipleaders.in/paris-agreement-environment-problems/>> accessed 24 April 2023

China: China emits more greenhouse gases than any other country in the world but has also made significant progress in transitioning to renewable energy and reducing emissions. However, China has been criticized for its lack of transparency on emissions reporting and its continued reliance on coal for electricity generation. Additionally, China's Belt and Road Initiative, which seeks to expand its global infrastructure investments, has raised concerns about the potential for increased greenhouse gas emissions in partner countries.

European Union: The EU has taken a leading role in advancing climate neutrality, with a goal to reach net-zero emissions by 2050. The EU has additionally enforced different policies and regulations to stimulate the adoption of renewable energy and energy efficiency, including the Renewable Energy Directive and the Emissions Trading System. However, some EU member states continue to rely heavily on fossil fuels, and the EU's reliance on natural gas as a transitional fuel has raised concerns about the potential for increased emissions in the short term.

Russia: Russia, which is responsible for a significant amount of global greenhouse gas emissions, has faced criticism for its inadequate efforts to decrease its emissions. Russia has not set a target for achieving climate neutrality, and its energy mix is still heavily reliant on fossil fuels. Additionally, Russia's support for the expansion of oil and gas infrastructure, such as the Nord Stream 2 pipeline, has raised concerns about the country's commitment to reducing emissions.

Overall, the world's superpowers have taken various positions on climate neutrality, and their approaches to achieving this goal have been mixed. While some countries have made significant progress in reducing emissions and promoting renewable energy, others have been criticized for their lack of ambition and transparency. Achieving climate neutrality will require sustained political will, strong policy frameworks, and active participation and engagement from all sectors of society, including the world's superpowers.

CLIMATE NEUTRALITY IN INDIA

India has set a target of achieving net-zero greenhouse gas (GHG) emissions by 2070 as part of its commitment to limit global warming to below 2 degrees Celsius above pre-industrial levels under the Paris Agreement. This goal was announced by Indian Prime Minister Narendra

Modi at the Climate Ambition Summit in December 2020.⁸ India has acknowledged the pressing need to tackle climate change, as the nation is highly susceptible to its effects such as rising sea levels, more frequent and severe weather events, and changes in precipitation patterns. Additionally, India is one of the largest emitters of GHG emissions globally, due in large part to its rapidly growing economy and energy demand.

One of the crucial laws pertaining to climate neutrality in India is the Indian climate change act of 2008. The Indian government created the National Action Plan on Climate Change (NAPCC) as a comprehensive strategy to tackle the difficulties posed by climate change. The launch date of the plan was in June 2008, and it presents eight missions to tackle various elements of climate change. The NAPCC comprises eight missions, each with a specific objective of addressing climate change in India. These missions are the National Solar Mission, the National Mission for Enhanced Energy Efficiency, the National Mission on Sustainable Habitat, the National Water Mission, the National Mission for Sustaining the Himalayan Ecosystem, the National Mission for a Green India, the National Mission for Sustainable Agriculture, and the National Mission on Strategic Knowledge for Climate Change.

1. The National Solar Mission aims to develop and encourage the use of solar energy.
2. The National Mission for Enhanced Energy Efficiency focuses on improving energy efficiency in various sectors.
3. The National Mission on Sustainable Habitat is aimed at promoting sustainable urban development and reducing environmental impact.
4. The National Water Mission seeks to improve water management and usage efficiency.
5. The National Mission for Sustaining the Himalayan Ecosystem aims to preserve the Himalayan ecosystem and promote sustainable development.
6. The National Mission for a Green India aims to increase forest cover and improve ecosystem services.
7. The National Mission for Sustainable Agriculture aims to promote climate-resilient farming practices and increase productivity.
8. The National Mission on Strategic Knowledge for Climate Change aims to promote research and development related to climate change and its effects.

⁸ Sunita Narain, India's new climate targets: Bold, ambitious and a challenge for the world, (*Down To Earth*, 02 November 2021) <<https://www.downtoearth.org.in/blog/climate-change/india-s-new-climate-targets-bold-ambitious-and-a-challenge-for-the-world-80022>> accessed 24 April 2023

Overall, the Indian government's Climate Change Act of 2008 demonstrates its commitment to addressing climate change and shifting towards a more sustainable and low-carbon economy.⁹

INDIAN CLIMATE CHANGE ACT 2008: SUCCESS OR FAILURE

It is difficult to evaluate the overall success or failure of the Indian climate change act 2008 as it is an ongoing process, and its effectiveness is subject to various factors and challenges. However, some progress has been made in implementing the various missions under the NAPCC. The National Solar Mission has effectively encouraged the advancement and adoption of solar energy in India. Currently, India has a vast renewable energy capacity and is among the world leaders, having installed over 100 GW. India is also making strides towards achieving its objective of generating 175 GW of renewable energy by 2022.

Likewise, the National Mission for Enhanced Energy Efficiency has effectively enhanced energy efficiency across different sectors, including buildings and industry. The Bureau of Energy Efficiency, which was set up under this mission, has implemented multiple programs to promote energy efficiency. One such initiative is the Perform, Achieve, and Trade (PAT) scheme, which has assisted numerous industries in minimizing their energy consumption.

It's crucial to recognize that India has not yet missed the mark of attaining climate neutrality, as the country has established a goal to achieve net-zero greenhouse gas (GHG) emissions by 2070, which provides the nation with a significant amount of time to strive for this objective.

WHY INDIA IS LACKING TO ACHIEVE CLIMATE NEUTRALITY

The challenges and obstacles that India may face in achieving climate neutrality, some of which are outlined below:

1. High dependence on fossil fuels: The energy combination in India continues to rely densely on fossil fuels like gas, coal, and oil, which are primary contributors to greenhouse gas (GHG) radiation. Despite India's efforts to ramp up its renewable energy capacity, the country still relies on coal for over 70% of its electricity generation. This high dependence on fossil fuels makes it difficult to achieve climate neutrality.

⁹ Samaradhi Pandey, National Action Plan on Climate Change, 2008 (NAPCC), (*iPleaders*, 14 January 2021) < <https://blog.ipleaders.in/national-action-plan-on-climate-change-2008-napcc/> > accessed 24 April 2023

2. Lack of financial resources: India is a developing country and may not have the financial resources to make large investments in renewable resources and sustainable infrastructure. The growth of renewable energy sources and continual practices requires significant investments, and India may need support from international organizations and developed countries to achieve its climate neutrality goals.

3. Limited technology transfer: Access to clean technologies is essential for achieving climate neutrality, but many of these technologies are owned by developed countries and may not be easily accessible to developing countries like India. The transfer of clean technologies is essential for India to achieve its climate goals.

4. Social and economic challenges: Achieving climate neutrality may have social and economic implications, such as job losses in fossil fuel industries and changes in traditional livelihoods. India will need to ensure that the transition to a low-carbon economy is just and equitable and does not leave vulnerable communities behind.

5. Lack of enforcement of regulations: India has implemented various policies and regulations to encourage the adoption of renewable sources and promote energy production, but enforcement of these regulations may be weak in some cases, hindering progress toward climate neutrality.

While India has made significant progress towards reducing GHG emissions and transitioning to a low-carbon economy, there are still challenges and obstacles that need to be addressed. It will require sustained political will, strong policy frameworks, and active participation and engagement from all sectors of society to achieve climate neutrality.¹⁰

SUGGESTIONS TO ACHIEVE CLIMATE NEUTRALITY

Achieving climate neutrality requires a comprehensive and coordinated effort from governments, businesses, and individuals. Here are some suggestions for how we can work toward climate neutrality:

1. Reduce greenhouse gas emissions: The most important step towards climate neutrality is to reduce greenhouse gas emissions. Governments can implement policies and

¹⁰ Astha Verma, International laws for environmental protection and role of judiciary in India, (*iPleaders*, 22 September 2021) < https://blog.ipleaders.in/international-laws-for-environmental-protection-and-role-of-judiciary-in-india/#Reasons_for_environmental_crisis > accessed 24 April 2023

regulations to incentivize the transition to clean energy sources and reduce emissions from industry, transportation, and agriculture. Individuals can reduce their carbon footprint by choosing low-carbon transportation options, consuming less meat and dairy, and reducing energy use in their homes.

2. Transition to renewable energy sources: Switching to solar, wind, and hydropower can reduce greenhouse gas emissions and move towards climate neutrality. Governments can support this transition by developing renewable energy infrastructure and encouraging businesses and individuals to adopt clean energy.
3. Improve energy efficiency: Enhancing energy efficiency in buildings, vehicles, and industrial processes can reduce greenhouse gas emissions and energy costs. Governments can motivate energy efficiency measures by implementing policies and regulations, and businesses and individuals can adopt energy-efficient practices and technologies.
4. Promote carbon capture and storage: Carbon capture and storage technologies can capture carbon dioxide emissions from industrial processes and power plants and store them underground. Governments can invest in developing and deploying carbon capture and storage technologies, and businesses can implement these technologies in their operations.
5. Encourage sustainable land use: Sustainable land use practices like reforestation, sustainable agriculture, and conservation can sequester carbon dioxide and reduce greenhouse gas emissions. Governments can provide incentives and policies to support these practices, and businesses can adopt sustainable land use practices in their operations.
6. Invest in research and development: Funding research and development of new technologies and innovations can accelerate the transition to a low-carbon economy and achieve climate neutrality. Governments can provide funding for research and development, and businesses can invest in developing new clean technologies and sustainable practices.
7. Foster international cooperation: International cooperation is essential to addressing the urgent challenge of climate change and achieving climate neutrality. Governments can work together to share knowledge and best practices and collaborate on climate policies and initiatives.

These are just some suggestions to work towards climate neutrality. It is crucial that we all take action to decrease greenhouse gas emissions and transition to a sustainable future.¹¹

CONCLUSION

This can be achieved through a combination of reducing emissions and increasing removals through carbon sinks, such as forests or carbon capture technologies. While climate neutrality may be a challenging goal to achieve, it is increasingly viewed as a necessary one to prevent the most severe consequences of climate change. Many countries, organizations, and businesses have set targets to achieve climate neutrality, and there are various initiatives and policies aimed at supporting this goal.

While achieving climate neutrality may be difficult, it is important to work towards this goal to restrict the effects of climate change on our planet and future generations. Even if full climate neutrality is not achievable, significant progress can still be made toward reducing greenhouse gas emissions and promoting a more sustainable and low-carbon economy.



¹¹ Kavita Kait, Sustainable Development, Guiding Principles And Value, (*Legal Service India*) <<https://www.legalservicesindia.com/article/1641/Sustainable-Development,-Guiding-Principles-And-Values.html>> accessed 24 April 2023