



Advance Social Science Archives Journal

Available Online: <https://assajournal.com>

Vol.3 No.1, January-March, 2025. Page No. 338-354

Print ISSN: [3006-2497](#) Online ISSN: [3006-2500](#)

Platform & Workflow by: [Open Journal Systems](#)



CLIMATE POLITICS AND CROSS-BORDER IMPACTS: A COMPARATIVE STUDY OF CHINA AND THE US ON INDIA

Ayeza Hassan khan

M.S Scholar, Department of Strategic Studies, University of Management and Technology, Lahore, Punjab, Pakistan

Email: khanayeza280@gmail.com

ABSTRACT

This paper evaluates the effects of climate-related policies that were developed in China and the US on the Indian economy, its environment and its energy security and climate change commitments. Meeting the needs of climate change is an issue of serious concern for India, and as such India needs to strike a balance between developmental aspirations and global expectations on climate action. The Sino-American competition adds to India's pressure where China's BRI is transforming energy and water security in the region and US clean energy strategies offer both windows of opportunity and constraints. Even with transformative climate action goals set for itself, India is unable to handle the backlash from these nations which is a big hindrance for it, and this too the political science discourse is the gap that exists when it comes to the connection between international climate agendas and the Indian domestic scenario. On the other hand, it investigates the dynamic issues of how the policies of the two states affect the energy transitions, water security and climate action of India. The research combines three methods: policy analysis, historical and comparative case studies, to understand the dynamics of environmental geopolitics and economic relations. This study assists India in achieving its renewable energy targets but China's Belt and Road Initiative has created problems in the northeastern part of the country by increasing dependence on other countries for resources. The research further assists in deepening the understanding of dynamic India's strategic adjustments amid superpower climate tussles and emphasizes on such integrated regional models. This research follows the dependency theory approach, which emphasizes India's regional integration and multicentric climate negotiations in order to address regional climate risks.

Keywords: Cross-border conflict, climate politics, USA-CHINA, India

Introduction:

As far as the politics of the climate are concerned, this new political phenomenon is particularly visible in the context of the Asian space and global environmental change.

The research aims to assess the extraterritorial dimensions of climate policies through a China – US – India triangulated analysis. The analysis will address the question of how the climate policies of these powerful countries in the world are able to influence India in the political, economic and environmental spheres. In this context, it is important to consider the physical factors of India and the impact of climate change on this country, for example, changes in monsoon cycles, glacial melting in the Himalayas and rising sea levels in coastal areas. In addition, India's energy requirements are expected to increase and at the same time the country is also working towards setting high renewable energy targets making the narrative of Indian climate politics much more complex (Ministry of Environment, 2008).

This study is important to the extent it enables an understanding of how Indian and South Asian economies are affected by climate policies of China and the USA. India's commitment to tackling climate vulnerabilities is absolutely crucial, given the fact that more than half of the world population is located in Asia which is becoming more and more vulnerable to climate change. India's energy security environmental objectives and development goals are affected by actions of China and USA, who happen to be the largest emitters of GHG in the world (Watch, 2022). Climate change is a global issue while the growing interconnectedness of these nations, India included, makes it important to fully understand the nuances India's policymaking and strategizing are in. There are different aspects of India's climate vulnerabilities. The reliance on rainfall for farming through the Indian monsoon, the glaciers in the Himalayas that sustain vast tributary systems that could experience rapid melting, and the impact of rising sea levels resulting in costs for coastal communities are just six of the significant environmental hazards. Even so, the US and China are working on climate strategies that, if successful, could have positive repercussions for India. As one of the top emitters of carbon dioxide, China has taken several policy decisions under the flagship of BRI that concern the South Asia region. The development of hydropower dams in Tibet, for instance, along the Yarlung Zangbo River (which transforms into the Brahmaputra River in northeastern India) is expected to create environmental challenges for countries like India and Bangladesh which fall at the lower end of the river basin. U. S. On the other hand, has strived to spearhead the global shift to a clean energy agenda during President Biden's administration but its policies are surrounded with geopolitics limiting India's strategic perspective (Rivers, 2021). This investigation will try to respond to two broad questions: In what way have China's and US's climate policies shaped India's environment, economy, and energy security? What in general could be the consequences of climate politics in South Asia, migration, cross-border dynamics? The research will use comparative politics to examine the influence of China and the US one by one, looking into how and why their climate strategies are different

and/or similar and the impact that has on India and its growth model. The India's climate development will also be assessed in the way India's need for power security, political alliances with China and climate change with the US on the proximity of the examination. Geopolitics and climate policies determine a country's political and economic frameworks and India's relations with China and the US places its structuralism in energy security, environmental and economic arenas. An extensive collaboration with the US and China is therefore central in meeting the climate objectives during low-carbon transition of India's economy while simultaneously ensuring energy security. The US-India partnership on climate change, India's role in the US climate diplomacy and multilateralism through bodies like UNFCCC will be researched in greater detail Meaningful-config index throughout the dissertation (UNFCCC, 2016).

This research will be carried out in the following manner: first, India's approach towards climate policy as captured in its National Policy on Climate Change and its international obligations related to climate change will be closely examined, alongside India's transition towards a less coal dependent economy. The research will then move on to analyze India's regional diplomacy, particularly its engagement with China and the United States on matters of climate change and transboundary waters. Lastly, the research questions posed will be answered with supporting evidence based on the analysis of India's relative position with respect to the climate policies of both China and the US.

Research questions:

1. How does India reconcile its climate change goals with developmental priorities through the NAPCC and international commitments?
2. What are the challenges and opportunities in India's energy transition from coal to renewable energy?

Sustainable Development Theory and Its Application to India's Climate Policy:

Sustainable Development Theory serves as an excellent tool through which India's approach towards climate challenges and mitigation can be understood, analyzing both its policies and practices of development. Born of the idea of integrating economic, ecological and social concerns, the theory offers an insight into how the country has tried to grapple with the challenge of formulating a climate policy in consonance with the development imperatives of the nation. The theory, later encapsulated by the UN in the Brundtland Report of 1987, is defined as development that meets the needs of current generations without compromising the ability of future generations to meet their own needs. One major climate action by India in this regard

is the commitment made to sustainable development, while at the same time signed international climate accords such as the Paris Accord.

In 2009, India issued its NAPCC or National Action on Climate Change, one of the eight national action plans on climate change launched back in 2008 in order for the country to strive towards sustainable development. Additionally, the NAPCC has also set its sight on providing solutions to global warming through a national goal as opposed to a more localized one. These missions illustrate the need for holistic solutions that take into account environmental issues as well as socio-economic factors such as energy access and poverty eradication. India's position is in line with the tenets of Sustainable Development Theory that calls for growth strategies that do not adversely impact the environment while at the same time meeting basic social needs. In this respect, the NAPCC responds to the principle of the theory, which aims at finding sustainable practices on humanity's future without hindering either economic or social development. The connection of Sustainable Development Theory with this study becomes clearer in the context of what India as a member of the international community has committed with respect to climate change, especially its Internationally Determined Contributions (NDCs) under the Paris Agreement. India's NDCs clearly point to the need to shift to a low carbon economy but not at the expense of economic development and social progress. By undertaking the commitment to achieve a lower GDP carbon intensity growth India is observing some of the essence of the Sustainable Development Theory in which the separation of economic growth and environmental deterioration is recommended. The NDCs have equally demonstrated the equitable principles outlined in the theory as India's maintains that the 'common but differentiated responsibilities' approach should apply in achieving these goals. This principle mentions, however, the historical climate obligation of developed countries regarding countries such as India's development needs. In this vein, India's NDCs are seen as a way of reconciling a country's climate goals with its developmental objectives, thus showcasing the relevance of the Sustainable Development Theory in assessing the wider consequences of climate policy. The energy transition strategy of India is another instance where the Relevant Sustainable Development Theory appears highly applicable. An example of this would be India's new goal of using 45 billion units of electricity from renewable sources by the year 2021, which comes after two decades of using only coal to generate power and is aimed at helping the country achieve sustainable development. The Sustainable Development Theory is useful in this context to highlight some of the issues involved in this transition. To address these challenges, India's strategy for renewable energy, especially solar and wind power, conveys pollution prevention goals in conjunction with the development goals of energy supply. On the other hand, the transition from coal comes with its own

difficulties, including energy security, employment decline in the coal sector, and structural adaptation to renewable energy sources. In order to achieve the various objectives that India's energy transition entails, it is crucial to adapt to the Sustainable Development Theory Model. This model aids India in the management of its move towards greener energy sources while ensuring economic stability and bridging social inequalities. It reinforces the notion that these problems are interrelated and provides context to the complexities that lie in India's ambition of combatting climate change while pursuing developmental objectives.

This theory seems to emerge consistently in the context of India's climate diplomacy especially in its engagement with China and the US. The cooperative engagement with China in relation to shared resources, which include water bodies like the Brahmaputra River, illustrates how climate issues mesh with both geopolitical and environment agendas. India's response to the adverse effects aimed at its hydropower programs exemplifies the theory's general idea on environmental injustice and fair use of resources. Similarly, the Indian case regarding clean energy cooperation with the US together with Multilateral engagements under the Quad provide evidence of the theory claiming international relations cooperation on sustainable development issues. Believed to offer an integrated approach in addressing contemporary issues, this theory is widely used in the analysis of India's climate strategies.

Research Methodology:

The present research takes the form of a qualitative comparative analysis of India's stand on climate change and how it is viewed from the global perspective in the international system. This methodology is most beneficial for assessing the diverse policies, actions, and strategies employed by the major global actors, particularly China and the United States who due to the climate actions they take like the BRI and US pushed climate action under President Biden have consequential effect on India. As the Indian's foreign policy adapts to the cross-border climate policies of two great world powers, the two's influence serves as the research case for the study, aiding in determining how these two climate sensitive nations' policies figure in India's broader climate change action framework. As for the transnational nature of water resources and energy security issues that India faces complexity in responding to these countries climate sensitive policy acts are essential in redefining the boundary of India's strategy. As for the methodology and data collection, this study is more inclined towards qualitative analysis involving expert interviews, climatic diplomacy, comparative policy evaluation, government documents, regulatory forecasts, and international treaties related to Climate change. This also encompasses the study of China's climate policy within the Belt and Road Initiative framework along with US strategic climate measures in Biden's regime. Moreover, the study will seek to assess some of India's international

climate change policies, especially the NDCs and the NAPCC, in order to make sense of the various policy responses across the country. It will also include academic journal publications, international reports from bodies like the UNFCCC, as well as information from diplomacy conducted during multilateral conferences such as the Quad. Such complementary approaches will help in understanding the geopolitical and economic dynamics that facilitate or hinder climate cooperation between and among these major global powers.

Based on this survey methodology, the complexity of climate politics, especially in the Asian context, can be unraveled as it claims to. With regard to the Indian case, it is important if one sees how the national policies of China, US and India concerning climate change do internalize global climate change diplomacy. Such policy approaches allow for in-depth research into Indians' understanding of climate change as well as its policies through the study of both domestic and international spheres. Additionally, the qualitative comparative analysis offers an understanding of the geopolitical considerations that influence climate policy such as transboundary water resources, energy security and climate change governance. By locating India's climate policies in the global and regional environment, the methodology will illustrate how policy on the climate can be developed in India while considering both internal and external factors. Answering the research questions in greater detail, the strategy assists in comprehending India's reactions to China's and the US's climate policies as well as the regional context of these interactions.

Evolving Climate Policies of China, the United States, India and Historical Context and Global Dynamics:

The bipartite climate policies exhibited by China, the United States and India have emerged and transformed through a plethora of international transactions, and that too in a span of only a few decades. This growing climate politic has been in place since the Kyoto Protocol, the same goes for the Paris Agreement. These three nations form to be the top carbon-emitters globally, and quantum within each of the nations is rather nonlinear – the bilateral relations, the economy, and the ecological factors all sway the direction to which they head towards in climate change politics.

The United States once signed the Kyoto Protocol which was dated back to 1997, however, there was some onus missing around the ratification of the agreement because that would have put a toll on the economy (Nations, 1997). Additionally, China and India being omitted from the developing sector paved the way for the US to retract. Emission reduction was still an issue but it was put up somewhere in the background. If you look in history, the US did garner much support from other global countries for their stance – as the country had signed the Protocol. Once Obama was elected in 2008, it drastically changed the whole Obama stance on the climate. Instead

of solely supporting Kyoto, the US transitioned into standing behind the Paris aid agreement that supported other developing countries due to the goal set being the same for everyone. The United States agreed to the Paris Accord in which it pledged to reduce its emissions by 26 to 28 percent below the levels they were at in 2005 by 2025. This deal was an important milestone in emission objective relating negotiations as the United States has been one of the largest emitters on the globe historically. On the other hand, the American departure from the Accord under President Trump and it's resume back into the treaty under President Biden further underlined the influence of internal politics on climate agenda. The repositioning of America under Biden is believed to have key bearings on the fate of global climate talks in the future as well as the transition to a green economy. Some rapid changes have also been exhibited by China's Environmental policy in the last decades. China paid very little attention to sound emissions and pollution during the early years of their economic growth as their top priority was industrial development and poverty alleviation (Environment, 2007). However, by the time of the Kyoto protocol, China was classified as a greenhouse gas emitting country but was viewed as a developing country and therefore was not regulated by emission cut obligations. As the effects of excessive industrialization began to show up, Beijing was compelled to take steps to address climate change and so their attitude towards it began to change in the 2000's.

The interaction between the US and China as two of the largest polluters emerged as a key takeaway from the European Nations negotiations. In diplomatic politics, the bilateral promise between the US and China, which was made in 2014 that both would undertake measures for emissions would be a stepping stone to part of the Paris Agreement, was considered a breakthrough. The BRI, or Belt and Road Initiative, is primarily an economic and infrastructural programme but it too has been examined in terms of its environmental detriment. The BRI, it has been argued, is likely to add a pollution burden on climate sensitive countries, particularly those which are fossil fuel heavy (Portal, 2021). Even so, the US has said that it will work on integrating its foreign policies with green policies in as far as development is concerned, but the extent of these policies is still closely monitored by China. As a result of domestic issues in developmental sphere, India's international climate stance has been biased. With such a big and fast growing economy, with a large mass of its citizens still poor, India fundamentally has and will continue to create growth strategies whereby India is not required to follow the same rules as the western countries for emissions. India's history in negotiations surrounding climate change has mostly consisted of a demand for justice within the broader humanitarian forum for this problem, stressing that the western world created the problem and how they created it and how they should pay for the solution and provide the equitable provision. transfer to help developing

nations transition to low-carbon economies. At the Paris Agreement, India pledged to reduce its emissions intensity (emissions per unit of GDP) by 33-35% below 2005 levels by 2030, but it also highlighted the need for significant financial support from developed countries to meet these targets. Over time, however, India's climate position has evolved, reflecting a balance between the need for economic development and the growing pressure to mitigate climate change. India's energy policies have focused on increasing the share of renewable energy in its energy mix, particularly solar power, which has seen rapid growth in recent years. The country's commitment to clean energy is also evident in its active participation in international initiatives like the International Solar Alliance (ISA). The impact of climate politics on India's economic development has been significant, with the country increasingly recognizing the need to address climate risks to safeguard its long-term economic growth. The evolving relationship between India and the U.S., particularly through nuclear agreements, has also had implications for India's climate policies. India's nuclear energy strategy, which has been bolstered through agreements with the U.S., is seen as a way to diversify its energy sources while reducing reliance on coal (State, 2008). However, the tension between development priorities and environmental sustainability remains a central challenge for India.

Analyzing the Interactions: China, the United States, and India's Climate Strategies

a. China's Climate Policies and Their Impact on India

Belt and Road Initiative (BRI) and Environmental Implications for India

A comprehensive assessment of China's climate aims, in particular about its Belt and Road Initiative (BRI), critically analyses India's environment security and climate dynamics. BRI, a collection of infrastructure projects including highways, ports, railways and energy investment, covers a vast network that stretches from Asia to Europe and Africa (BRI, 2021). If successfully implemented these projects are expected to greatly enhance economic integration and stimulation but at a high environmental cost, particularly for climate change prone regions such as South Asia of which India stands to gain from. Environmental impacts of BRI remain unaddressed, however, but a great amount of concern drives from the deforestation, habitat loss and greenhouse gas emissions intensified by infrastructure expansion. For instance, in the Himalayan and Tibetan plateaus deforestation and soil erosion were exacerbated by the construction of railways, dams and roads. Other environmental issues exist in India's downstream agriculture as biodiversity is rapidly diminishing and natural habitats are constantly being modified. Infrastructure projects geared towards BRI continue to worsen India's

already existent struggles with climate change as these activities worsen environmental pollution and increase greenhouse gas emissions.

Energy Diplomacy and Its Influence on India's Climate Policies

China's energy diplomacy in south Asia also contributes significantly towards the region's environmental landscape particularly through development of renewable energy as well as coal power plants (CEFC, 2020). According to previous studies, China's growing investment in solar and wind energy projects is a welcome addition to combat climate change in the region. This is however dampened by the simultaneously coal plant investments, which affect carbon emissions in the region. China has emerged as an active player in the energy mix in south Asia particularly with the China Pakistan Economic Corridor (CPEC) which promotes the construction of coal power plants. Such facilities promote high levels of carbon emission which won't encourage climate change efforts within the region which is already a concern. For India, the dominant pollution and energy deficit is an alarming challenge that needs to be addressed. China's energy option strategy of both coal and policies to expand renewable energies is also a dilemma for them. Engaging in renewable energy projects may help India gain some of the technologies and funding that are necessary for fast tracking the investments needed for a transition to more environmentally friendly means that can help assuage climate commitments but that conflict with those coal-based plants.

Transboundary Water Politics: The Impact of Chinese Dam-Building on India's Water Security

Transboundary water politics augment the climate politics between China and India. India's water security is facing challenges as China moves to construct dams on the Brahmaputra River that flows into India. With the construction of the Metok Dam on the upper reaches of the Yarlung Zangbo River in Tibet, this will cause conflict over water and agriculture for over a million of India's northeastern population. As beneficial as these hydropower projects may be for China, the consequences of them further downstream for smaller countries will be dire in terms of water supply, causing further distress for overpopulated countries. The consequences of erecting such dams deeply impact the environment as soil and aquatic life are greatly compromised putting a dent on biodiversity. India has been extending caution as its government recommends China to assess the repercussions of such activities on their river dependent neighboring countries and suggests that international water-sharing agreements be in place. The political circumstances worsen since China has opted against cooperating multilaterally on the constructions of such structures. To make things worse, these hydropower projects also threaten India's already fragile agricultural landscape.

The Intersections of Climate Policies and Environmental Challenges in South Asia

The challenges India faces in the region are further accentuated by the aspects of climate policies adopted by China, its energy diplomacy, and its water management strategies. Although China's policies that are aimed at renewable energy and carbon-free growth could benefit India, its subventions to coal and hydropower developments negate those efforts thus creating a challenge for India – how to balance economic growth and environmental protection. The environmental impacts caused by the BRI projects make this a complex equation since these programs could also lead to severe adversities to ecosystems and the local people. The politics of transboundary water topics like Chinese dam building activities on the Brahmaputra point towards the need for stronger collaborative efforts in South Asia in order to address climate threats as shared water resources are so limited (SANDEE, 2020). Even as India grapples with these pressures, there is a need for it to fight for fairness in natural resource governance processes that give attention to promoting an environmentally friendly and climate resilient society. Ultimately, this nexus between the climate policies of China and environmental issues of India also sheds light to the fact that herein lies a need for cooperative governance and a multi-dimensional approach to addressing climate change and resource management in the region.

b. US Climate Policies and Their Impact on India

The relationship between the United States and India in the context of climate change is multifaceted, shaped by both bilateral cooperation and multilateral efforts. Under the Biden administration, U.S. climate policies have sought to accelerate global efforts toward decarbonization, with particular attention to supporting India's transition to renewable energy. This analysis will explore three key areas of impact: Biden's climate agenda and its support for India's renewable energy transition, the economic implications of carbon tariffs, and the geopolitical dynamics of the U.S.-India collaboration within the Quadrilateral Security Dialogue (QUAD) framework.

Biden's Climate Agenda: U.S. Support for India's Renewable Energy Transition

The Biden climate agenda lays emphasis on collaboration with the intention of achieving global clean energy targets. In the case of India, which is a developing country with huge energy consumption and huge carbon emission, support from the U.S. is paramount in aiding its transition to clean energy. The Biden government has been advocating for India's transition to clean energy through bilateral mechanisms such as SCEP, which includes the partnership in solar technologies, energy storage, and modernization of the grid (Energy, 2021). An instance of the cooperation between the US and India is the commendable cooperation under the US-India Clean Energy

and Climate Initiative which enables India to pursue her ambitious clean energy goals with the backing of US technologies and funds. Also, within that scope, the International Solar Alliance (ISA) is one of the endeavors to facilitate solar energy adoption across the world, especially for developing countries including India. The US as a member of the ISA aids India's solar targets with funding, technical help and capacity building. On top of that, PACE program has supported India with technical expertise to low carbon energy transitions, thus enabling India to its climate targets under the **Paris Agreement**. The U.S. has also been instrumental in India's transition through multilateral frameworks such as the **Mission Innovation** initiative, which focuses on accelerating public and private clean energy innovation. Through these efforts, the U.S. helps India access cutting-edge technologies that are essential for meeting its renewable energy goals, such as affordable solar panels, efficient wind turbines, and energy storage solutions.

Economic Implications: Carbon Tariffs and Their Effects on India's Exports

Global climate policies have led to Indian businesses facing the imposition of carbon tariffs, especially those levied by the European Union, perhaps the United States too. These tariffs are meant to lower the carbon emissions of the countries and aid the green economy transition. In sectors of Indian textile, steel and cement industries the EU's Carbon Border Adjustment Mechanism has increased carbon tariffs. Indian steel and cement are among the most carbon emissions intensive industries currently doing business. Indian exports to the U.S using carbon-embedded production will likely be subjected to higher costs, especially if carbon tariffs are added in the U.S as well. Trade compromises, loss of competitiveness and cut down jobs in high carbon-emitting businesses can result due to these tariffs (Bhattacharya, 2023). The carbon levies in the US may wreak havoc on Indian steel exports, as the US tries to prevent its businesses from shouldering the costs of international carbon fees.

Geopolitical Alignments: Collaboration through QUAD and Its Climate Initiatives

The United States, India, Japan, and Australia have banded together and established an entity known as the Quadrilateral Security Dialogue, also known as QUAD, and it has now begun focusing on projects such as combating climate change. As part of addressing climate change, all member states of the QUAD have pledged to work together in developing the required technology. The United States is in this partnership and is the leader when it comes to developing clean energy initiatives and improving climate change resilience. For example, the Clean Energy Partnership aims to increase energy access and decrease pollution in India by helping with funding and technology. India has got help to fund huge renewable energy projects including solar and wind energy through the Blue Dot Network. Apart from that, the other members of QUAD have also agreed to work together in climate change mitigation through

climate studies, developing green hydrogen technology among other things (BDN, 2021). Through this partnership, India has been able to position itself better during international climate change negotiations and advocate for fairer climate change policies including finance and technology support for developing countries. In addition, the projects funding bilaterally are in line with QUAD objectives to the US and India's outline.

c. India's Response and Strategic Adjustments

Policy Adaptations: NAPCC and International Commitments

India's battle against climate change is a mixture of international responsibility as well as national responsibility. One of the important parts of India's national climate change is the national action plan that was initiated back in 2008. The NAPCC defines eight missions that are directed toward the fight against climate and the enhancement of sustainable development including agriculture, water, solar and energy conservation missions (Ministry of Environment, Forest and Climate Change. The list of initiatives clearly suggests a proactive policy that seeks to integrate climate concerns but still keeping the overall economy vibrant. While the NAPCC indicates India's intention to contribute to global efforts at climate change, it has a direct bearing on the country's plans for further economic and social development including achieving sustainable growth and coming out of poverty. India's international climate obligations such as NDCs under The Paris Agreement can also be understood in the same manner. In its NDCs, India has committed to reduce carbon emissions per unit of GDP by 33-35 percent compared to the 2005 level, as well as reach 40 percent of the energy supply for all non-fossil fuel sources by year 2030 (UNFCCC, India's Nationally Determined Contributions (NDCs) Under the Paris Agreement,, 2015). These targets are a result of India's aim to reduce overall greenhouse gas emissions without hindering on its ambitions of development.

Energy Transition: Balancing Coal and Renewables

India is heavily reliant on coal but plans to reduce this dependence. Such a transition will not come easily as the economy is constantly expanding and is in need of a consistent supply of energy to fulfill demand. Approximately 70% of the electricity in the country comes from coal (Power, 2024). However, in an attempt to combat climate change, India has started investing in solar, wind, and hydropower in the past few years. Such efforts led coal to account for less than 50% of the total power generation capacity in India for the very first time in decades (IEEFA, 2024). Besides other endeavors, the government has also proposed a target of 450 GW of renewable energy capacity by 2030. All of this is certainly a step in the right direction but there are still challenges that need to be overcome. With solar and wind power only being available

at certain times, the country's reliance on coal for power in peak demand hours slows down energy transition. Moreover, the deep infrastructural base of coal within the economy poses a substantial challenge.

Regional Diplomacy: Engagement with China and the US

India's climate diplomacy has to balance relations with both China and the US, two important players as far as international climate treaties are concerned. India's relationship with China is quite complicated, as it must worry about engineering projects that China pursues, as well as China's role as a leading greenhouse gas emitting country. What is of great concern to India is the Yarlung Zangbo River that China is damming on its side in Tibet, as it then turns into the Brahmaputra River that flows into India. India's concern stems from the possibility of these projects undermining availability of water resources to states like Arunachal Pradesh, Assam and many others. India, on the other hand, focuses on dialogue and seeks cooperation with China for enhancement of sub-basin management by emphasizing the importance of protecting the interests of upstream countries. India has the climate change debate with the US on cooperative terms too, particularly such as establishing the US-India Clean Energy and Climate Partnership. The US-India Energy and Climate Coalition once again focuses on clean energy endeavors, technology sharing and building. Moreover, investment from the US has been crucial for India in making progress in the transition to renewable energy, for example, regarding solar energy and energy efficiency activities. Bilateral initiatives, however, are not limited to those activities, as the Quad also provided a platform for India, the US, Japan and Australia for working on regional climate change issues.

Impact of China and the United States' Climate Policies on India: Environmental, Economic, and Regional Implications:

With India being one partake, China and the US have to rethink their globalization efforts as it poses the country with a wide array of climate challenges ranging from economic, energy security and environmental. The interrelationship between climate policies across the globe does have a significant impact on India, one such policy is the Belt and Road Initiative which forms China's climate policy. Addressing these issues unravels the multitude of effects both countries have on the south-Asian region. India is influenced by the aforementioned countries implementing various renewable energy systems alongside constructing the BRI. Water resources have become an intersecting issue for these regions due to China's extreme hydropower infrastructure projects. The destructive command over these water resources directly impairs northeastern India's flow in the Yarlung Tsangpo river, while also limiting water required for agriculture, hydropower and local communities in Arunachal Pradesh and Assam. Additionally, India raises concerns regarding the potential future post these activities and how India

aims to reconstruct them. These environmental and socio-economic challenges compel India to adjust its water management and climate adaptation strategies to mitigate potential disruptions (Chowdhury, 2021). These socio-economic aspects increase India's vulnerability and make it necessary for the country to change its water management and climate change strategies to avoid significant challenges in the future. At the same time, the investments made through the BRI with respect to energy infrastructure have far-reaching consequences in terms of India's energy needs and depended on energy transition. India has raised concerns about the political undertones associated with the BRI, especially with reference to Pakistan and Sri Lanka. India faces both advantages and challenges in this respect due to China's leadership in the solar and wind energy industries. India can increase its clean energy capacity thanks to affordable Chinese-made renewable energy infrastructure. This dependence on Chinese technology raises serious worries about energy security, particularly in the context of rising geopolitical tensions. Wu et al. (2020) note that the Biden administration in the US has actively furthered its climate change agenda with the aim of achieving net zero emissions by the year 2050 and fostering decarbonization efforts worldwide. Together with financial aid, technological transfers and diplomatic lobbying, the United States has helped India to modify its renewable energy plans and set more aggressive targets under the Paris Agreement.

The competition between China and America also effects India's climate strategies and it takes on a completely different aspect depending on either of the country's stakeholders. For India, China has been the major source of water security related regional problems along with taking-up infrastructure projects which include the BRI. How India formulated its engagement strategies having both competitive and collaborative engagements whilst addressing the regional climate problems including the water management of resources is in response to these dynamics. U.S. has however contributed greatly towards Indias engagement in global arena in climate diplomacy and in renewable energy by aiding which in turn greatly fuels Indias ambition for more renewable energy options. What remains problematic and poses an issue is the balance between what is expected of India in terms of global climate initiatives and its own energy and development-based objectives (Jha, 2022). China's factors including BRI continue to extend towards Pakistan, Nepal, and Sri Lanka greatly transforming the energy dynamics in the region and the resilience to climate change and renewables, which suggest the necessity for integrated multilateral energy solutions. Forums such as SAARC and Quad in which India is a member highlight the great need for shared responsibility towards the climate objectives and also the need to tackle regional climate issues of development sustainability.

Conclusion:

This research scrutinizes the consequences of China's and the United States Climate policies on India with respect to economic, environment and energy security implications. The results suggests that the two powers are important in the context of India's indiscriminate development as well as climate change. India's water security is threatened by BRI, smashing China's climate control narrative while expanding the construction of hydropower stations on the Yarlung Zangbo river basin. Clean energy incentives embedded in President Biden's climate plan make the United States a necessary geopolitical power to work with but is also a challenge for India's energy independence. The comparative analysis aims at proving that in the face of such enormous climate change policies the global strong players impose on India and his development goals such as infrastructure development, energy independence, green technology adoption m, need to be preferentially categorized, especially if such integration needs to happen at an expansive scale. Addressing the extreme climate dominance of major players in a resource rich economy like India should be bided by pushing pluralistic climate negotiation and regional collaboration Kai Florian considers it as India's interest in facilitating integration in each discriminating climate agenda amidst climate imbalances. Further initiatives can be aimed towards changing India's uniting position in regional climate politics especially about ruling in the UNFCCC, Quad or other relevant forums presently being extensive India's role in such settings can overlap into understanding other player's roles.

References

- BDN. (2021). *The Clean Energy Partnership: A Key Initiative of the QUAD*. Blue Dot Network.
- Bhattacharya. (2023). *Carbon Tariffs and the Future of Indian Exports*. Journal of International Trade and Climate Policy.
- BRI. (2021). *China's Climate Investments in South Asia*. Retrieved from Belt and Road Portal: <https://www.beltandroadportal.org/>
- CEFC. (2020). *China's Energy Diplomacy in South Asia: Renewable and Coal Power Investments*. China Energy Fund Committee .
- Chowdhury, A. &. (2021). L., Environmental and Socio-Economic Impacts of Hydropower Infrastructure on Water Resources in India,. *Enviromental Studies*.

- Energy, U. D. (2021). *The U.S.-India Clean Energy and Climate Initiative, U.S. Department of Energy*.
- Environment, M. o. (2007). *China's National Climate Change Program, People's Republic of China*. Ministry of Ecology and Environment.
- Jha, A. K. (2022). India's Strategic Engagements in Global Climate Diplomacy and Renewable Energy. *International Climate Policy Review*.
- Ministry of Environment, F. a. (2008). *National Action Plan on Climate Change (NAPCC)*. Ministry of Environment, Forest and Climate Change (MoEFCC).
- Nations, U. (1997). Kyoto Protocol to the United Nations Framework Convention on Climate Change. Retrieved from United Nations.
- Portal, B. a. (2021). *China's Climate Investments in South Asia, Belt and Road Portal*. Retrieved from BRI: <https://www.beltandroadportal.org/>
- Power, M. o. (2024). *India's Energy Transition: Energy Mix and Coal Dependency*, . Ministry of Power. Retrieved from Ministry of Power.
- Rivers, I. (2021). *Hydropower Dams in the Tibetan Plateau and South Asia*. International Rivers.
- SANDEE. (2020). *Collaborative Governance for Climate Change and Transboundary Water Management*. South Asia Network for Development and Environmental Economics .
- State, U. D. (2008). *U.S.-India Civil Nuclear Cooperation, U.S. Department of State*. U.S. Department of State.
- UNFCCC. (2015). *India's Nationally Determined Contributions (NDCs) Under the Paris Agreement*,. United Nations Framework Convention on Climate Change.
- UNFCCC. (2016). *India's Nationally Determined Contributions*. United Nations Framework Convention on Climate Change (UNFCCC).

Watch, C. (2022). *Global Greenhouse Gas Emissions by Country*. World Resources Institute.