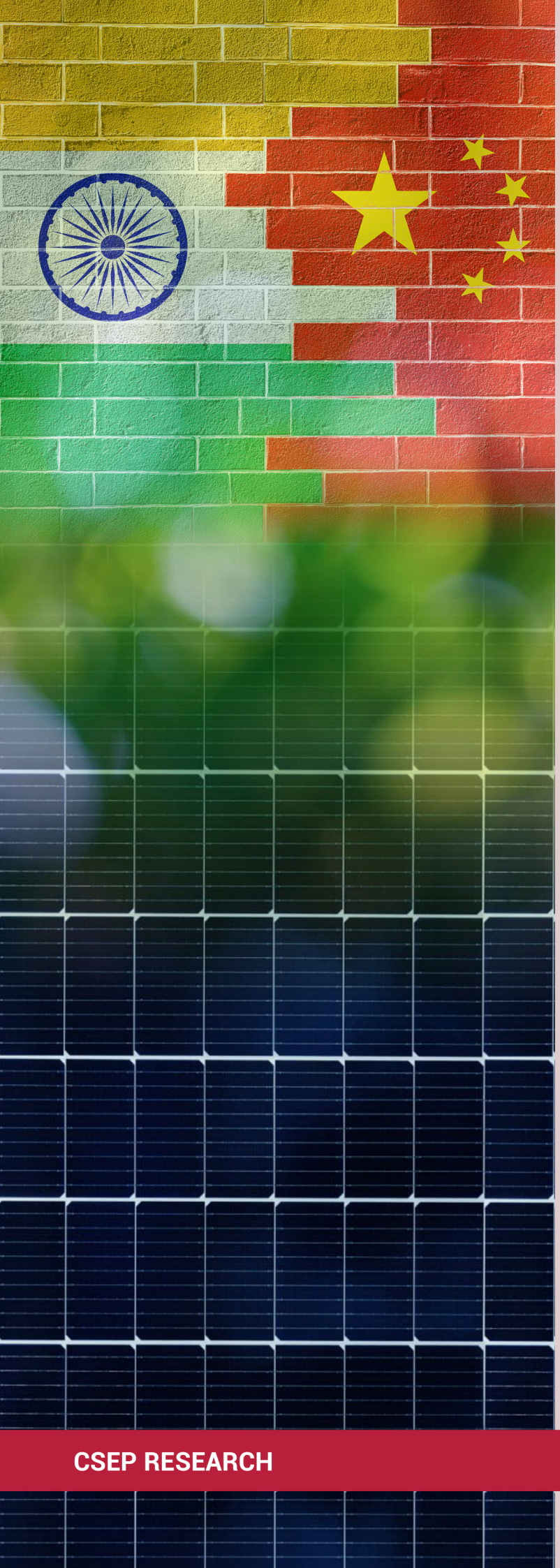

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Framing India's China Strategy on Climate and Clean Energy

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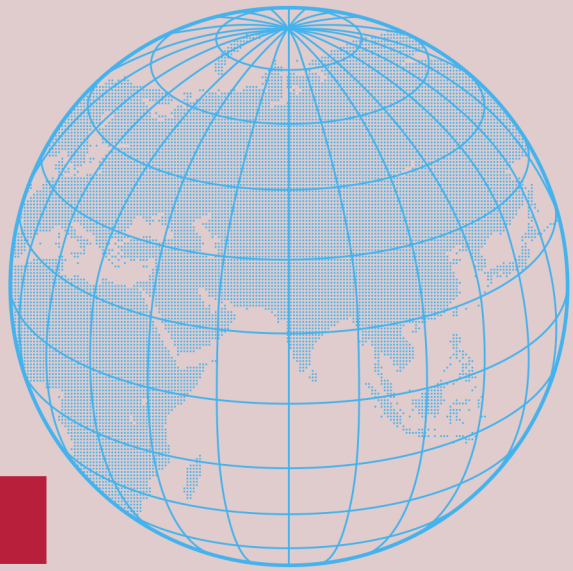
Shruti Jargad



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Framing India's China Strategy on Climate and Clean Energy

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Abbreviations

ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
ASEAN	Association of Southeast Asian Nations
BASIC	Brazil, South Africa, India, China
BRICS	Brazil, Russia, India, China, and South Africa
CBDR	Common but Differentiated Responsibilities
CCD	Climate Change Department
CDRI	Coalition for Disaster Resilient Infrastructure
COP	Conference of the Parties
EV	Electric Vehicle
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ISA	International Solar Alliance
MDB	Multilateral Development Bank
MEA	Ministry of External Affairs
MFA	Ministry of Foreign Affairs
MoEFCC	Ministry of Environment, Forest and Climate Change
MoF	Ministry of Finance
MoU	Memorandum of Understanding
NABARD	National Bank for Agriculture and Rural Development
NAPCC	National Action Plan on Climate Change
NDB	New Development Bank
NDTV	New Delhi Television Ltd.
NDRC	National Development and Reform Commission
NLGCCR	National Leading Group on Climate Change Response, Energy Conservation and Emissions Reduction
PIB	Press Information Bureau
PMO	Prime Minister's Office
QUAD	Quadrilateral Security Dialogue
R&D	Research and Development
RE	Renewable Energy
SCIO	State Council Information Office
SCO	Shanghai Cooperation Organisation
SED	Strategic Economic Dialogue
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

The paper addresses a critical but underexamined dimension of India's climate strategy—whether and how India should engage with China on climate and clean energy amid geopolitical rivalry and economic asymmetry. While India has adopted ambitious mitigation and adaptation goals, achieving these objectives depends not only on domestic policy but also on international partnerships for technology, finance, and knowledge flows. China occupies a uniquely complex position as it is India's largest supplier of green technologies while also being a strategic competitor with whom diplomatic engagement remains limited.

India's heavy dependence on Chinese clean-energy supply chains exposes it to vulnerabilities such as trade disruptions, price volatility, and strategic leverage, all of which can impact the pace of India's energy transitions. At the same time, as important Global South actors, India and China share overlapping interests in shaping international climate norms, finance, and governance. Given the tension between the need for sovereignty and continued trade dependence, this paper seeks to provide evidence-based insights into whether, where, and how India might reimagine climate engagement with China in the context of today's geopolitical realities.

Situating India–China Climate Engagement in Current Geopolitical Realities

This paper situates India–China climate relations within existing scholarly and policy debates. It highlights a key gap in the literature: most analyses of climate cooperation with China focus on the Global North, offering limited guidance for India's distinct geopolitical and developmental position. Studies on India–China relations largely concentrate on multilateral negotiations or comparative climate governance, while analyses of bilateral engagement are outdated and reflect a different geopolitical era. We show that post-2015, China's rise as a dominant green-technology supplier, widening economic asymmetries, and escalating border tensions fundamentally altered the context for cooperation. Climate cooperation has increasingly become securitised, supply chains have been politicised, and there is a need for renewed trust-building. While some scholars argue that climate and clean energy can be "low-hanging fruit" for cooperation, this paper demonstrates that this is true only in areas that are neither economically competitive nor geopolitically strategic. This requires India to develop a clear framework for engagement.

Methodology

The study employs a qualitative, mixed-source methodology combining historical mapping, document analysis, expert interviews, and policy workshops. The authors construct an original dataset of 44 official bilateral engagements between the Indian and Chinese governments from 1993 to 2020, sourced from India's Ministry of External Affairs (MEA). These documents are systematically coded by type of engagement, implementing actors, and sectoral focus.

To supplement the secondary data and understand the potential for future India–China climate engagement, the paper draws on semi-structured interviews with diplomats, policymakers, scholars, and industry experts, as well as insights from two closed-door policy workshops with Indian and Chinese experts.

Mapping Engagement

This section presents a longitudinal mapping of India–China climate and energy engagement across three phases.

Phase I (1990s–2007) is characterised by strong multilateral alignment and nascent bilateral cooperation. India and China coordinated closely in global climate negotiations around the principle of common but differentiated responsibilities (CBDR) and development equity, while bilaterally focusing on environmental protection, minerals, renewable energy (RE), marine sciences, and hydrological data sharing. Cooperation was largely technical and exploratory, with limited institutional depth. This phase saw the signing of the vital Brahmaputra and Sutlej river data-sharing agreements.

Phase II (2008–2015) represents the high point of engagement. Climate and energy cooperation expanded rapidly through Memoranda of Understanding (MoUs), strategic economic dialogues (SEDs), joint research initiatives, and subnational sister-city agreements. Engagement diversified across mitigation and adaptation domains. Importantly, this phase involved a broader set of actors,

including planning bodies, cities, research institutions, and enterprises, signalling the potential for deeper institutionalisation. However, implementation remained uneven, and cooperation was often more aspirational than actionable.

Phase III (2016–2026) marks a period of decline and breakdown. Geopolitical shocks, including Doklam, COVID-19, and the Galwan clashes, severely curtailed engagement. Structural asymmetries widened as China consolidated its dominance over green supply chains, while India's bilateral trade deficit deepened, including in green goods. Although some dialogue mechanisms persisted until 2019, there was limited convergence on climate issues in bilateral and multilateral forums.

Reimagining Strategic Windows of Cooperation

This section argues that future India–China climate engagement must be narrow and pragmatic, focused on areas that do not involve economic competition or geopolitical leverage. However, the institutional channels pursued should be broad, extending beyond bilateralism and multilateralism to include engagement in minilateral initiatives and development banks. The key approaches that could enable improved climate cooperation are as follows:

- **Identifying narrow technical areas of mutual interest**

Cooperation is most viable in non-sensitive, functional areas such as energy efficiency standards, disaster-risk resilience, sustainable agriculture, waste-to-energy systems, urban planning, and governance challenges associated with just transitions away from coal, rather than in sectors where China holds clear technological dominance. Shared challenges in hard-to-abate sectors such as steel and cement, as well as biodiversity conservation, pollution management, and low-carbon urban planning, offer low-risk entry points through scientific exchange and revived agreements.

- **Sharing governance and policy experiences**

Despite differing political systems, both countries rely on decentralised and subnational climate governance, creating scope for mutual learning on local capacity building and accountability. Cooperation is especially relevant for managing a just transition away from coal, where India can learn from China's monitoring and implementation capabilities, while China can draw on lessons from India's grassroots green innovation.

- **Coordinating on climate norms for the Global South**

India and China have historically shaped global climate outcomes through aligned positions and can continue to influence norms, standards, and taxonomies for the Global South. Their complementary strengths, China's technological scale and India's normative legitimacy, can support cooperation on climate finance, green goods, resilient infrastructure, and disaster response. This coordination can allow India and China to play complementary roles in the developing world without deepening strategic dependence.

- **Diversifying channels of coordination**

Multilateral and minilateral platforms such as Brazil, Russia, India, China, and South Africa (BRICS), the Shanghai Cooperation Organisation (SCO), and Brazil, South Africa, India, China (BASIC), and institutions such as the Asian Infrastructure Investment Bank (AIIB), Asian Development Bank (ADB), and New Development Bank (NDB) provide avenues for India–China climate engagement amid bilateral constraints. These forums can facilitate joint investments, technology exchange, and private sector dialogue.

- **Improving engagement between civil society and subnational actors**

Track 1.5 and Track 2 dialogues involving think tanks, universities, and industry groups can sustain cooperation even when formal diplomacy is constrained. Joint research, sister-city partnerships, and subnational exchanges on air quality, urban resilience, and sustainable mobility can foster trust and generate practical policy insights at the local level.

- **Gaining insights from countries currently engaging with China**

Countries such as Indonesia and the Philippines demonstrate that substantial Chinese green investment can coexist with geopolitical volatility through carefully structured partnerships. India can draw lessons from these cases on managing Chinese foreign direct investment (FDI), technology transfer, and critical mineral investments while safeguarding strategic and economic interests.

The paper concludes that India can pursue a strategically calibrated approach, focused on narrow and implementable areas, diversified institutional channels, and selective norm-shaping, to build trust and strengthen climate and energy engagement.

1. Introduction

Recognising its vital role in combatting global climate emissions, alongside the need for resilient domestic growth, India has put in place ambitious climate mitigation and adaptation strategies. India aspires to strengthen domestic production and manufacturing capabilities in green goods (Press Information Bureau [PIB], 2026) with recent initiatives like the Semiconductor Mission 2.0 and Production Linked Incentives. While there have been small gains, in the short and medium term, India will still be reliant on China to meet its decarbonisation goals. For instance, in 2021–2022, India imported USD 3 billion worth of solar panels, 92% of which came from China. The cost of producing solar components is 10% lower in China than in India, while wind turbines assembled in India are 30% more expensive (Davidson et al., 2025).

India's reliance on China creates exposure to trade disruptions, price volatility, and vulnerable supply chains, raising pressing questions about resilience, diversification, and self-reliance. For instance, a curb on rare earth exports from China led Indian automakers to consider slowing their electric vehicle (EV) production (New Delhi Television Ltd. [NDTV], 2025). Furthermore, China has been silently withdrawing its workers and equipment from Indian companies, including those in the energy sector, and specifically requesting that they not partake in capacity-building activities (Kapoor, 2025). It is therefore important for India to navigate the complex interplay between its heavy dependence on China for enabling a low-carbon transition amid a background of uneven diplomatic engagement (Prys-Hansen, 2022).

In addition to influencing the pace of India's decarbonisation goals, engagement with China can be key to building coalitions, norms, and standards on issues such as carbon markets, climate finance, resilience, and loss and damage. Both countries are central to climate action in the Global South, including the provision of technology and financial flows. Therefore, their coordination at international forums, and, more saliently, in smaller groupings such as the SCO and BRICS, is critical to consolidating an effective climate bloc (Nachiappan et al., 2025).

The two Asian giants are also among the top five countries expected to be most significantly affected by climate change. They will have to coordinate on challenges emerging from a shared Himalayan ecosystem (Shidore et al., 2021).

To address this need, this paper aims to build a body of research that provides evidence-based insights into the opportunities and risks of such engagement. It does so by first highlighting how current literature is insufficient to understand India–China climate engagement given today's geopolitical realities. It then explains the methodology used, including secondary data collection as well as two expert policy workshops and stakeholder interviews.

The paper goes on to describe structures of climate governance in both countries and institutional linkages between India and China during past engagement. It also highlights key lessons on how both countries have engaged on climate and clean energy since the 1992 Rio conference. Compared to past efforts, India may benefit from reimagining its engagement by diversifying channels, creating joint norms for climate finance and taxonomies, exchanging experiences on policy governance, and strengthening non-state actor interactions. The paper also advises studying countries with strong green diplomacy despite geopolitical contestation such as in Southeast Asia to tailor similar policies for the Indian context.

There are several areas in which India and China can engage to complement the recommendations in this paper, including agriculture, artificial intelligence, and space exploration. While these are important to study, they are beyond the scope of this paper. Further, the paper focuses only on India's foreign policy towards China, acknowledging that aspects of domestic governance, institutions, regulation, and political economy may also constrain engagement.

2. Situating India–China Climate Engagement in Today's Geopolitical Context

There is a growing literature on how countries in economic and geopolitical rivalry with China still find avenues for cooperation on climate and clean energy (Cui, 2018; Li et al., 2023; Li et al., 2024; Oertel et al., 2020; Torney & Gippner, 2018). Yet this literature is insufficient for a strategic understanding of how India can do the same. First, most studies focus on the Global North, which occupies a very different

geopolitical, security, and economic position from India. While important, these studies best inform the strategic interests of industrialised countries (Studart & Myers, 2021; Yang & Paim, 2024). Lewis (2023) studies Sino-Brazilian cooperation for technology and capacity building in the biofuels industry. However, Latin American countries also differ from India because they do not face the same background of neighbourhood geopolitical contestation.

Second, studies that do focus on India–China climate relations mainly examine interactions and stances at multilateral forums. Siddiqi (2011), Belis et al. (2018), Prys-Hansen and Kaack (2024), and Manhas and Sharma (2025) analyse interactions in international climate regimes, such as the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) and the Clean Energy Initiative. They compare the two countries' positions and their ability to jointly influence global climate governance, while also noting challenges to bilateral cooperation. A second set of studies compares domestic climate policies and governance across the two countries, rather than examining how the countries engage with one another (Ramamurthi & Karad, 2025; Wu, 2018).

Third, literature aimed at understanding bilateral engagement, such as Mizo (2016) and Mahalingam (2009), is dated, with time periods that do not extend beyond the Paris Agreement in 2015. These studies were conducted in a different geopolitical context, before China became a dominant provider of global green goods and when the diplomatic relationship between the two countries was more robust than it is today. Prys-Hansen and Kaack (2024) note a move towards competition and the securitisation of climate issues. Today, China has used its dominance in global supply chains as strategic leverage, as seen in the weaponisation of rare earths and minerals. Manhas and Sharma (2025) argue that the rivalry now extends to sectors such as solar energy and hydrogen, where India and China have parallel programmes like the National Hydrogen Mission and the China Hydrogen Alliance.

Thus, existing studies fall short of identifying areas of cooperation or the institutional channels through which those goals might be pursued. Goodale et al. (2022) set out a potential agenda for India–China collaboration around shared environmental challenges, with regional dimensions. Sinha (2026) calls for strengthening bilateral relations through 'low-politics' climate cooperation, including technology, data sharing, and jointly addressing the climate-leadership vacuum. However, this paper argues that climate engagement is shaped by geopolitical competition and economic imbalances, making only select issues amenable to cooperation. This calls for a strategic framework to identify those areas of engagement. Given these gaps, this paper does the following:

- Maps India's and China's past bilateral engagement on climate issues in the historical context up to the present.
- Traces the institutional channels through which India and China have engaged on climate issues.
- Assesses whether and how India can leverage points of entry to engage with China on climate issues in today's geopolitical context.

3. Methodology

To understand past climate-related bilateral engagement between India and China, the authors rely on primary and secondary data sources. The historical analysis maps official documents between Indian and Chinese government agencies. The mapping covers the period from 1993, when climate change entered the global foreground after the 1992 Rio Summit, to the present. It includes the full gamut of climate adaptation and mitigation efforts.

Official documents are sourced from the agreements and treaties depository of the MEA, Government of India (GoI), on its public website. An exhaustive dataset of 44 documents was created, tabulating information on the year of commencement and expiration, type of cooperation, agencies involved, issues of engagement, and mechanisms for implementation. The data are presented in the Appendix in Table A–1.

For our analysis, we classify the data along three parameters. First is the type of engagement, i.e., discussion, joint statement, MoU, agreement, and plan. Discussions such as the SED reflect emerging areas of cooperation and involve more sectoral experts and officials. A joint statement signals policy priorities and political commitment at the highest level. MoUs, agreements, and plans are more operational and bring the initiative closer to implementation.

Second, we disaggregate channels of cooperation. While the agreements analysed are all concluded

by government agencies, we capture references to the participation of government bodies, business enterprises, professionals, and scientific and educational institutions.

Third, we group areas of cooperation into 11 verticals: minerals, environmental conservation, RE, energy, disaster management, climate negotiations and global cooperation, urbanisation and planning, water, agriculture, shared natural resources, and ocean and marine resources.

To study trends in multilateral engagement, we mainly used secondary literature. We triangulated our findings through stakeholder interviews and workshops conducted between May and September 2025. Interviewees included current and former diplomats, ministers, scholars, and policy experts engaging with China. Two workshops were organised in New Delhi and Singapore. More details about the sessions and the list of participants are provided in the Appendix in Tables A–2 to A–4.

4. Institutions of Climate Governance

To understand how India and China engage in climate diplomacy, it is important to examine their domestic climate-governance structures and the roles different institutions play in policy creation, implementation, and coordination.

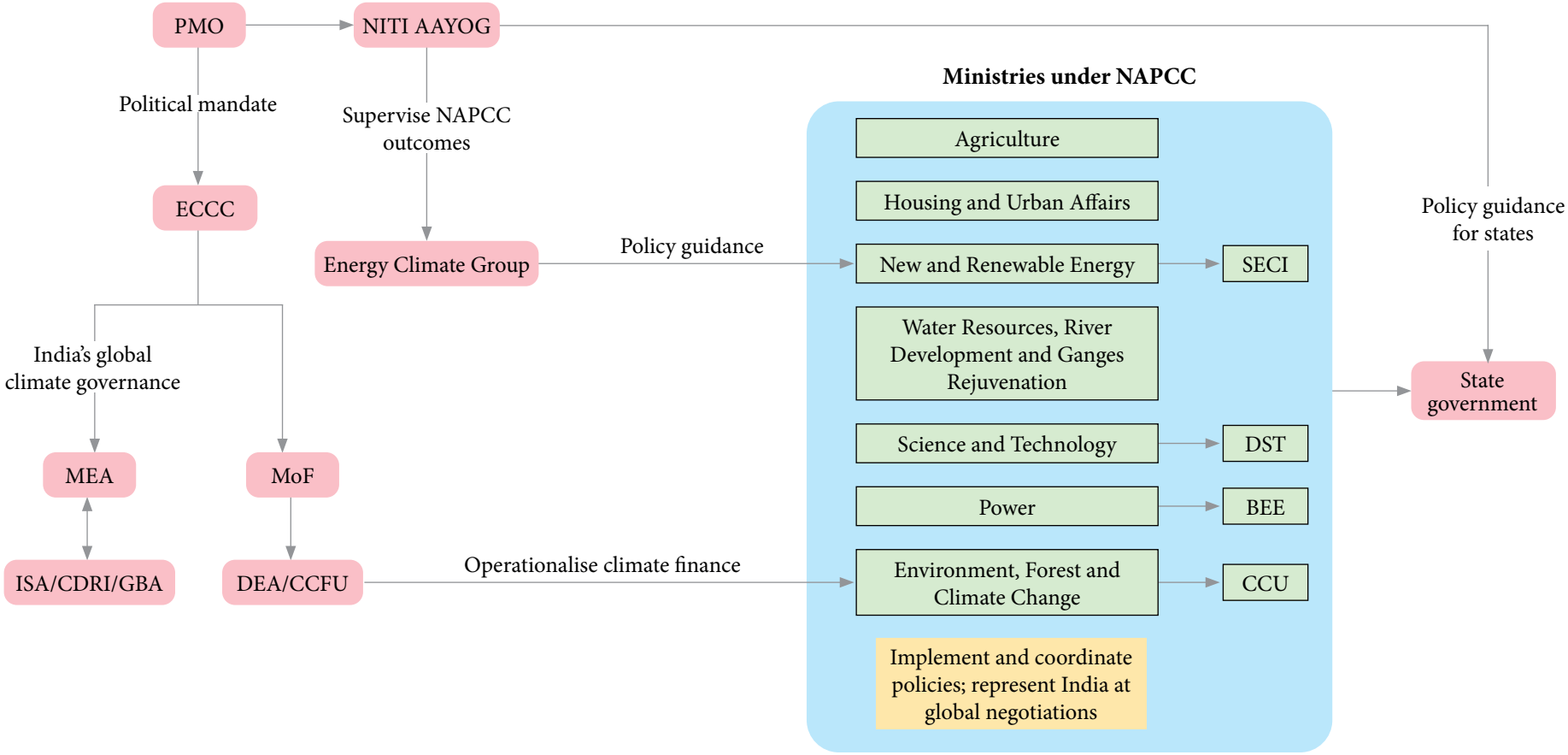
4.1 India

In India, climate governance is marked by 'uneven' institutional structures driven by central government agendas and shaped by ad hoc climate demands, such as the National Action Plan on Climate Change (NAPCC), announced before the Copenhagen COP in 2008. The NAPCC is supervised by the Executive Committee on Climate Change under the Prime Minister's Office (PMO). Under the NAPCC there are eight missions, which include RE, energy efficiency, water, agriculture, urban issues, the Himalayan ecosystem, knowledge and innovation and forest conservation. These missions are led by their respective line ministries (Figure 1) (Dubash & Pillai, 2021).

Much of India's policy direction is top-down, emerging from the PMO and often leveraging climate action pragmatically by implementing ambitious plans when it aligns with national interests, such as attracting FDIs, improving energy security, and providing affordable electricity (Ramamurthi, 2016). The Ministry of Environment, Forest and Climate Change (MoEFCC) is the primary body responsible for climate change and houses schemes such as the National Adaptation Fund on Climate Change and the Green India Mission. It also hosts the Apex Committee for the Implementation of the Paris Agreement (Singh & Kolluri, 2025). Members of the MoEFCC form the core of India's delegation to UNFCCC negotiations. However, the MoEFCC lacks the convening power needed to create centralised climate mandates or impose policies across ministries. Climate policies are often led by line ministries, such as energy-efficiency schemes under the Ministry of Power or climate-related heatwave policies under the Ministry of Health (Ramamurthi, 2026).

The Ministry of Finance (MoF), through its Climate Change Finance Unit in the Department of Economic Affairs, handles climate finance and engages with multilateral development banks (MDBs) and other international bodies. The MEA supports India's climate positions diplomatically.

Figure 1: Institutional Structure of India's Climate Governance



Source: Authors' compilation.

Note: PMO = Prime Minister's Office; ECCC = Executive Committee on Climate Change; MoF = Ministry of Finance; MEA = Ministry of External Affairs; ISA = International Solar Alliance; CDRI = Coalition for Disaster Resilient Infrastructure; GBA = Global Biofuel Alliance; DEA = Department of Economic Affairs; CCFU = Climate Change Finance Unit; SECI = Solar Energy Corporation of India; DST = Department of Science and Technology; BEE = Bureau of Energy Efficiency; CCU = Climate Change Unit; NAPCC = National Action Plan on Climate Change.

India-based multilateral organisations such as the International Solar Alliance (ISA) and the Coalition for Disaster Resilient Infrastructure (CDRI) also serve as institutions through which India engages in global climate diplomacy.

States and local governments often have action plans guided by central mandates but tailored to their own contexts. State agencies must also meet certain central climate mandates, such as renewable purchase obligations. Further, differences in state-level resources, institutional capability, policy innovation, and entrepreneurial orientation have produced both leaders and laggards in climate action. Overall, however, state and centre coordination on climate issues has been weak, particularly in non-energy-related sectors, resulting in limited capacity and finance for states (Dubash & Pillai, 2021). There is civil society, international organisation, and public participation in climate governance, but often not in agenda setting. Rather these non-state actors help the government meet its top-down goals and engage when aligned with national priorities (Ramamurthi, 2026).

4.2 China

Climate governance in China has been characterised by a centralised and strong state that formulates and implements environmental policies with some public participation[1] (Gilley, 2012). Over the past decade and a half, climate change and environmental governance have moved up in Chinese government priorities because of their links to domestic political legitimacy as well as international pressure. Institutional reforms have been aimed at improving inter-agency coordination, accountability, and the reduction of principal–agent gaps in implementation (Arantes, 2022).

The State Council, which is the highest administrative body in China, houses the National Leading Group[2] on Climate Change Response, Energy Conservation and Emissions Reduction (NLGCCR), headed by the Premier and consisting of 30 ministries. While the State Council operationalises climate policies and administrative regulations, political guidance and macro-strategies are determined by the Communist Party of China Central Committee, composed of nominated members. Its strategic guidance and suggestions on key policy areas are then translated by the National People's Congress into binding targets through laws and five-year plans (Teng & Wang, 2021).

Presently, the Climate Change Department (CCD) in the Ministry of Ecology and Environment is the primary agency handling climate issues, including the development of climate strategies, participation in international negotiations, and monitoring of UNFCCC targets. Previously, the CCD was housed in the National Development and Reform Commission (NDRC), China's central economic planning organisation. In 2018, the transfer to the CCD was intended to improve the efficacy of climate policy, which had suffered from intra-ministerial coordination gaps. As the central climate agency, the CCD works with agencies responsible for RE, industry, information technology, and transport. However, the NDRC continues to wield enormous influence over climate policy because of its role in allocating financial resources and approving projects. The office of the high-level Leading Group on Carbon Peaking and Carbon Neutrality, formed in 2021, is based at the NDRC (State Council Information Office [SCIO], 2021). The CCD and the MoEFCC in India therefore play similar roles. They execute climate policies and represent their countries internationally, rather than being institutions with strong authority to impose national policy mandates.

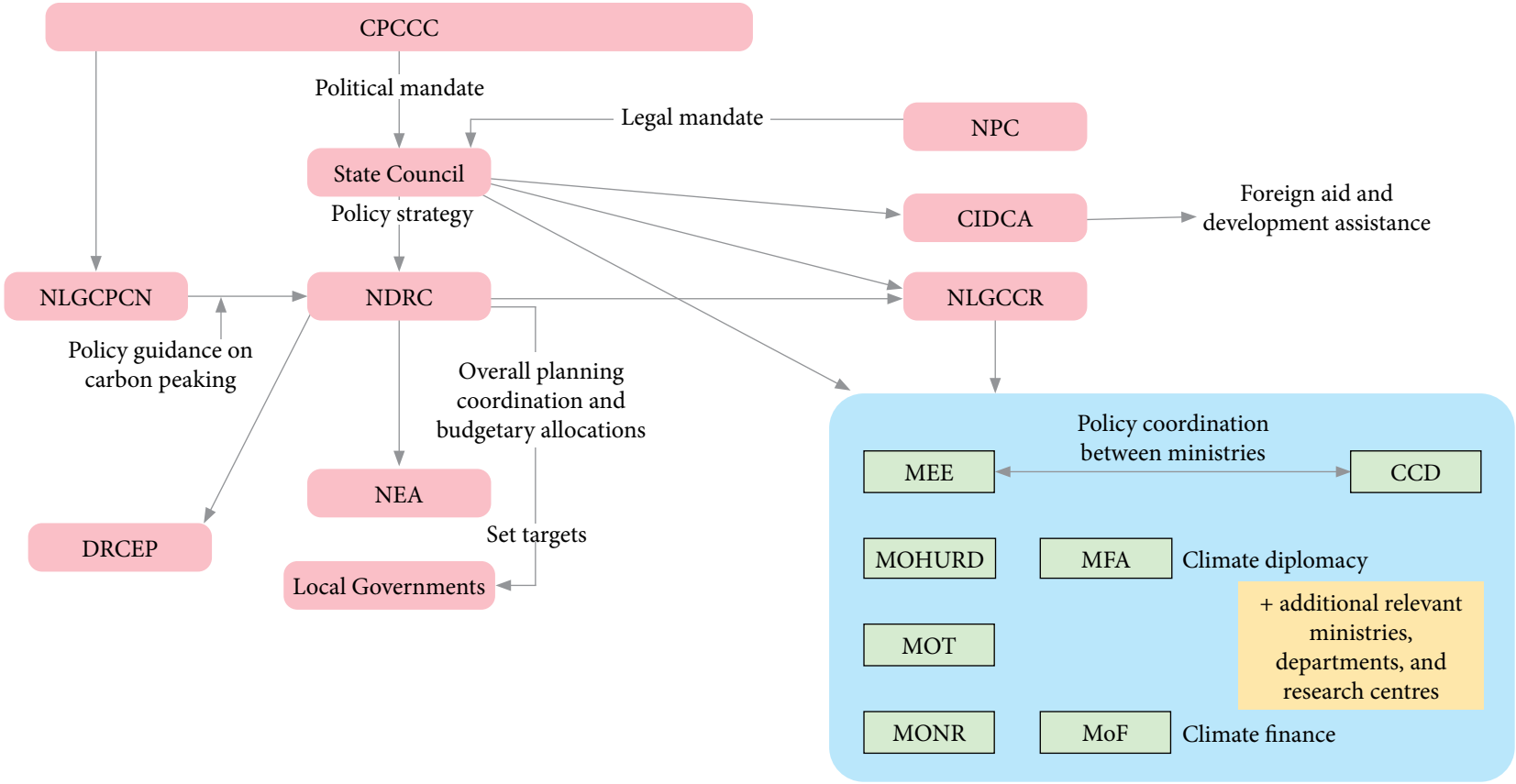
Similar to the Indian case, several line ministries are part of the NLGCCR. The Ministry of Foreign Affairs (MFA) leads China's climate diplomacy; the MoF administers taxes and tax incentives relevant to climate policy and facilitates bilateral and multilateral finance; and the Chinese International Development Cooperation Agency administers foreign aid and development assistance (Sandalow et al., 2022).

At the subnational level, there is a dual-responsibility system between government and party agencies. Targets allocated by the central government are passed down to provincial, municipal, and county governments with periodic performance evaluation. Gong (2025) lays greater emphasis on the impact of innovation by local governments and decentralised policy implementation on environmental and energy outcomes. However similar to India, multiple targets together with limited budgets constrain the capacity of local governments and often lead to uneven responses under pressure (Kostka, 2016).

[1] Despite centralised policymaking, expert consultation is built into the system with inputs from expert groups, think tanks, non-governmental organisations, businesses, and industry associations, often through high level channels like Politburo Study Sessions.

[2] Leading groups or *xiaozu* are top-level informal or semi-formal groups that advise leadership on critical policy arenas and are used to coordinate policy across departments.

Figure 2: Institutional Structure of China's Climate Governance



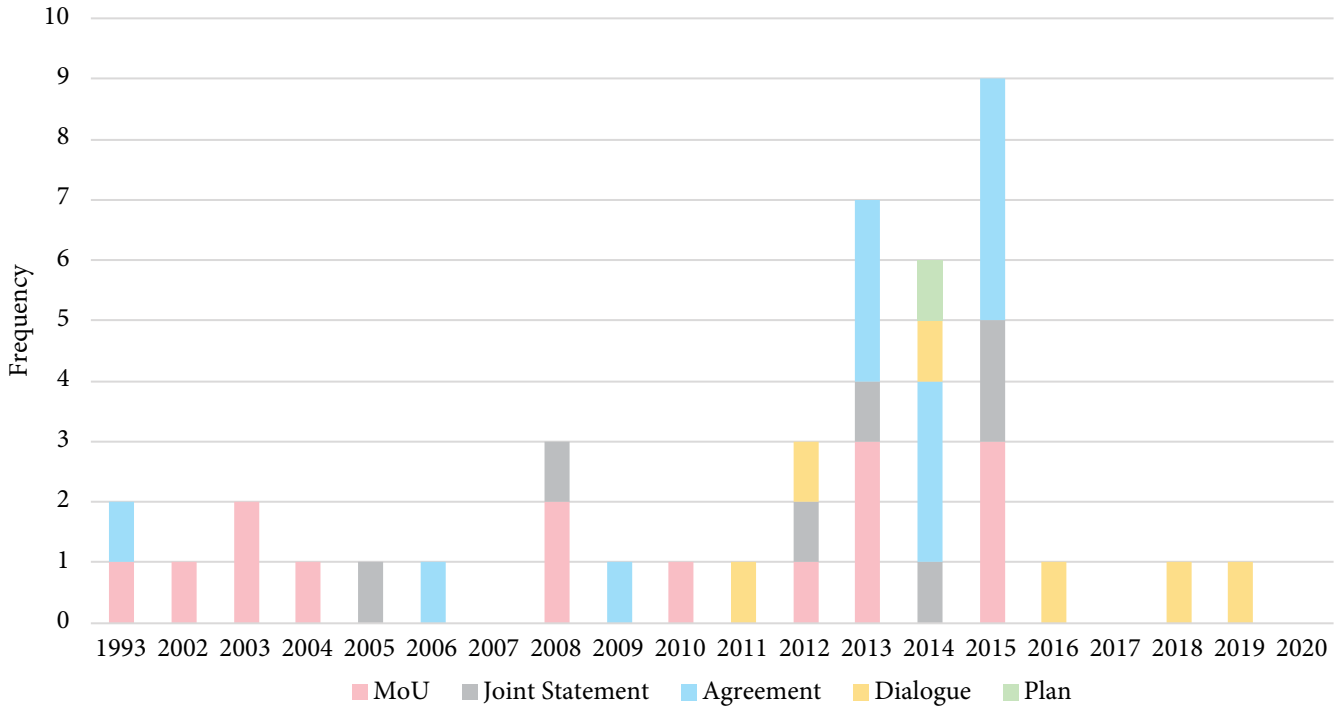
Source: Authors' compilation.

Note: CPCCC = Communist Party of China Central Committee; NLGCPCN = National Leading Group on Carbon Peak and Carbon Neutrality; DRCEP = Department of Resources Conservation and Environmental Protection; NDRC = National Development and Reform Commission; NEA = National Energy Administration; NPC = National People's Congress; CIDCA = Chinese International Development Cooperation Agency; NLGCCR = National Leading Group on Climate Change Response, Energy Conservation and Emissions Reduction; MEE = Ministry of Ecology and Environment; MOHURD = Ministry of Housing and Urban-Rural Development; MOT = Ministry of Transport; MONR = Ministry of Natural Resources; MFA = Ministry of Foreign Affairs; MoF = Ministry of Finance; CCD = Climate Change Department.

5. Mapping Climate Engagement Between India and China (1993–2026)

Climate and energy cooperation between the two countries began soon after the normalisation of bilateral ties in 1988, with the highest levels of engagement occurring between 2008 and 2015 (Figure 3). There have been 15 MoUs, 7 joint statements, 13 agreements, 6 dialogues, and 1 plan. In terms of frequency, this engagement can be divided into distinct periods. The first phase, from 1993 to 2007, saw limited engagement in the early 1990s, followed by almost a decade of lull. Activity picked up again in the mid-2000s, culminating in the Agreement on Cooperation on Addressing Climate Change in 2009. The second phase, from 2008 to 2015, was a period of intense activity at both the multilateral and bilateral levels. The third phase, from 2016 to the present, has seen a downward trend in engagement, resulting in an almost complete halt in the early 2020s. It is only since late 2024 that the process of normalisation of relations has started and talks of energy and climate cooperation have resumed, albeit with caution.

Figure 3: Frequency of Climate Engagements Between India and China, 1993–2026



Source: Authors' compilation.

Note: Between 1993 and 2002, and after 2019, no official documents of bilateral engagement are publicly available.

Right from the onset, channels of cooperation were planned for active participation from government officials, the scientific community, and the private sector. Site visits, trainings, capacity building, standards and regulation setting, knowledge exchanges on governance and data sharing were mentioned as key institutional channels of engagement in agreements. As can be seen in Figure 3, engagement peaked in 2015, the year the Paris Agreement was signed. Data and information sharing, along with institutional exchange, are the most frequent activities across all time periods (Figure 5).

The areas of cooperation (Figure 4) are wide-ranging and cover both climate adaptation and mitigation (Table 1), with environmental conservation, urban planning, and water management being topics most engaged on.

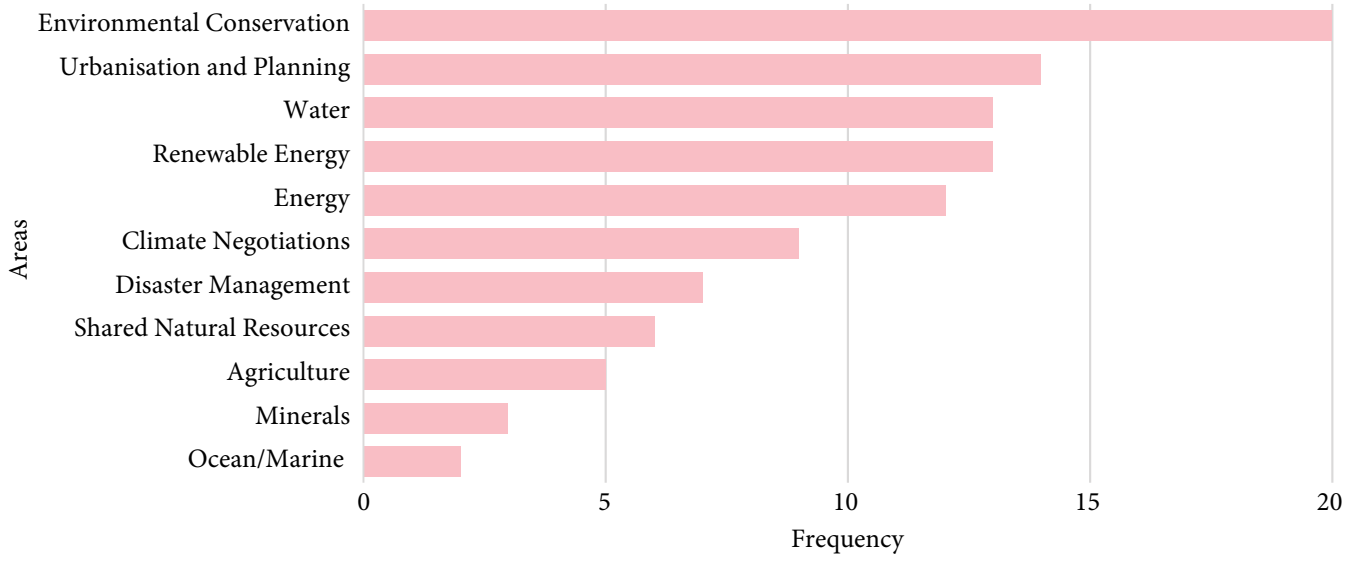
Table 1: Topics of Climate Cooperation Between India and China, 1993–2026

Topic	Sub-topics
Minerals	Exploration, regulation, conservation, resource assessment, ESG concerns, rare earth industry technology, mineral economics, hydrogeology, and development of the mining industry.
Environment Conservation	Forestry, biodiversity, ozone layer, air pollution, legislation and assessment, wildlife, and trade.
Renewable Energy	Hydropower, wind power, and the manufacturing of solar cells.
Energy	International organisations, nuclear energy, energy mix diversification, clean coal, energy conservation and efficiency, modernisation of the electricity grid, EVs, power equipment, industrial energy efficiency, and energy security.
Disaster Management	Flooding, earthquakes, regional seismogenic mechanisms, regional geodynamics, forecasting and mitigation, forest fires, and the role of the Indian Ocean in regional and global climate and disaster mitigation.
Climate Negotiations, Multilateral Engagement, and Global Cooperation	Commitments at UNFCCC, Kyoto Protocol, partnership for combating climate change, CBDR, Rio Conference, Doha Conference, BASIC + approach, financing from developed countries, RIC, BRICS, and G20.
Urbanisation and Planning	Low-carbon urbanisation, waste management, green transportation, smart cities, construction materials, waste to energy, infrastructure, and public health.
Water	Conservation and efficient utilisation, delivery technologies, zoning and distribution, and pollution.
Agriculture	Sustainability, food security, pests and diseases, efficiency in irrigation, and risks in farming due to global warming.
Shared Natural Resources	Transborder rivers and glaciers.
Ocean/Marine	Ocean energy, polar science, seabed resources exploration, gas hydrate exploration, climate variability and change, marine biochemical research, and oceanography.

Source: Authors' compilation.

Note: ESG = environmental, social, and governance; CBDR = common but differentiated responsibilities; RIC = Russia, India, and China; BRICS = Brazil, Russia, India, China, and South Africa; G20 = Group of Twenty; BASIC = Brazil, South Africa, India, and China; EV = electric vehicle; UNFCCC = United Nations Framework Convention on Climate Change.

Figure 4: Frequency of Topics of Climate Cooperation Between India and China, 1993–2026



Source: Authors' compilation.

Figure 5: Channels of Climate Cooperation Between India and China, 1993–2026

Channels	1993	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Scientific exchanges	2		2			1		1				1	1		3	1		1	1	
Technology exchange, information sharing, and training of personnel	2		3					2	2	1			1	1	3	1			1	
Sharing R&D facilities and infrastructure			1					1												
Joint workshops, lectures, and seminars	2		2						1				1		2	1				
Joint technical standard setting												1								
Government/ institutional exchanges/delegation visits and policy dialogue	1		2			1				1		1	3	1	8	1		1	1	
Joint R&D	1		2					1	1	1					2	1				
Business development and exchanges			1			1		1	1			1								
Data and information sharing	1	1	2	1	1			2		1		1	3	1	8	1				
Capacity building and investments						1				1				1	1			1	1	
Joint ventures in third countries					1										1					

Frequency of engagement

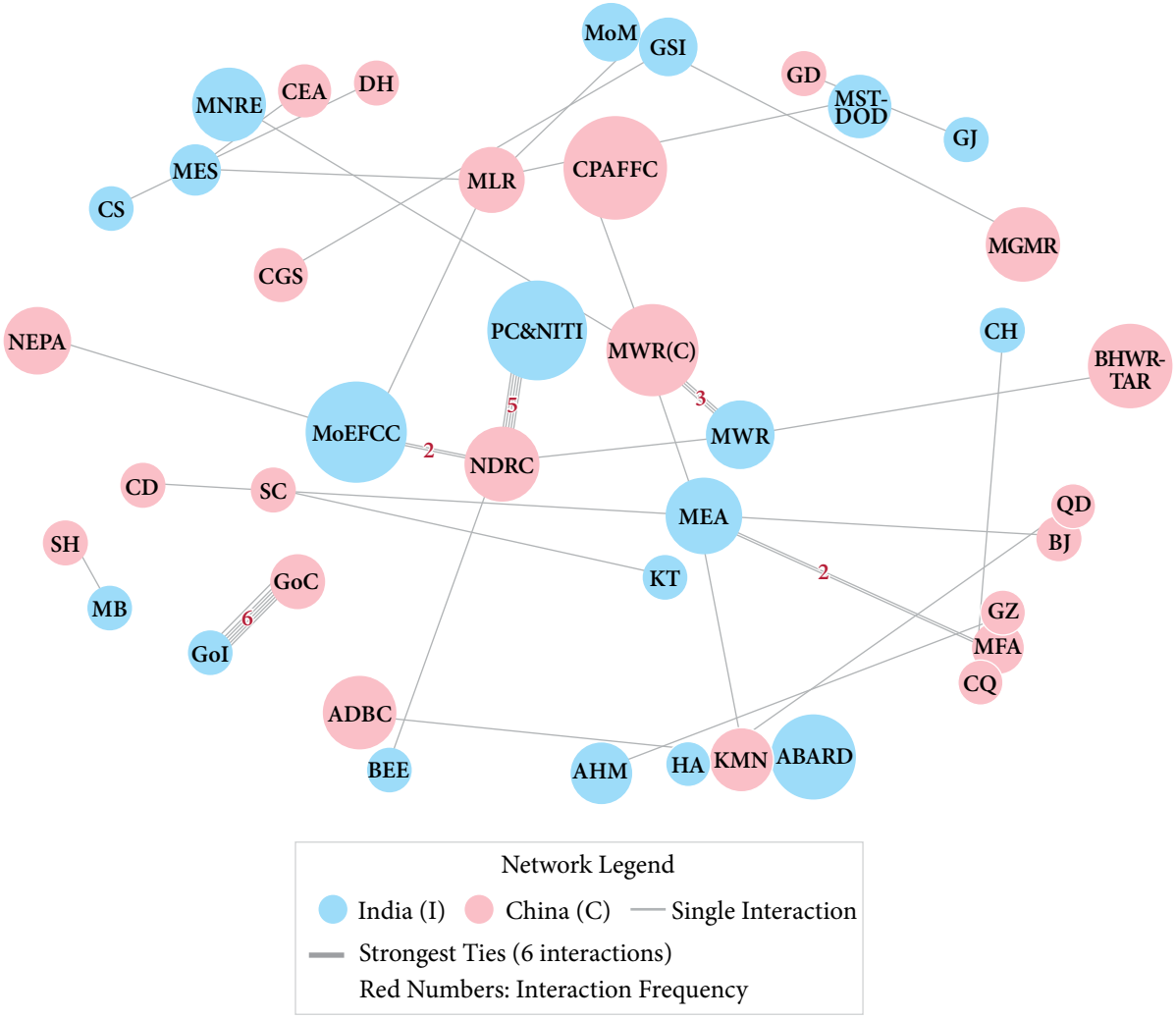
Legend

1 2 3 5 8

Source: Authors' compilation.

Note: R&D = research and development.
After 2019, no official documents of bilateral engagement are publicly available.

Figure 6: Bilateral Institutional Engagements on Climate, 1993–2026



Source: Authors' compilation.

Note: The figure was generated by Gemini using the data compiled by the authors.

MoM = Ministry of Mines; MGMR = Ministry of Geology and Mineral Resources; MoEFCC = Ministry of Environment, Forest and Climate Change; NEPA = National Environmental Protection Agency; MST-DOD = Ministry of Science and Technology, Department of Ocean Development (I); SOA = State Oceanic Administration; MNRE = Ministry of New and Renewable Energy; MWR(C)-DIC = Ministry of Water Resources (C), Department of International Cooperation; S&T = Science and Technology; MWR(I) = Ministry of Water Resources, India; MWR(C) = Ministry of Water Resources (C); GoI = Government of India; GoC = Government of China; SFA = State Forestry Administration (C); NABARD = National Bank for Agriculture and Rural Development; ADBC = Agricultural Development Bank of China; GSI = Geological Survey of India; CGS = China Geological Survey; MEA = Ministry of External Affairs; MFA = Ministry of Foreign Affairs; PC&NITI = Planning Commission/NITI Aayog (I); NDRC = National Development and Reform Commission; BEE = Bureau of Energy Efficiency; BJ = Beijing Municipality; CD = Chengdu Municipality; CS = Aurangabad; DH = Dunhuang; MLR = Ministry of Land and Resources; KM = Kunming; CWC = Central Water Commission; BHWR-TAR = Bureau of Hydrology and Water Resources, Tibet Autonomous Region; GJ = Government of Gujarat; GD = Guangdong Province; MB = Mumbai; SH = Shanghai; AHM = Ahmedabad Municipal Corporation; GZ = Guangzhou; MoES = Ministry of Earth Sciences; CEA = China Earthquake Administration; CPAFFC = Chinese People's Association for Friendship with Foreign Countries; KT = State Government of Karnataka; SC = Provincial Government of Sichuan; CH = Chennai; CQ = Chongqing; HA = Hyderabad; QD = Qingdao.

The network diagram of institutional linkages (Figure 6) shows that a variety of national and subnational entities across multiple issue areas are involved in bilateral engagements. On the Chinese side, the NDRC, State Forestry Department, and Ministry of Water Resources were the central engagement bodies. On the Indian side, the central actors were the MEA, MoEFCC, and the Ministry of Water Resources (now Ministry of Jal Shakti). The hydrological data-sharing agreements explain the important role of water ministries. As the NDRC oversaw planning, resource allocation, and policy direction on climate change and the environment in China until 2018, its centrality is understandable. The NDRC had the most engagement with the National Institution for Transforming India (NITI) Aayog/Planning Commission, India's policy

advisory body, which may indicate exchanges on high-level policy, frameworks, and governance during the SEDs. However, given that the NDRC has a broader mandate than NITI Aayog, including resource allocation and enforcement, this reflects institutional engagement between the two actors with differing levels of power. The MoEFCC is also central, interacting with ministries such as the forest and environmental conservation agencies in China. On the Indian side, the MEA holds a more central position than its counterpart, the MFA. This appears to be because, in the initial sister-city agreements, the MEA acted as the nodal party on behalf of Indian cities, while in China, cities engaged directly. This trend changes later, with sister-city agreements being signed directly between mayors. This could mean that the Indian government began to allow greater autonomy in subnational engagement in later phases.

These findings indicate that engagement between appropriate peer ministries and departments occurred frequently. However, it appears that these linkages were not robust enough to keep cooperation active during periods of political disengagement. If India and China re-engage, there is less need to create new institutional channels but an opportunity to revive old ones.

5.1 Phase I: Early Multilateral Cooperation With Nascent Bilateral Engagement (1990s–2007)

Despite alignment at the global stage, bilateral cooperation during this phase remained nascent. Economically, India had only begun to liberalise, and China's manufacturing-driven export strategy was still in its early stages. Total bilateral trade was under USD 3 billion, with raw mineral resources such as coal, iron ore, and bauxite making up the bulk of it (Observatory of Economic Complexity, n.d.).

Multilateral Engagement

In the 1990s, India and China began to define their positions as major developing economies within the international climate regime. Multilateral engagement was the primary avenue of cooperation to align their negotiating positions. Particularly at COP, Chinese officials coordinated with their Indian counterparts to attribute responsibility based on historic emissions (Mizo, 2016). They agreed on the principles of CBDR and non-binding emission-reduction commitments for developing countries while demanding greater responsibility from industrialised nations (Jayaram, 2021).

Bilateral Engagement

Among the early efforts at bilateral cooperation, the focus was on environment, forestry, and mineral resources. In 1993, an agreement was reached on sustainable development, biodiversity protection, pollution control, waste management, environmental legislation, and impact-assessment measures (MEA, 1993a).

In the same year, India's Ministry of Mines signed an MoU with the Chinese Ministry of Geology and Mineral Resources covering mineral exploration, regulation, and conservation, including the exchange of samples, technical information, and joint symposia (MEA, 1993b). Momentum was sustained in the 2000s with several MoUs signed during Prime Minister (PM) A.B. Vajpayee's visit to China. The two sides made advanced cooperation on RE as well as emerging technologies in marine sciences, integrated coastal management and seaweed production and processing (MEA, 2003).

This period also saw the first negotiations and agreements on the sharing of hydrological data for shared rivers, an arrangement that has become a key aspect of India–China bilateral relations. In 2002, the countries agreed to share historical and current hydrological data on the Yaluzangbu/Brahmaputra River from China's three hydrological stations to support flood control and disaster mitigation downstream (MFA, 2002). Soon afterwards, the same framework was extended to the Sutlej/Langqen Zangbo river in 2005 (MEA, 2005a). China agreed to bear the cost of setting up the hydrological stations, while India was to bear the cost of data provision and operations. There was also discussion on expanding the data-sharing framework to the Parlung Zangbo and Lohit/Zayu Qu rivers.

The subsequent years until 2008 witnessed developments across multiple fronts. The 2005 joint statement released during the state visit of Chinese Premier Wen Jiabao to India, emphasised deepening institutionalisation in the field of energy security and conservation (MEA, 2005b). It also suggested engaging in joint surveys and exploration of petroleum and natural gas resources in third countries. Linkages were further bolstered through agreements on sustainable development of agriculture, forest resources, biodiversity, and projects on paleoclimatic and paleo-environmental changes in the Asian continent (MEA, 2008a; MEA, 2008b).

Close bilateral and multilateral engagements during this period culminated in the 2008 Joint Statement on a shared vision for the 21st century, issued during the visit of PM Manmohan Singh to Beijing (MEA, 2008c). Signalling the importance of climate and energy cooperation between India and China, it called for the establishment of a fair and secure international energy order and a joint commitment to clean and renewable energy. Cooperation on low-carbon-emitting technologies was further strengthened by collaborating on civil nuclear energy under the International Thermonuclear Experimental Reactor project.[3]

Key Findings

Taken together, the 1990s and 2000s highlight how India–China climate cooperation evolved from political alignment at the highest level to more concrete efforts in scientific exchange and market-oriented engagement. The early emphasis was on framing a common political position within the UNFCCC and laying the groundwork for bilateral cooperation. These were significant in establishing channels of communication but remained institutionally thin. By contrast, the 2000s saw both a broadening and deepening of the agenda. MoUs in RE, marine sciences, forestry, agriculture, and geology reflected an attempt to move from mere exchange of data and personnel to joint projects, demonstration programmes and even market mechanisms. The hydrological data-sharing agreements marked a particularly notable shift, institutionalising cooperation in a sensitive and strategically important domain.

That said, the depth of cooperation should not be overstated. Implementation often lagged ambitious declarations. The partnership functioned more effectively in multilateral climate forums while bilateral projects remained quite fragmented. Both countries carried their shared positions into global climate negotiations, where their coordinated emphasis on CBDR and energy equity gave developing countries a greater voice and leverage. Further, divergences in economic growth, manufacturing capabilities, and carbon emissions between the two countries widened rapidly during this period.

5.2 Phase II: Wide-Ranging Bilateral Alignment With the Emergence of Multilateral Misalignment (2008–2015)

This period saw high levels of bilateral engagement. China and India emerged as important players in the global economy. At the same time, post the COP at Copenhagen, divergences in their international positions began to emerge with trade imbalances widening significantly.

Following decades of double-digit growth, at an average of 9–10%, China's gross domestic product (GDP) grew to USD 11.28 trillion, with a significant contribution from the manufacturing sector. India, at the same time, grew at an average of 7% to reach a GDP of USD 2.1 trillion (World Bank, n.d.a), with a greater contribution from the services sector but a relatively weaker manufacturing sector. In terms of trade, India entered a period of deficit with China from 2006 onwards, reaching USD 45 billion in 2015, up from USD 11 billion in 2008 (Srivastava, 2023) (Figure 7). India was far behind China in per capita emissions as well (World Bank, n.d.b) (Figure 8).

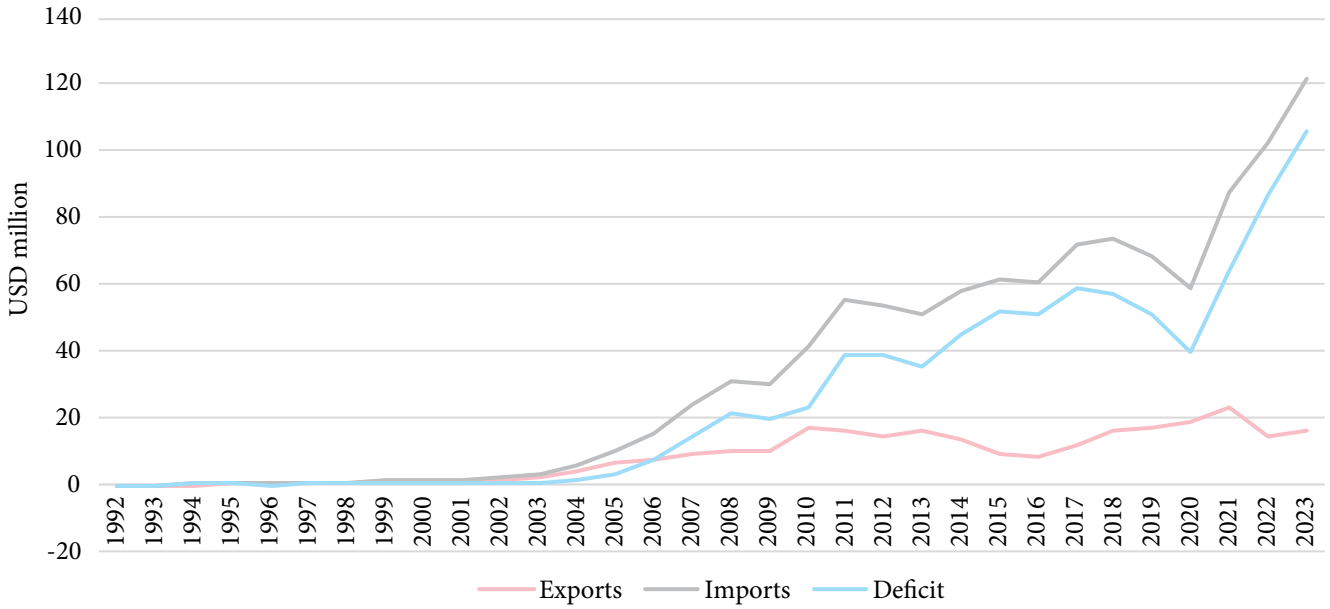
Multilateral Engagement

Structural differences in their economies led India and China to gradually veer towards divergent approaches at the multilateral level between the 2009 Copenhagen Summit and the 2015 Paris Summit.

In 2008, at Copenhagen, both countries opposed binding emission cuts for developing nations and defended the principle of CBDR. However, China, as the world's largest emitter and a global manufacturing hub, came under mounting pressure to accept binding reductions. By the time of the Paris Agreement in 2015, it had signalled a greater willingness to take on quantified commitments, including peaking emissions by 2030 and investing heavily in RE (Mizo, 2016). India, with its development needs, framed its climate position primarily around developmental equity, poverty alleviation, and the need for expanded carbon space. While India pledged ambitious RE targets, it resisted declaring a peaking year. This divergence created a subtle but significant rift, especially as China began to project itself as a leading global climate actor, while India held firmly to the justice-based approach of the Global South (Jayaram, 2021; stakeholder interviews).

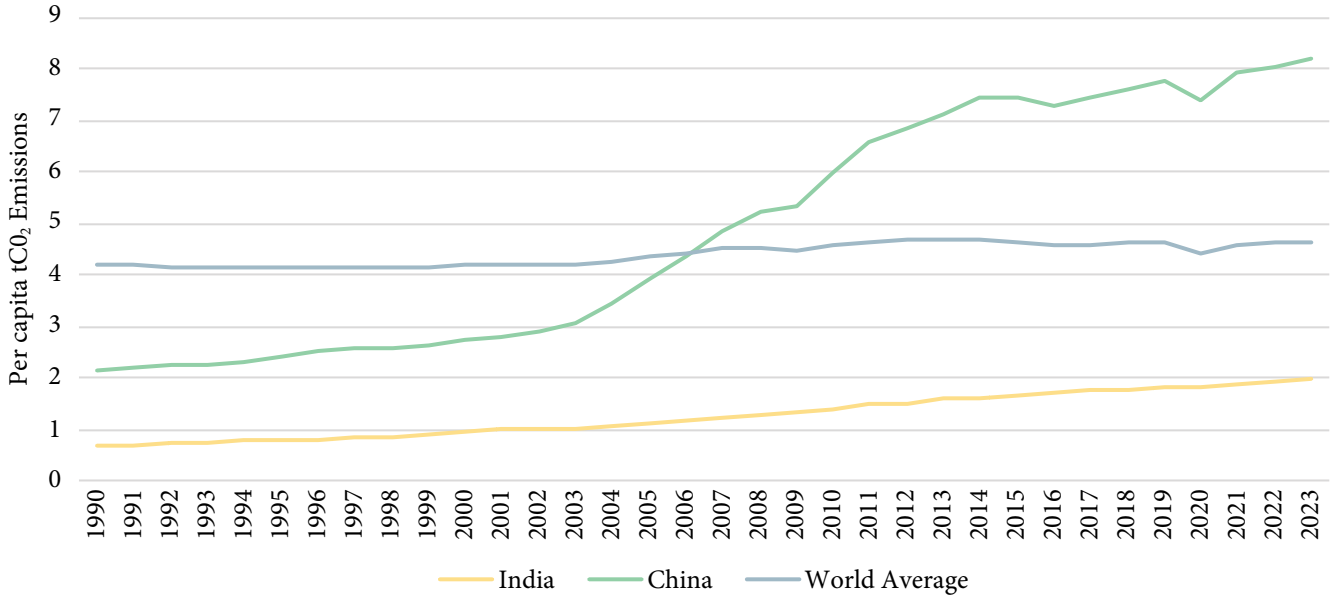
[3] The International Thermonuclear Experimental Reactor project is a global scientific collaboration with major partners including the EU, China, India, Japan, South Korea, Russia, and the USA.

Figure 7: India's Imports, Exports, and Trade Imbalance with China, 1992–2023



Source: Authors' compilation; World Integrated Trade Solutions (n.d.).

Figure 8: Per Capita Carbon Dioxide Emissions, 1990–2023



Source: Authors' compilation; World Bank (n.d.b).

Bilateral Engagement

In this phase both India and China undertook significant steps to develop domestic legislative frameworks to tackle climate change and respond to international demands. For instance, India's NAPCC, Energy Efficiency Financing Platform, Renewable Energy Certificates, and National Adaptation Fund were launched (PIB, 2021; National Bank for Agriculture and Rural Development [NABARD], 2015). Other initiatives included pilot Emissions Trading Schemes, launched in 2011, and afforestation programmes (Bandyopadhyay, 2016).

In China, domestic discontent over environmental degradation and pollution, combined with international pressure, particularly since China surpassed the US as the largest emitter in 2006, led to climate and energy policies featuring prominently in the five-year plans (Maizland, 2021). Following the passing of the Renewable Energy Law in 2005 (LawInfoChina, 2005) and its amendment in 2009, China made strategic investments in RE. As a result of the policy push and state-led investments, combined solar and wind capacity increased from 9 GW in 2008 to 175 GW in 2015 (Hilton, 2025).

Perhaps these domestic shifts in India and China towards climate action created more interest in bilateral cooperation. The two countries signed a broad-ranging agreement, 'India-China Partnership on Combating Climate Change', which called for dialogue and practical cooperation (MoEFCC, 2009). Following this, an MoU was signed to cooperate on green technologies (MEA, 2010).

The SED initiated in 2011 between India's Planning Commission and China's NDRC is a key example of improved institutionalisation. Under this dialogue, five working groups were formed and there were attempts to create bilateral platforms for low-carbon technology deployment.

During the visit of Chinese Premier Li Keqiang to India in 2012, subnational cooperation on sustainable urban development got a major push with the signing of an agreement to facilitate linkages between Indian and Chinese cities. Subsequently, 11 sister-city agreements were signed between 2013 and 2015, along with an MoU on the establishment of the States'/Provinces Leaders' Forum in 2015. Sister-city arrangements enabled the sharing of governance experiences and exchanges and delegation visits on issues like urban planning, wastewater management, environment, and public health.

At the second SED, held in Delhi in 2012, the two sides also deliberated on the possibility of Chinese power equipment manufacturers setting up service centres in India (Embassy of India, Beijing, 2012). In the MoUs, it was agreed to implement energy-efficiency projects, calling for visits by enterprises and business associations to industrial and manufacturing centres excelling in these initiatives (MEA, 2012).

This deepening engagement across sectors and the involvement of a multiplicity of actors came against a backdrop of signalling from the highest levels of political leadership. For instance, in the joint statement issued during the visit of PM Manmohan Singh to China in 2013, leaders called for strengthening linkages on transborder rivers, sharing of hydrological data, and coordination in multilateral forums such as BRICS to tackle issues like climate change (Embassy of India, Beijing, 2013).

The third SED held in 2014 in Beijing deepened dialogue on energy and environment through field visits and collaborative projects. Along with continued business engagement plans, agreements on joint research studies on energy planning were signed. A joint publication on low-carbon development was also released (MEA, 2014).

Urban sustainability and disaster risk management were also key areas of cooperation in climate adaptation MoUs during this period. Notably, these included collaborative activities and research in the geopolitically sensitive Himalayan zone, signalling growing political trust. Similarly, the MoU on ocean sciences, climate change, polar science, and cryosphere sought to understand the role of the Indian Ocean in global and regional climate mitigation and disaster risk management (MEA, 2015).

Key Findings

Between 2009 and 2015, even as important divergences emerged at the international level, India and China's bilateral climate cooperation reflected a pattern of deepening institutionalisation with a widening scope. Far from being limited to technical exchanges, this period saw a concerted emphasis on joint activities, arrangements for technology transfer, and structured cooperation frameworks. Initiatives such as the SED, MoUs between ministries and agencies, and sister-city partnerships signalled a willingness to embed climate collaboration within broader economic and developmental ties.

New frameworks for engagement also emerged, including public–private partnerships, joint R&D initiatives and engagement with enterprises and companies, complementing traditional state-to-state arrangements. Strengthened by political will at the top level, engagement was no longer confined to national ministries or summit-level declarations but expanded to involve planning bodies, provincial governments, city administrations, research institutions, and business associations.

The areas of cooperation also expanded considerably. Non-politically sensitive domains such as energy efficiency, renewable power, and afforestation remained central. Additionally, India and China also advanced cooperation in newer and potentially sensitive arenas such as disaster risk management, ocean and polar sciences, hydrological data, mining, and joint geological studies in the Himalayas. These initiatives suggested a level of political trust that was noteworthy.

Ultimately, this period reflected a paradox—bilateral trust and institutionalised climate cooperation reached new heights, while differences at the multilateral level as well as in the economic growth of the two countries revealed the limits of India–China engagement.

5.3 Phase III: Asymmetries and Institutional Breakdown (2016–2026)

The peak of India–China climate cooperation was seen in 2015. In the following years, several factors, including geopolitical contestation and structural issues like the economic gap and a rapidly growing trade imbalance, led to a breakdown of cooperation at both the bilateral and multilateral level.

Multilateral Engagement

Both India and China remained committed to their ambitious clean energy goals. President Xi announced China's targets of achieving carbon neutrality by 2060, while India announced its 2070 net-zero target. At multilateral forums, India and China continued to share common positions, particularly regarding financial responsibilities of the Global North, just energy transitions, and loss and damages. For instance, the two countries worked in tandem to ensure that the commitment to 'coal phase-out' was altered to a 'coal phase-down' at COP26 (The Hindu, 2021).

However, at the same time, competition between the two countries to emerge as climate leaders also intensified. China forayed into climate finance by setting up the 'China South–South Climate Cooperation Fund' to provide USD 3.1 billion to developing countries (China Daily, 2015). Through its Belt and Road Initiative, China also began to heavily invest in RE projects in the Global South. At the same time, India also initiated several international green multilateral initiatives like the ISA in 2015, which aims to institute a USD 1 trillion investment in the solar energy sector by 2030 (PIB, 2024), as well as the CDRI and the Global Biofuels Alliance.

Bilateral Engagement

The fourth SED was held in 2016 on the theme 'Development, Innovation and Cooperation for Mutual Benefit' (MEA, 2016). It was agreed that India offered huge investment opportunities and that Chinese investors were keenly interested in setting up solar projects and waste-to-energy plants. The dialogue also encouraged enhanced communication between energy institutes to conduct joint studies.

Subsequently, the fifth and sixth SEDs were held in 2018 and 2019, respectively (IndBiz, 2019; Embassy of the People's Republic of China in India, 2018). Discussions revolved around aligning industrial policies, such as 'Make in India' and 'Made in China,' to find complementarities. At the sixth SED, the two sides discussed clean coal technologies, e-mobility, China's development in energy storage, smart grids, grid integration, and potential for cooperation on standards in energy conservation. Another issue of deliberation was the R&D for manufacturing solar cells from alternative materials.

The SED meeting held in September 2019 was the last major climate and energy bilateral engagement between India and China. Multiple factors adversely affected future cooperation.

On the political front, the outbreak of the COVID-19 epidemic in Wuhan in December 2019 and its subsequent spread as a pandemic led to major public health emergencies and the closure of international borders in both countries. In May 2020, armed skirmishes broke out between Indian and Chinese border patrol forces, leading to casualties on both sides and months-long standoffs at multiple locations. Bilateral relations between the two countries waned as a result, halting diplomatic and Track 2 communications in multiple domains (Verma, 2024). After Ambassador Sun Weidong's term ended in 2022, China did not officially appoint an ambassador to India until May 2024.

Further, India's active participation in the Quadrilateral Security Dialogue (QUAD), including the Leaders' Summit (first held in 2021), was perceived as directed towards a rising and more assertive and aggressive China (Krishnan, 2023). The Indian government banned hundreds of Chinese applications like WeChat and TikTok, while journalists from both sides were denied visas. Chinese companies and investments in India also came under scrutiny as a result of Press Note 3, which introduced a complex approval process (Firstpost, 2025). People-to-people ties were also significantly reduced due to the mutual suspension of flights and visa services. China resumed visa services for Indians in late 2022, but it was only in 2025 that Indian visas began to be issued again to Chinese tourists (British Broadcasting Corporation [BBC], 2025).

Finally, on the economic competition front, trade disparities between the two countries were cited as a key factor that led to India's withdrawal from the Regional Comprehensive Economic Partnership in 2019 (East-West Center, 2019). In the last decade, China's dominance in global supply chains for green products and raw materials has led to an increase in India's reliance on Chinese imports. There have also been recent instances of restrictions on exports of equipment and rare earth minerals, critical for EVs and wind turbines, which could potentially hamper India's green transformation (Kobayashi, 2025). This has led to fears of China leveraging this dependence for its gain and prompted calls for India to develop supply chain networks with alternate economic partners.

Key Findings

In the period after 2015, while institutional frameworks created in the previous phase sustained a measure of dialogue, broader geopolitical ruptures and structural asymmetries steadily eroded the space for cooperation. SEDs continued until 2019 but their outcomes were overshadowed by the COVID-19 pandemic and the 2020 border clashes, all of which froze channels of engagement and created mistrust. Bilateral frictions spilled over into economic and societal domains. At a structural level, the growing economic disparity amplified Indian concerns of strategic dependence, particularly in green technologies and critical supply chains, even as it tried to diversify partnerships to build resilience.

On the multilateral front, India and China were both willing to engage on climate issues, albeit at different levels of ambition. China's announcement of its 2060 carbon neutrality target and its climate finance pledges showed intent to assume a more central role in global climate governance alongside Western powers, whereas India held to a more conservative approach.

Box 1: A Snapshot of India–China Climate Engagement

Phase I: Early Multilateral Cooperation With Nascent Bilateral Engagement (1990s–2007)

This phase was marked by relatively similar levels of economic development and carbon emissions, as well as a shared agenda of pushing back against Western carbon limits through the principle of CBDR. There was coordination between the two countries in multilateral negotiations and a growing interest in bilateral engagement.

Phase II: Wide-Ranging Bilateral Alignment With the Emergence of Multilateral Misalignment (2008–2015)

China began to outpace India in economic growth and manufacturing capacity. It became one of the world's largest per capita emitters, while India's remained low. China not only engaged in climate negotiations through Global South coalitions but also signed a pact with the US to reduce emissions and agreed to take on greater responsibility. India adopted a more cautious approach to its climate commitments, attempting to build Global South coalitions while pursuing narratives of equity, justice, and development. Bilateral engagement was strongest during this period with high levels of trust, even in sensitive areas such as hydrological data sharing. Institutional channels were robust, with multiple state and non-state actors engaged across a variety of mitigation and adaptation issues.

Phase III: Asymmetries and Institutional Breakdown (2016–2026)

This phase was marked by sharp economic asymmetry and significant trade imbalances, with India relying heavily on China for green goods. Per capita levels of carbon emissions in China were equivalent to those of many developed countries. While China continued to uphold CBDR principles and resist coal phase-outs, it adopted highly ambitious climate goals, including peaking emissions before 2030. Globally, it began to play the role of a climate leader, emerging as one of the largest sources of climate finance and technology transfer in the Global South. India did not provide an emissions peaking year, lagged in green goods manufacturing capabilities, and continues to push for climate justice. Finally, there was an institutional breakdown of bilateral engagement following the border clashes.

6. Discussion: Reimagining Strategic Windows of Cooperation Within New Geopolitical Realities

In the past, New Delhi and Beijing have cooperated on climate and energy in the pursuit of mutual benefit. However, as Table 1 shows, the promise of cooperation has spanned a very wide range of sectors without clear priority areas or practical implementation strategies. Furthermore, interviews with stakeholders revealed a lack of concrete follow-up action.

After several years of friction, bilateral relations began to normalise again in October 2024. During Chinese Foreign Minister Wang Yi's visit in August 2025, both sides agreed to work towards fair, reasonable, and mutually acceptable border solutions, deepen economic engagement, resume direct flights after more than four years, facilitate visas, and advance trade through three designated trading points. China also agreed to ease export restrictions on rare earths and tunnel-boring machines as a concrete step towards rebuilding trust. In March 2026, the Indian government relaxed restrictions on Chinese capital flows into certain non-sensitive areas by amending Press Note 3.

On the Chinese side, despite massive economic and technological asymmetries, there are factors that make conditions ripe for renewed cooperation with India in the climate and energy sectors. First, economic growth in China has been slowing since the 2010s, reaching 5% in 2024 (World Bank, n.d.a). Apart from the COVID-19 shutdown between 2020 and 2022, this slowdown has been attributed to weak domestic consumption and high household savings in an export-led economy. At the same time, export restrictions and geo-economic competition with partners in the Global North have created a desire for new markets. India with its large population, expanding manufacturing base, and ambitious energy-transition goals, is an obvious option. Furthermore, the economic reorientation in the 15th Five-Year Plan and subsequent policy changes, such as reduced export subsidies on photovoltaic products, could reduce trade frictions and concerns over dumping (China Policy, 2026; Jargad, 2025).

Second, the withdrawal of the US from many global climate-governance institutions has created space for coalitions and groupings led by the Global South (Acharya, 2026). China has shown an aspiration for leadership but often lacks diplomatic buy-in from middle powers and developing countries. This is partly because China's approach in the Global South is often viewed as extractive. India is perceived as a more horizontal development partner, and may therefore motivate Chinese engagement when the latter seeks legitimacy for Global South initiatives (Stakeholder interviews).

Given these cautious openings between the two countries, renewed climate and energy engagement may be possible. The following section suggests ways of reimagining India–China climate engagement while keeping today's context in mind.

Identifying Narrow Technical Areas of Mutual Interest

Competitive areas in which China has established a clear technological advantage such as segments of the rare-earth mineral value chain, RE production, energy storage and EVs are unlikely to be open to meaningful collaboration. If Chinese companies do invest in India in these sectors, policymakers should consider including clauses on local capacity building, domestic content, and technology transfer.

However, functional areas such as energy-efficiency standards, disaster-risk resilience, sustainable agriculture, waste-to-energy systems, and urban sustainability planning offer low-hanging fruit and non-sensitive spaces for progress. Both countries also face challenges in greening hard-to-abate sectors such as cement and steel, making these areas of potential interest. Like the agreement between India and Japan on linking their carbon markets under Article 6.2, India and China could explore complementary systems (PIB, 2025). There is precedent in existing MoUs for work in these areas, and the two countries could revive earlier experiences with more clearly demarcated domains.

Goodale et al. (2022) suggest several important areas for bilateral scientific exchange, including conservation in biodiversity hotspots such as the Himalayas, mercury and air pollution, disaster management, and food security in the face of climate shocks, pests, crop disease, and related risks. Regional intergovernmental forums can provide viable platforms for such engagement. Narrow, practical, and implementable projects on a small scale can help build trust and create the basis for future scale up.

Sharing Governance and Policy Experiences

Despite differences in governance structures, India and China both recognise the importance of actively engaging subnational and local actors to improve climate governance (Ramamurthi & Karad, 2025). As efforts towards energy transition and climate resilience advance, policy lessons on strengthening local capacity and improving accountability can emerge as areas of exchange.

One key issue is the just transition away from coal, the largest source of energy in both countries and a major socio-political and economic challenge. Both countries are grappling with questions of unemployment, social equity, and regional political economy (Workshop II discussion). India can learn from China's subnational monitoring and incentive systems, as well as its ability to rapidly implement large-scale infrastructure projects. China, in turn, can learn from grassroots innovation and entrepreneurship around low-cost, context-specific clean technologies in India.

Coordinating on Climate Norms for the Global South

Historically, alignment between India and China on climate positions has been important in shaping global climate-governance outcomes. On one hand, China's technological prowess and capacity for large-scale projects and India's normative legitimacy on the other, could create a basis for complementary roles in climate governance.

This remains true today. The two countries can play a vital role in determining norms, standards, and taxonomies for the Global South around green goods, climate finance, and resilient infrastructure. India, which is still in the early stages of creating such taxonomies, could benefit from knowledge exchange and capacity building with Chinese experts. Another potential area of cooperation is humanitarian assistance and disaster relief following extreme-weather events in the neighbourhood. Exchanging information, response mechanisms, and best practices would be valuable, although such cooperation may require prior trust building because of geopolitical sensitivities, particularly in shared regions of the Himalayas.

Diversifying Channels of Coordination

Channels of cooperation also need diversification. At the multilateral level, the relative retreat of the West from climate leadership, evident in the withdrawal of the US from the Paris Agreement under the Trump administration, creates an opportunity for other actors to shape the climate agenda. Both India and China have stakes in championing Global South priorities in relation to climate finance, green technology and loss and damage funds. In an atmosphere of mistrust, earlier bilateral dialogues could be facilitated by 'an honest broker' as one ADB official put it (Workshop I).

Platforms such as BRICS, SCO, and BASIC can serve as vehicles for initial engagement. India can also create small openings for Chinese engagement within multilaterals housed domestically. For instance, India's "One Sun, One World, One Grid" initiative under the ISA could benefit from China's technological advancements in ultra-high-voltage transmission infrastructure, which has enabled large-scale renewable integration across provinces.

Considering current domestic restrictions, multilateral banks in which India and China are significant shareholders, such as the AIIB and the NDB, can play an important role in facilitating bilateral investment. For instance, they could host an Indo-China Green Corridor Fund where companies from both countries could participate. These platforms could also enable the private sector to engage and share experiences on green investment and climate-finance taxonomies.

Improving Engagement Between Civil Society and Subnational Actors

Non-state actors provide a crucial buffer. Even when formal Track 1 channels are frozen, Track 1.5 and Track 2 dialogues through think tanks, universities, and industry associations can sustain communication. Organisations like the World Resources Institute, which have a presence in both India and China, can act as brokers. Collaborative studies, for instance, on comparative urban air-quality management or joint scenario building for energy transitions, can leverage institutional knowledge and create pathways for future engagement. A professor from the Shanghai Institute for International Studies cited an ongoing climate-policy project with an Indian Institute of Technology as an example (Stakeholder Interviews).

Box 2: Sectoral Trade-offs for India–China Climate Cooperation

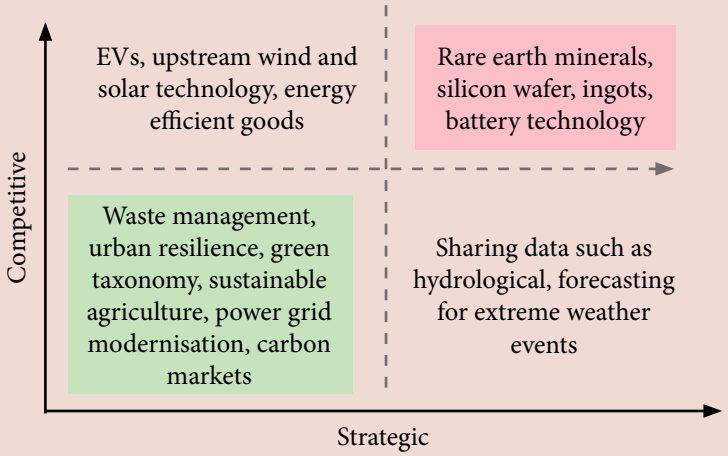
To understand which sectors are ideal for engagement, Figure 9 analyses the trade-offs between competitiveness and strategic value. A sector is treated as competitive if Indian and Chinese firms are directly competing to supply those goods in international markets. A sector is treated as geopolitically strategic if it gives a country leverage in foreign policy.

As can be seen, sectors that are both strategic and competitive, such as downstream renewable products, are likely to be extremely difficult areas for cooperation. There may be limited scope in the future for private investment and engagement in sectors that are competitive but not strategic such as upstream renewable components and EVs.

While there has been past cooperation in areas that are not economically sensitive but are geopolitically sensitive, such as data sharing, reopening those discussions will require trust-building exercises and sustained diplomacy.

The low-hanging-fruit sectors in the current phase of engagement are those that are neither highly competitive nor highly strategic, such as urban resilience and governance, exchanges on carbon markets and green taxonomies, sustainable agriculture, power-sector modernisation, and waste management.

Figure 9: Sectoral Trade-offs Based on Competitiveness and Strategic Value



Source: Authors' compilation.

Note: EV = electric vehicle.

Lastly, sister-city agreements can be revived through sustained engagement at the subnational level, between provincial and city governments on local issues like green mobility, adaptation to heatwaves and floods, and the management of demand-side consumption. Recent Indian judicial and regulatory rulings in Mumbai and Delhi have cited Shenzhen and Beijing as cities to learn from in how they dealt with waste management and air pollution challenges (Deshpande, 2026; Mani & Mathew, 2026). This is particularly important for enabling grassroots, community-level exchanges in areas that face similar challenges of sustainable rural livelihoods, natural disasters, and mobility.

Gaining Comparative Insights from Countries Currently Engaging with China

Geopolitical tensions between India and China have repeatedly affected various aspects of green diplomacy between the two countries. While trade in green goods continues, they have also been leveraged by China on several occasions. Both countries have imposed restrictions on FDIs, making bilateral financial flows in both directions difficult. Yet countries such as Indonesia and the Philippines, which also have geopolitical tensions with China, have become major recipients of Chinese green FDI (Weng et al., 2021).

Between 2013 and 2023, Indonesia received inward flows of USD 1.29 billion from China in the clean-

energy sector, which is nearly half of all Chinese clean-energy investment in the Association of Southeast Asian Nations (ASEAN) (Karina, 2025). China has also invested heavily in Indonesia's critical minerals industry, including through capacity-building exercises for processing. Similarly, the Philippines, despite escalating security tensions with China, has become one of the largest recipients of Chinese green FDI. It is important for India to study these cases to understand how countries have managed to balance Chinese green investment and technology exchange despite political tension.

7. Conclusion

India and China are currently the world's largest emerging economies and the role they play in global climate action is critical to reducing carbon emissions. Both countries have put in place ambitious mitigation policies, are highly vulnerable to the impacts of climate change and are increasingly taking on climate leadership at international forums. Yet, there is negligible cooperation or coordination on climate and energy between the two countries.

For India, navigating its relationship with China is key, given its dependence on critical minerals and technologies required for the green transition. Current policy frameworks guiding India's strategy towards China on climate issues are insufficient, either shaped by experience from the Global North or are outdated, reflecting a time when China was not the leading provider of green goods.

Our historical mapping of the India–China climate relationship shows that the two countries have experienced varying levels of climate diplomacy since the Rio Earth Summit in 1992. Bilateral engagement steadily picked up from the early 2000s, intensified between the Copenhagen and Paris periods (2009–2015), and eventually tapered off after 2020. Initially, shared priorities as large emerging economies pursuing economic growth brought the two countries together in climate negotiations. Widening economic disparities, the rise of China's manufacturing capacity, and geopolitical rivalries have since reduced common ground and weakened diplomatic engagements on climate and clean energy cooperation.

During periods of increased diplomacy, agreements and plans spanned different domains of climate mitigation and adaptation. It is noteworthy that engagement initially focused on areas of lower strategic value, such as energy efficiency, renewable power, and afforestation. Over time, India and China advanced cooperation in newer and more strategic areas, including disaster risk management, ocean and polar sciences, hydrological data, mining, and joint geological studies in the Himalayas. Institutional engagement was largely government-to-government, with some involvement from research institutes and business exchanges. There was also an increased discourse on subnational coordination reflected by the signing of several sister-city agreements. Across time periods, data and information sharing, along with exchange between government ministries, were the most frequent forms of engagement. However, other than the successful case of river-water data sharing, past engagement appears to be broad and shallow, with little on-ground implementation despite robust institutional channels of engagement.

This paper finds that areas that are geopolitically and economically competitive between the two countries are difficult for bilateral cooperation. However, these areas including EVs, batteries, solar, and wind components as well as critical minerals are key to enabling India's energy transition. Keeping in mind the limits of India's domestic green manufacturing capabilities, this implies that China will remain a dominant supplier in the short to medium term. This does not mean that India needs to remain passive; rather, the country would merit from creating a calibrated, strategic approach to enable technology and financial flows to facilitate its own domestic net-zero goals.

As a first step, we call for India to reimagine engagement through a narrower, more focused approach by trust-building through 'low-politics' issue areas such as energy efficiency standards, sustainable agriculture, waste-to-energy systems, and urban sustainability planning. There is significant potential for sharing experiences and technical know-how on issues of governance, including just energy transitions. Academic, civil society and subnational engagement should also be strengthened.

India and China can further engage through alternative channels such as BRICS, the SCO, or multilateral banks, which provide a platform to jointly work on creating green taxonomies and standards. Finally, aligning on issues such as green finance norms

and climate resilience measures at multilateral forums could offer a win–win outcome for both countries, while also amplifying Global South perspectives. India could also draw lessons from regions with similar geopolitical situations that have achieved more successful green diplomacy with China.

Today, the narrow avenues we suggest provide openings for India and China to revive bilateral ties in climate and clean energy. Yet, to strengthen these ties, further research is needed on the following areas:

- A deeper understanding of the role of the private sector in enabling bilateral technology and financial flows, including the policy and regulatory frameworks needed to facilitate these flows.
- Adapting learnings from regions with similar asymmetries with China, but who have managed to better enable technology and financial flows in green supply chains, particularly ASEAN countries.
- Developing frameworks to understand whether and how climate cooperation can be derisked from systemic challenges like border disputes, trade imbalances, and frictions on shared water resources in the Himalayan region.

References

Acharya, A. (2026). The world-minus-one moment. *Foreign Policy.* https://foreignpolicy.com/2026/01/05/world-minus-one-united-states-isolationism-multilateralism-global-power/

Arantes, V. (2022). *China's green consensus: Participation, co-optation, and legitimation.* Routledge.

Bandyopadhyay, K. R. (2016). *Emission trading in India: A study of two schemes* (Working Paper Series Vol. 2016-03). Asian Growth Research Institute. https://www.agi.or.jp/media/publications/workingpaper/WP2016-03.pdf

British Broadcasting Corporation News. (2025, July 24). India resumes visas for Chinese tourists amid thawing ties. https://www.bbc.com/news/articles/c307g07e8lro

Belis, D., Schunz, S., Wang, T., & Jayaram, D. (2018). Climate diplomacy and the rise of "multiple bilateralism" between China, India and the EU. *Carbon & Climate Law Review*, *12*(2), 85–97.

China Daily. (2015, November 30). Xi arrives in Paris for climate change summit. https://www.chinadaily.com.cn/world/XiattendsParisclimateconference/2015-11/30/content_22557413.htm

China Policy. (2026, February 24). Beijing trims export rebates. *China Policy Leads.* https://chinapolicy.substack.com/p/beijing-trims-export-rebates

Cui, S. (2018). China–US climate cooperation: Creating a new model of major-country relations? *Asian Perspectives*, *42*(2), 239–263.

Davidson, M., Fang, Z., Garg, T., Mariano, N., & Tong, L. (2025). *The India–China clean energy trade*. UC San Diego 21st Century India Center. https://india.ucsd.edu/_files/paper_michael-davidson_india-china-clean-energy-trade.pdf

Deshpande, P. (2026, 4 March). Panel to visit UAE, China, Japan for Kanjurmarg waste management: Bombay high court. *Times of India.* https://timesofindia.indiatimes.com/city/mumbai/panel-to-visit-uae-china-japan-for-kanjurmarg-waste-management-bombay-high-court/articleshow/

Dubash, N. K., & Pillai, A. V. (2021). The limits of opportunism: The uneven emergence of climate institutions in India. *Environmental Politics*, 30(sup1), 93–117.

East-West Center. (2019, November 26). *Domestic politics force India's withdrawal from RCEP and broader trade disengagement*. https://www.eastwestcenter.org/sites/default/files/private/apb494.pdf

Embassy of India, Beijing. (2012). Agreed minutes of the 2nd India–China Strategic Economic Dialogue. https://www.eoibeijing.gov.in/eoibejing_listview/ODk4

Embassy of India, Beijing. (2013). *Joint statement*: *A vision for future development of India–China strategic and cooperative partnership*. https://eoibeijing.gov.in/eoibejing_listview/ODQ3

Embassy of the People's Republic of China in India. (2018, April 14). *The China–India Strategic Economic Dialogue promotes practical cooperation between the two countries for mutual benefit and win-win results.* http://in.china-embassy.gov.cn/chn/zywl/201804/t20180414_2222644.htm

Firstpost. (2025, May 14). What is Press Note 3 that India uses to clear investments linked to Chinese companies? https://www.firstpost.com/india/what-is-press-note-3-that-india-uses-to-clear-investments-linked-to-chinese-companies-13888413.html

Gilley, B. (2012). Authoritarian environmentalism and China's response to climate change. *Environmental Politics*, *21*(2), 287–307.

Gong, W. (2025). *Implementing a low-carbon future: Climate leadership in Chinese cities.* Oxford University Press.

Goodale, E., Mammides, C., Mtemi, W., Chen, Y.-F., Barthakur, R., Goodale, U. M., Jiang, A., Liu, J., Malhotra, S., Meegaskumbura, M., Pandit, M. K., Qiu, G., Xu, J., Cao, K.-F., & Bawa, K. S. (2022). Increasing collaboration between China and India in the environmental sciences to foster global sustainability. *Ambio, 51*(6), 1474–1484.

Hilton, I. (2025, November 10). *As U.S. and E.U. retreat on climate, China takes the leadership role*. Yale Environment 360. https://e360.yale.edu/features/china-climate-diplomacy

IndBiz. (2019, September 9). *6th India–China Economic Dialogue concludes with 6 agreements.* https://indbiz.gov.in/6th-india-china-economic-dialogue-concludes-with-6-agreements

Jargad, S. (2025). China's five-year plan confronts economic reforms amid geopolitical competition. *The Strategist.* Australian Strategic Policy Institute. https://www.aspistrategist.org.au/chinas-five-year-plan-confronts-economic-reform-amid-geopolitical-competition/

Jayaram, D. (2021). *Understanding Sino-Indian climate diplomacy.* Editorial. Manipal Academy of Higher Education Faculty Work, 132. https://impressions.manipal.edu/faculty-work/132/

Kapoor, S. (2025, January 19). *China has silently put 'industrial sanctions' on India:* Will *New Delhi respond?* The Quint. https://www.thequint.com/news/world/india-china-sanctions-iphone-narendra-modi-galwan-xi-jinping

Karina, E. N. (2025, October 27). *How China's green surplus defines Indonesia's energy future*. The Diplomat. https://thediplomat.com/2025/10/how-chinas-green-surplus-defines-indonesias-energy-future/

Kobayashi, Y. (2025, July 9). China's rare earth export restrictions and other countries' responses: Strategies for the main battleground of economic security. SPF China Observer. https://www.spf.org/spf-china-observer/en/document-detail062.html

Kostka, G. (2016). *Command without control: The case of China's environmental target system. Regulation & Governance*, 10, 58–74.

Krishnan, A. (2023, August 7). *China goes 10 months without envoy in India ahead of key meetings*. The Hindu. https://www.thehindu.com/news/international/china-goes-10-months-without-envoy-in-india-ahead-of-key-meetings/article67176830.ece

LawInfoChina. (2005, January 1). Law document (ID: 3942). https://www.lawinfochina.com/display.aspx?lib=law&id=3942

Lewis, J. I. (2023). *Cooperating for the climate: Learning from international partnerships in China's clean energy sector*. MIT Press.

Li, A. F., Qu, C. F., & Zhang, X. L. (2023). Exploring US–China climate cooperation through linked carbon markets. *Advances in Climate Change Research*, *14*(1), 145–155.

Li, X., Pattberg, P., & Widerberg, O. (2024). China's climate governance from 2009 to 2019: Motivations, instruments, actors, and geopolitics. *Climate Policy*, *24*(3), 378–395.

Mahalingam, S. (2009). India–China energy cooperation: Commonalities, synergies, and complementarities. In L. Noronha & A. Sudarshan (Eds.), *India's energy security* (pp. 97–107). Routledge.

Maizland, L. (2021). *China's fight against climate change and environmental degradation*. Council on Foreign Relations. https://www.cfr.org/backgrounder/china-climate-change-policies-environmental-degradation

Manhas, N. S., & Sharma, A. (2025). Global climate change: Dynamics of India–China cooperation, competition, and road ahead. In D. Nandy & M. Das (Eds.), *Decoding the chessboard of Asian geopolitics*. Palgrave Macmillan.

Mani, G. & Mathew, S. (2026, January 7). CAQM cites Beijing example, says Delhi Metro may need to double operational network to curb vehicular pollution. *Indian Express.* https://indianexpress.com/article/cities/delhi/caqm-beijing-example-delhi-metro-vehicular-pollution-10478665/

Ministry of Environment, Forest and Climate Change. (2009). *Agreement on cooperation on addressing climate change between the Government of the Republic of India and the Government of the People's Republic of China.* https://moef.gov.in/uploads/2017/08/India-China-Agreement-on-Climate-Change.pdf

Ministry of External Affairs. (1993a). *Agreement on Cooperation in the Field of Environment between the Government of the Republic of India and the Government of the People's Republic of China.* https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH93B2241.pdf

Ministry of External Affairs. (1993b). *Memorandum of understanding between the Government of the Republic of India and the Government of the People's Republic of China on cooperation in the field of geology and mineral resources.* https://www.mea.gov.in/TreatyDetail.htm?2242

Ministry of External Affairs. (2003). *MoU for cooperation in the field of ocean science and technology between the Department of Ocean Development, Government of the Republic of India, and the State Oceanic Administration of the People's Republic of China*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH03B2338.pdf

Ministry of External Affairs. (2005a). *Memorandum of understanding between the Ministry of Water Resources of the Republic of India and the Ministry of Water Resources of the People's Republic of China upon provision of hydrological information of the Sutlej/Langqen Zangbo River in flood season by China to India*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH05B0617.pdf

Ministry of External Affairs. (2005b). *Joint statement of the Republic of India and the People's Republic of China*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH05B0613.pdf

Ministry of External Affairs. (2008a). *Memorandum of understanding between National Bank for Agriculture and Rural Development and Agricultural Development Bank of China on mutual cooperation*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH08B0372.pdf

Ministry of External Affairs. (2008b). *Memorandum of understanding on scientific cooperation between Geological Survey of India and China Geological Survey in geosciences*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CHB1195.pdf

Ministry of External Affairs. (2008c). *A Shared Vision for the 21st Century of the Republic of India and the People's*

Republic of China. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH08B0394.pdf

Ministry of External Affairs. (2010). *Memorandum of understanding between the Government of the Republic of India and the Government of the People's Republic of China on cooperation on green technologies*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH10B0115.pdf

Ministry of External Affairs. (2012). *Memorandum of understanding between the Bureau of Energy Efficiency, Ministry of Power, Government of the Republic of India and the National Development and Reform Commission, Government of the People's Republic of China on Financing Cooperation in the field of energy efficiency*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH12B0259.pdf

Ministry of External Affairs. (2014). *Joint statement between the Republic of India and the People's Republic of China on building a closer developmental partnership.* https://www.mea.gov.in/bilateral-documents.htm?dtl/24022/Joint+Statement+between+the+Republic+of+India+and+the+Peoples+Republic+of+China+on+Building+a+Closer+Developmental+Partnership

Ministry of External Affairs. (2015). *Memorandum of understanding for cooperation in the field of ocean sciences, climate change, polar science and cryosphere between Ministry of Earth Sciences (MoES), Republic of India and the State Oceanic Administration (SOA), People's Republic of China*. https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH15B2081.pdf

Ministry of External Affairs. (2016). *Agreed Minutes of 4th India-China Strategic Economic Dialogue.* https://www.mea.gov.in/bilateral-documents.htm?dtl/27478/Agreed_Minutes_of_4th_IndiaChina_Strategic_Economic_Dialogue

Ministry of Foreign Affairs of the People's Republic of China. (2002). *Memorandum of understanding between the Ministry of Water Resources of the Republic of India and the Ministry of Water Resources of the People's Republic of China upon provision of hydrological information of the Yaluzangbu/Brahmaputra river in flood season by China to India*. https://treaty.mfa.gov.cn/tykfiles/20180718/1531876831763.pdf

Mizo, R. (2016). India, China and Climate Cooperation. *India Quarterly, 72*(4), 375-394.

Nachiappan, K., Ramamurthi, P., & Xavier, C. (2025). *Configuring India–China climate cooperation*. Institute of South Asian Studies, National University of Singapore. https://www.isas.nus.edu.sg/papers/configuring-india-china-climate-cooperation

National Bank for Agriculture and Rural Development. (2015). *National Adaptation Fund for Climate Change (NAFCC)*. https://www.nabard.org/content.aspx?id=585

New Delhi Television Ltd (2025, June 16). *Rare earth magnets shortage to slow down India's EV ride.* https://www.ndtv.com/auto/rare-earth-magnets-shortage-to-slow-down-indias-ev-ride-crisil-8673832

Observatory of Economic Complexity. (n.d.). *India–China bilateral trade profile*. https://oec.world/en/profile/bilateral-country/ind/partner/chn?selector541id=2000&selector538id=HS6&selector556id=HS6

Oertel, J., Tollman, J., & Tsang, B. (2020). *Climate superpowers: The EU and China can compete and cooperate for a green future.* European Council on Foreign Relations. https://www.jstor.org/stable/resrep27722

Press Information Bureau. (2021, December 1). *National Action Plan on Climate Change (FAQs)*. https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/dec/doc202112101.pdf

Press Information Bureau. (2024, November 7). India Shines Bright! – A new era in solar energy: Progress driven by the International Solar Alliance. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2071486

Press Information Bureau. (2025, August 19). India and Japan sign memorandum of cooperation on the Joint Crediting Mechanism (JCM) under Article 6.2 of the Paris Agreement on Climate Change. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2161892

Press Information Bureau. (2026, February 7). India Semiconductor Mission 2.0. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2224839&reg=3&lang=1

Prys-Hansen, M. (2022). Competition and cooperation: India and China in the global climate regime. *GIGA Focus Asia*, 4. German Institute for Global and Area Studies (GIGA). https://doi.org/10.57671/gfas-22042

Prys-Hansen, M., & Kaack, S. (2024). India's security and climate policy: Navigating the China challenge. *Journal of Asian Security and International Affairs*, *11*(4), 557–576.

Ramamurthi, P. V. (2016). Political economy of renewable energy deployment in India. *Economic and Political Weekly, 51*(38), 22–25.

Ramamurthi, P. V. (2026). The role of the state and actor participation in polycentric governance: The case of India's renewable energy transitions. *Environmental Policy and Governance. 36*(2), 199–220.

Ramamurthi, P., & Karad, T. A. (2025). *Decarbonising the Asian giants: Comparing Indian and Chinese models of climate action.* Centre for Social and Economic Progress. https://csep.org/blog/decarbonising-the-asian-giants-comparing-indian-and-chinese-models-of-climate-action/

Sandalow, D., Meidan, M., Andrews-Speed, P., Hove, A., Qiu, S. Y., & Downie, E. (2022). *Guide to Chinese*

climate policy 2022. The Oxford Institute for Energy Studies. https://chineseclimatepolicy.oxfordenergy.org/wp-content/uploads/2022/11/Guide-to-Chinese-Climate-Policy-2022.pdf

Shidore, S., Naegele, A., Baillargeon, N., & Fleishman, R. (2021). *Melting mountains, mounting tensions: Climate change and the India–China rivalry.* Council on Strategic Risks & Woodwell Climate Research Center. https://climateandsecurity.org/wp-content/uploads/2021/06/Melting-Mountains-Mounting-Tensions_Climate-Change-and-the-India-China-Rivalry_2021_05_13.pdf

Siddiqi, T. A. (2011). China and India: More cooperation than competition in energy and climate change. *Journal of International Affairs*, *64*(2), 73–90.

Singh, A., & Kolluri, S. (2025, March 13). Climate change governance in India: Building the institutional framework (CSEP Discussion Paper No. 21). CSEP. https://csep.org/discussion-note/climate-change-governance-in-india-building-the-institutional-framework/

Sinha, S. (2026). India and China in the global climate regime: Opportunities, challenges, and the road ahead. *Journal of World Affairs: Voice of the Global South*, *2*(1) 92–107.

Srivastava, A. (2023). *India–China trade: Low exports and not high imports is the real challenge for India.* Global Trade Research Initiative. https://gtri.co.in/gtriRep3.pdf

State Council Information Office. (2021). Responding to climate change: China's policies and actions. http://www.scio.gov.cn/zfbps/ndhf/2021n_2242/202207/t20220704_130708.html

Studart, R., & Myers, M. (2021). Reimagining China–Brazil relations under the BRI: The climate imperative. *Council on Foreign Relations*. https://cdn.cfr.org/sites/default/files/pdf/studart-myers-cfr-cebri-paper_0.pdf

Teng, F., & Wang, P. (2021). The evolution of climate governance in China: drivers, features, and effectiveness. *Environmental Politics*, 30(sup1), 141–161.

The Hindu. (2021, November 15). China defends joining with India on coal phase-down instead of phase-out at COP26. https://www.thehindu.com/news/international/china-defends-joining-with-india-on-coal-phase-down-instead-of-phase-out-at-cop26/article37502290.ece

Torney, D., & Gippner, O. (2018). China: Deepening cooperation on climate and environmental governance. In C. Adelle, K. Biedenkopf, D. Torney. (Eds.), *European Union External Environmental Policy.* The European Union in International Affairs. Palgrave Macmillan.

Verma, R. (2024). India–China rivalry, border dispute, border stand-offs, and crises. *India Review, 23*(5), 397–408. https://doi.org/10.1080/14736489.2024.2423996

Weng, L., Xue, L., Sayer, J., Riggs, R. A., Langston, J. D., & Boedhihartono, A. K. (2021). Challenges faced by Chinese firms implementing the Belt and Road Initiative: Evidence from three railway projects. *Research in Globalization, 3,* 100074. https://doi.org/10.1016/j.resglo.2021.100074

World Bank. (n.d.a). *GDP growth (annual %)* [Data file]. https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=IN-CN

World Bank. (n.d.b). *CO2 emissions (metric tons per capita)* [Data file]. https://databank.worldbank.org/metadataglossary/world-development-indicators/series/EN.ATM.CO2E.PC

World Integrated Trade Solutions. (n.d.). *India trade balance, exports and imports* [Data file]. https://wits.worldbank.org/CountryProfile/en/Country/IND/Year/LTST/TradeFlow/EXPIMP

Wu, F. (2018). *Energy and climate policies in China and India*. Cambridge University Press.

Yang, C. H., & Paim, M. A. (2024). Evaluating China-Brazil bilateral engagements in climate change and energy: A true sustainability partnership or green appropriation? *Cambridge International Law Journal*, 13(2), 300–326.

Appendix

Table A–1: Climate Change, Environment, and Energy Related Engagements Between India and China (1993–2026)

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
1993–1995	MoU	Memorandum of understanding between the Government of Republic of India and the Government of the People's Republic of China on cooperation in the field of geology and mineral resources.	Ministry of Mines	Ministry of Geology and Mineral Resources	Cooperation in the fields of: • Geology of hard rock minerals • Hydrogeology • Environmental geology • Multipurpose utilisation of mineral resources • Mineral exploration • Regulation and conservation	• Exchange and visits by scientists • Joint workshops, seminars, and symposium • Training of personnel • Ex of published technical information, and samples	Ministry of External Affairs. (1993a). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH93B2242.pdf
1993–1998	Agreement	Agreement on environmental cooperation between the Government of the Republic of India and the Government of the People's Republic of China.	MoEFCC	National Environmental Protection Agency	• Sustainable development • Protection of biodiversity • Protection of the ozone layer • Waste management • Environment pollution control • EIA • Public awareness • Environmental legislation and enforcement	• Exchange and visits by scientists and environment management personnel • Ex of information • Joint research, exchange of data, instruments, and evaluation • Joint organisation of lectures and training courses • Protocol for implementing concrete programmes	Ministry of External Affairs. (1993b). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH93B2241.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2003–2008	MoU	Memorandum of understanding for cooperation in the field of ocean science and technology between Department of Ocean Development, Government of the Republic of India and State Oceanic Administration, People's Republic of China.	Ministry of S&T; Department of Ocean Development	State Oceanic Administration	Cooperation in the field of: • State bed resources exploration and exploitation technology • Polar science • Ocean energy • Gas hydrate exploration • Exchange of scientists, development activities, utilisation of facilities for R&D • Joint identification of problems and project planning	• Exchange and visits by scientists, research workers, etc. • Exchange of marine data and information • Joint organisation of lectures and training courses • Joint identification of problems and project planning • Exchange of technology and experience • Supply of equipment • Use of R&D facilities • Joint committees to plan and coordinate cooperation	Ministry of External Affairs. (2003a). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH03B2338.pdf
2003–2008	MoU	Memorandum of understanding for enhanced cooperation in the field of renewable energy between the Ministry of Non-Conventional Energy Sources, Government of Republic of India and the Ministry of Water Resources, Government of People's Republic of China.	Ministry of Non-Conventional Energy Sources	MWR; Department of International Cooperation, S&T	• Joint research and development activities • Exchange of technical expertise • Creation of business opportunities to facilitate sustainable market development • Share scientific information on small hydropower, wind power, and other RE • Delegation visits • Bilateral scientific seminars, joint research, and demonstrations	• Exchange of scientific and technology information, papers, technical codes, standards, scientific research output, and institutional exchange • Exchange of government, professional and enterprise delegations for visits, lectures, and project negotiations • Bilateral scientific and technical seminars • Joint R&D, identification of problems and project planning • Technical demonstration projects • Exchange of personnel for training and technical consultation	Ministry of External Affairs. (2003b). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH03B2337.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2004–2009	MoU	Memorandum of understanding between the Ministry of Water Resources of the Republic of India and the Ministry of Water Resources of the People's Republic of China upon provision of hydrological information of the Sutlej / Langqen Zangbo River in flood season by China to India.	Ministry of Water Resources, India	Ministry of Water Resources, China	Expired and renewed in 2010 and 2015, until 2020; China provided information in 2021 flood season	• Chinese side will build a hydrological station on Sutlej/Langqen Zangbo • Provide hydrological information before flooding season 2006 (Indian side will bear cost) • Information on implementing agencies, technical details, etc.	Ministry of External Affairs. (2005a). https://www.mea.gov.in/Portal/Legal-TreatiesDoc/CH05B0617.pdf
2005	Joint Statement	Joint statement of the Republic of India and the People's Republic of China.	Dr Manmohan Singh, Prime Minister	Wen Jiabao, Premier	Mention of sharing hydrological information and energy security	Similar arrangements for the Parlung Zangbo and Lohit Zayu Qu Rivers.	Ministry of External Affairs. (2005b). https://www.mea.gov.in/Portal/Legal-TreatiesDoc/CH05B0613.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2006: until concluded	Agreement	Agreement on forestry cooperation between Ministry of Environment and Forests of the Republic of India and State Forestry Administration of the People's Republic of China.	MoEFCC	State Forestry Administration	• Support cooperation and development in forestry related fields of economy, manufacturing, processing, and science and technology • Establish direct cooperation between enterprises • Prevention and management of desertification • Development and utilisation of forestry resources • Supporting technological cooperation between research organisations, and forestry institutions • Prevention of plant diseases, insects, and pests and intrusion by external organisms • Prevention and control of forest fire • Co-operation on wood based industry, sustainable forestry enterprise, and trade and policies • Communication on information of wildlife conservation and illegal wildlife trade		Ministry of External Affairs. (2006). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH06B0893.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2008–2011	MoU	Memorandum of understanding between National Bank for Agriculture and Rural Development and Agricultural Development Bank of China on mutual cooperation.	NABARD	Agricultural Development Bank of China	• Sustainable development of agriculture • Climate change, global warming, and risks in farming	• Share business experiences, expertise, training facilities, modern • Technology skills and business development practices • Share information on innovation, impact of climate change and global warming, risk management tools for farmers	Ministry of External Affairs. (2008a). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH08B0372.pdf
2008	MoU	Memorandum of understanding on scientific cooperation between Geological Survey of India and China Geological Survey in geosciences.	Geological Survey of India	China Geological Survey	• Paleoclimatic and Paleoenvironmental changes in Asian Continent • Exchange of scientists, experts, and delegations, and training of personnel • Exchange of published scientific and technical information, geological publications, specimen and standard samples	• Exchange of scientists, experts, delegation, and training personnel • Exchange of published scientific and technical information, geological publications, specimen and standard samples • Co-operation on the joint projects	Ministry of External Affairs. (2008b). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CHB1195.pdf
2008	Joint Statement	A shared vision for the 21st century of the Republic of India and the People's Republic of China.	MEA	MFA	• Called for the establishment of a fair, equitable, secure, and stable international energy order • Joint efforts to diversify global energy mix • Enhance the share of clean and RE • Promote bilateral cooperation in civil nuclear energy to contribute to energy security and deal with risks associated with climate change • Enhance technological cooperation, work closely during the negotiation process • CBDR		Ministry of External Affairs. (2008c). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH08B0394.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2009–2014	Agreement	Agreement on cooperation on addressing climate change between the Government of the Republic of India and the Government of the People's Republic of China.	Government of India	Government of PRC	• Commitment to UNFCCC and Kyoto Protocol • CBDR • NAPCC • Establish the India–China partnership on combating climate change to strengthen their bilateral dialogue and practical cooperation on climate change • Hold ministerial consultations • Cooperation on mitigation policies and technology development and demonstration on: • (a) Energy conservation and energy efficiency • (b) Renewable energies (c) Clean coal • (d) Methane recovery and utilisation • (e) Afforestation and sustainable management of forests and ecosystems • (f) Transportation • (g) Sustainable habitat • Enhance cooperation on adaptation, evaluation, and capacity building • Monitoring	• Joint R&D activities, including commercially viable R&D • Demonstrations of technologies and application development • Organisation of scientific seminars, symposia, conferences, and workshops • Public Private Partnerships	Ministry of Environment and Forests. (2009). https://moef.gov.in/uploads/2017/08/India-China-Agreement-on-Climate-Change.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2010–2015	MoU	Memorandum of understanding between the Government of the Republic of India and the Government of the People's Republic of China on cooperation on green technologies.	Government of India (MoEFCC)	Government of PRC (NDRC)	• Climate change is a common concern • Promoting technology cooperation • Bilateral platform for low carbon sustainable development • Deployment of climate friendly technologies in: • Joint research and development of clean energy technologies • Energy conservation and energy efficiency • RE • Clean coal • Sustainable transportation including EVs • Modernisation of the electrical grid	• Establish an India–China mechanism on climate-friendly green technologies • Exchange information on technology needs, availability, and sharing of advanced climate-friendly technologies • Setting up of joint projects and initiatives in research, development, and deployment of climate-friendly green technologies	Ministry of External Affairs. (2010). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH10B0115.pdf
2011	Dialogue	1st India–China Strategic Economic Dialogue (SED)	M. S. Ahluwalia, Deputy Chairman, Planning Commission	Zhang Ping, Chairman, NDRC	• Strengthen cooperation on energy efficiency and conservation • Actively develop cooperation in RE sector • Enhance communication, encourage bilateral cooperation on water conservation, and clean water technologies		Ministry of External Affairs. (2011). https://www.mea.gov.in/bilateral-documents.htm?dtl/5100/Agreed+Minutes+of+the+1st+IndiaChina+Strategic+Economic+Dialogue

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2012	Joint Statement	Joint statement issued at the conclusion of the 13th BASIC Ministerial Meeting on climate change.	Mira Mehrishi, Additional Secretary of Ministry of Environment and Forests of India	Xie Zhenhua, Vice Chairman of the NDRC of China	• BASIC plus approach • Rio conference, Doha Conference • Implementation of Durban package • Support for Kyoto Protocol • Called for developed countries to commit to QELROs		Embassy of India, Beijing. (2012). https://eoibeijing.gov.in/eoibejing_listview/OTAw
2012–2017 Automatic renewal for three years unless terminated	MoU	Memorandum of understanding between the Bureau of Energy Efficiency, Ministry of Power, Government of the Republic of India and the National Development and Reform Commission, Government of the People's Republic of China on enhancing cooperation in the field of energy efficiency	Ministry of Power (The Bureau of Energy Efficiency)	NDRC	• Development of energy efficiency programmes • Mutual learning on compliance and enforcement of energy reduction targets • Technical assistance in implementation of the ISO 50001 Energy Management System	• Exchange information, laws, and regulations • Joint seminars and conferences on energy efficiency related topics • Visits to industrial and manufacturing centres • Jointly develop testing protocols and standards for energy efficiency products like LEDs • Design and implementation of target-based energy conservation programmes; financial instruments (such as Partial Risk Support Facility and Venture Capital Fund) • Trading systems • Experience sharing in the implementation of ISO 50001 Energy Management System	Ministry of External Affairs. (2012a). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH12B0259.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2012	Dialogue	2nd India–China SED	Montek Singh Ahluwalia, Deputy Chairman, Planning Commission	Zhang Ping, Chairman, NDRC	• Cooperation at global level on sustainable development and climate change goals, ensuring food and energy security • EWG-cooperation in power equipment sector, wind energy, and the review of 2012 small hydropower workshop • Enhance cooperation in the implementation of energy efficiency projects through energy service companies • Enhancing cooperation in water-saving technologies covering the areas of wastewater recycling and water-efficient irrigation systems	Constitute working groups on energy and environment protection	Ministry of External Affairs. (2012b). https://eoibeijing.gov.in/eoibejing_listview/ODk4
2013		Joint statement: A vision for future development of India-China strategic and cooperative partnership.	Dr Manmohan Singh	Li Keqiang	• Strengthening Cooperation on Trans-border Rivers • Provision of flood-season hydrological data and emergency management • Strengthen coordination and cooperation in multilateral forums including Russia–India–China, BRICS, and G20 to jointly tackle global issues such as climate change, food, and energy security		Embassy of India, Beijing. (2013). https://eoibeijing.gov.in/eoibejing_listview/ODQ3

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2013: Indefinitely unless terminated	Agreement	Agreement between the Ministry of External Affairs, Republic of India and the Ministry of Foreign Affairs, People's Republic of China to facilitate cooperation and linkages between Indian and Chinese cities & states/ provinces.	MEA	MFA			Ministry of External Affairs. (2013a). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH13B0782.pdf
2013–2018	Agreement	Agreement on the establishment of sister city relations between Delhi, Republic of India and Beijing, People's Republic of China.	Dr. S. Jaishankar, Ambassador of India to China	Li Shixiang, Vice Mayor, Beijing Municipality	• Cooperation on urban planning, waste water management, and environment • Delegations and institutional exchanges • MEA East Asian Division and China International Friendship Cities Association	• Exchange • Delegation visits • Interaction between institutions • Sharing of experiences • Regular contact between authorities	Ministry of External Affairs. (2013b). https://www.mea.gov.in/bilateral-documents.htm?dtl/22376/Agreement_on_the_establishment_of_Sister_City_Relations_between_Delhi_Republic_of_India_and_Beijing_Peoples_Republic_of_China

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2013–2018	Agreement	Agreement on the establishment of sister city relations between Bengaluru, Republic of India and Chengdu, People's Republic of China.	Dr S. Jaishankar, Ambassador of India to China	Ge Honglin, Mayor of Chengdu	• Cooperation on urban planning, wastewater management, and environment • Delegations and institutional exchanges • MEA East Asian Division and China International Friendship Cities Association	• Exchange • Delegation visits • Interaction between institutions • Sharing of experiences • Regular contact between authorities	Ministry of External Affairs. (2013c). https://www.mea.gov.in/press-releases.htm?dtl/22375/Agreement+on+the+establishment+of+sister+city+relations+between+Bangaluru+Republic+of+India+and+Chengdu+Peoples+Republic+of+China
2013–2018	Agreement	Agreement on the establishment of sister city relations between Kolkata, Republic of India and Kunming, People's Republic of China.	Dr S. Jaishankar, Ambassador of India to China	Li Wenrong, Mayor of Kunming	• Cooperation on urban planning, wastewater management, infrastructure, environment, and public health • Delegations and institutional exchanges • MEA East Asian Division and China International Friendship Cities Association	• Exchange • Delegation visits • Interaction between institutions • Sharing of experiences • Regular contact between authorities	Ministry of External Affairs. (2013d). https://www.mea.gov.in/press-releases.htm?dtl/22378/Agreement+on+the+establishment+of+Sister+City+Relations+between+Kolkata+Republic+of+India+and+Kunming+Peoples+Republic+of+China

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2013	MoU	Memorandum of understanding between the Ministry of Water Resources, the Republic of India and the Ministry of Water Resources, the People's Republic of China on strengthening	Li Keqiang's visit to India	Not available	No present activity under this MoU: • Cooperation on Trans-Border rivers to enhance mutual strategic trust and communication • Agreement to extend the data provision period on Brahmaputra from May 15 to October 15	• Cooperate through existing expert level mechanisms	Ministry of External Affairs. (2013e). https://www.mea.gov.in/bilateral-documents.htm?dtl/22368
2013–2018	MoU	Memorandum of understanding between the Ministry of Water Resources of the Republic of India and Ministry of Water Resources of the People's Republic of China upon provision of hydrological information of the Yaluzangbu/ Brahmaputra River in flood season by China to India	MWR	MWR	• Chinese side will provide information on abnormal rise/fall in water level/ discharge • Indian side will provide information regarding data utilisation in flood season • Hydro stations are Nugesha, Yangcun, and Nuxia	• Data sharing • Documents related to catchment area of Yaluzangbu river, historical information on occurrence of floods and natural disasters • Abnormal rise and fall in discharge	Ministry of External Affairs. (2013f). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH13B0811.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2013–2015	MoU	Memorandum of understanding between the Ministry of Water Resources of the Republic of India and Ministry of Water Resources of the People's Republic of China upon provision of hydrological information of the Yaluzangbu/ Brahmaputra River in flood season by China to India.	MWR	National Development and Research Centre, China	• Under the SED framework • Bilateral cooperation for water efficient tech in agriculture • Zoning, distribution, and utilisation • Improving efficiency in water delivery technology	• Study exchanges and training • Exchange information on policies, regulations, and operating mechanisms for water saving techniques • Organising seminars, site visits, planning and design consultancy, and project execution	Ministry of External Affairs. (2013g). https://www.mea.gov.in/Portal/Legal-TreatiesDoc/CH13B0811.pdf
2014	Joint Statement	Joint statement between the Republic of India and the People's Republic of China on building a closer developmental partnership.	Pranab Mukherjee, President	Xi Jinping, President	• Expansion of civil nuclear energy programme clean energy and energy security • Cooperation through expert level mechanism on provision of flood season hydrological data • Common interest issues: climate change, energy, and food security • 2015 UNFCCC convention—common but differentiated responsibility		Embassy of India, Beijing. (2014a). https://eoibeijing.gov.in/eoibejing_listview/NzUy

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2014	Plan	Implementation plan between the Central Water Commission, Ministry of Water Resources, River Development and Ganga Rejuvenation, the Republic of India and the Bureau of Hydrology and Water Resources, Tibet Autonomous Region, the People's Republic of China upon provision of hydrological information of the Yarlung Zangbu/ Brahmaputra river in flood season by China to India	Central Water Commission, MWR, River Development and Ganga Rejuvenation	Bureau of Hydrology and Water Resources, Tibet Autonomous Region, the People's Republic of China	• Chinese side will provide hydrological stations and information sharing every day between May 15 to October 15 • Rainfall, water level, and discharge • India will provide information regarding data utilisation in flood forecasting and mitigation	• Data sharing	Ministry of External Affairs. (2014a). https://www.mea.gov.in/Portal/Legal-TreatiesDoc/CH14B1858.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2014	Dialogue	3rd India China SED, Beijing	Montek Singh Ahluwalia, Deputy Chairperson, Planning Commission	Xu Shaoshi, Chairman, NDRC	Minutes: • Cooperation in infrastructure • Joint study on sustainable urbanisation and energy planning • Urban transportation • Information sharing, policy dialogue, and technology exchange on areas of oil, gas, coal, electric power, and new energy • Sewage treatment, industrial energy efficiency, and water efficient irrigation • Setting up power equipment service centres • Joint publication of UNDP sponsored report—Low Carbon Development in China and India: Issues and Strategies	• Working group on conservation and environmental protection and energy	Embassy of India, Beijing. (2014b). https://eoibeijing.gov.in/eoibejing_listview/ODE2
2014	Agreement	Agreement on establishing Sister Province/ State relationship between Gujarat and Guangdong	Dr Varesh Sinha, Chief Secretary, Government of Gujarat,	Mr Xu Shaohua, Executive Vice Governor of Guangdong Province			Ministry of External Affairs. (2014b). https://www.mea.gov.in/bilateral-documents.htm?dtl/24012/List+of+Documents+signed+during+the+State+Visit+of+Chinese+

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2014	Agreement	Agreement on establishing Sister City relationship between Mumbai and Shanghai	Snehal Ambekar Mayor of Mumbai	Tu Guangshao, Executive Vice Mayor of Shanghai,			Ministry of External Affairs. (2014b). https://www.mea.gov.in/bilateral-documents.htm?dtl/24012/List+of+Documents+signed+during+the+State+Visit+of+Chinese+
2014		Agreement on establishing Sister City relationship between Ahmedabad and Guangzhou	Guruprasad Mohapatra,- Municipal Commissioner, Ahmedabad Municipal Corporation	Mr Chen Jianhua, Mayor of Guangzhou			Ministry of External Affairs. (2014b). https://www.mea.gov.in/bilateral-documents.htm?dtl/24012/List+of+Documents+signed+during+the+State+Visit+of+Chinese+

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2015	Joint Statement	Joint statement on climate change between India and China during Prime Minister's visit to China			• UNFCCC and Kyoto Protocol are the appropriate framework for international cooperation and addressing climate change • Equity and CBDR • leadership of developed countries in proving finance, technology, etc. • Implementing the Bali Road map • Roadblocks—social and economic development and poverty alleviation • Enhance high-level bilateral dialogue on domestic climate policies and multilateral negotiations, areas of clean energy technology, energy conservation, efficiency, RE, sustainable transportation including EVs, low carbon urbanisation and adaptation		Embassy of India, Beijing. (2015). https://eoibeijing.gov.in/eoibejing_listview/NzAw
2015	Joint Statement	Joint statement between the India and China during Prime Minister's visit to China.	Narendra Modi, Prime Minister	Li Keqiang, Premier	• Agreed to establish a State/Provincial Leaders' Forum • Climate change: COP21, encourage technology transfer, collaboration for adaptation and mitigation and financial support		Embassy of India, Beijing. (2015). https://www.eoibeijing.gov.in/eoibejing_listview/Njk3

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2015–2020 Automatic renewal unless terminated	MoU	Memorandum of understanding for cooperation in the field of ocean sciences, climate change, polar science and cryosphere between Ministry of Earth Sciences (MoES), Republic of India and the State Oceanic Administration (SOA), People's Republic of China.	Ministry of Earth Sciences	State Oceanic Administration	• Understanding the role of Indian Ocean for global and regional climate and mitigation/prevention of disaster • Oceanography, climate variability, and change • Marine ecosystem • Oceanography, ocean technology, ocean atmosphere interaction, climate variability and change, marine biogeochemical research and ecosystem, and geology and geophysics	• Implementing joint projects • Exchange of scientific resources, personnel, and technical knowledge	Ministry of External Affairs. (2015a). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH15B2081.pdf
2015–2020 Automatically renews unless terminated	MoU	Memorandum of Understanding between the Ministry of Earth Sciences of the Republic of India and the China Earthquake Administration of the People's Republic of China Concerning Cooperation in the Field of Earthquake Sciences and Earthquake Engineering	Ministry of Earth Sciences	China Earthquake Administration	• Cooperation in the fields of earthquake sciences, earthquake engineering, and geosciences • Studying regional geodynamics, seismogenic mechanism, and seismicity of major earthquakes in India and China	• Exchange of scientific resources, personnel, and technical knowledge • Studying the Himalayas, regional geo dynamics, and cooperative activities in the field of earthquake science, engineering, and related topics • Exchange of earthquake monitoring data. • Coordination meeting mechanism to be set up • Exchange of monitoring data • Bilateral workshops every two years	Ministry of External Affairs. (2015b). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH15B2969.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2015–2020 Can be automatically extended for a period of five years unless terminated, subsequently terminable	MoU	Memorandum of Understanding between the Ministry of External Affairs, Republic of India and the Chinese People's Association for Friendship with Foreign Countries on Establishment of the State/Provincial Leaders' Forum	MEA	Chinese People's Association for Friendship with Foreign Countries	• Comprise leaders, representatives, scholars and other experts from states, provinces, and cities. • Cooperation in the field of trade, agriculture, smart cities, urban planning, and clean energy	• Forum to meet alternately in India and China	Ministry of External Affairs. (2015c). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH15B2275.pdf
2015–2020 (can be extended for another five years upon mutual agreement)	Agreement	Agreement on the Establishment of Sister-State/Province Relations Between State Government of Karnataka of the Republic of India and Provincial Government of Sichuan of People's Republic of China.	State Government of Karnataka	Provincial Government of Sichuan	• Cooperation in fields of S&T, infrastructure, urban planning, smart cities, renewable and solar energy, and waste management	• Exchange • Delegation visits • Interaction between institutions • Sharing of experiences • Regular contact between authorities	Ministry of External Affairs. (2015d). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH15B2095.pdf
2015–2020 extendable	Agreement	Agreement on the Establishment of Sister City Relations between Chennai, Republic of India and Chongqing, People's Republic of China.	Government representative for Chennai	Mayor of Chongqing	• Cooperation in the fields of urban planning, wastewater management, infrastructure, environment, and public health • Activities in prior consultation with States Division of the MEA and China International Friendship Cities Association	• Exchange • Delegation visits • Interaction between institutions • Sharing of experiences • Regular contact between authorities	Ministry of External Affairs. (2015e). https://www.mea.gov.in/Portal/LegalTreatiesDoc/CH15B2080.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2015–2020 Extendable	Agreement	Agreement on the Establishment of Sister City Relations between Hyderabad, Republic of India and Qingdao, People's Republic of China.	Representative for Hyderabad	Qingdao government representative	• Cooperation in the fields of urban planning, wastewater management, infrastructure, environment, and public health • Activities in prior consultation with States Division of the MEA and China International Friendship Cities Association	• Exchange • Delegation visits • Interaction between institutions • Sharing of experiences • Regular contact between authorities	Ministry of External Affairs. (2015f). https://www.mea.gov.in/Portal/Legal-TreatiesDoc/CH15B2094.pdf
2015–2020 Extendable	Agreement	Agreement on the Establishment of Sister City Relations between Aurangabad, Republic of India and Dunhuang, People's Republic of China.	Aurangabad	Dunhuang	• Cooperation in the fields of urban planning, wastewater management, infrastructure, environment, and public health • Activities in prior consultation with States Division of the MEA and China International Friendship Cities Association	• Exchange • Delegation visits • Interaction between institutions • Sharing of experiences • Regular contact between authorities	Ministry of External Affairs. (2015g). https://www.mea.gov.in/Portal/Legal-TreatiesDoc/CH15B2093.pdf

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2015–2020 Can be extended for five more years	MoU	Memorandum of Understanding between the Ministry of Mines of the Republic of India and the Ministry of Land and Resources of the People's Republic of China on Cooperation in the fields of Mining and Mineral Sector.	Ministry of Mines	Ministry of Land and Resources	• Cooperation in • Sustainable development of mining industry • Mineral resource assessment • Ore deposit modelling • Technology transfer and training programmes in modern geological mapping • Development of geological database and GIS • Mineral economics • Environment-related aspects of mining and mineral extraction	• Technology exchange on mapping • Management of geohazards like landslides and water contamination • Joint training programmes and seminars • Research working group on geoscience development projects • Exchange of databank for predicative metallogeny • Identify joint projects • Exchange scientific and technical information on geological publications • Undertaking joint ventures in other countries	Ministry of External Affairs. (2015h). https://www.mea.gov.in/Portal/Legal-TreatiesDoc/CH15B2091.pdf
2016	Dialogue	4th India–China SED	Arvind Panagariya, Vice-Chairman of NITI Aayog	Xu Shaoshi, Chairman of NDRC	• WG on high tech—rare earth industry technology • WG on resource conservation and environmental protection • State and city governments key actors • Cooperation in waste to energy plants • Sewage treatment • Encouraging cities to enter into direct agreement with Chinese companies on desalination • Low cost construction material	• Encourage discussions and communication between government officials, experts, and technicians • improve understanding of each other's policies, laws, and energy systems, and strengthen technology exchanges • Joint meetings and seminars so as to promote cooperation in energy • Communication and cooperation between energy consultation institutes • Jointly conduct research in areas of mutual interest	

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
					• WG on energy • Cooperation in RE promotion • Manufacturing of solar cells/modules in India • Generation of solar and wind energy • Equity support, offset hedging cost, masala bonds from India • Chinese investors—financial investment and cooperation with Solar Energy Corporation of India • Promoting clean coal technologies including environment friendly mining, coal processing, unconventional gas (CBM), and efficient use of coal		Ministry of External Affairs. (2016). Agreed Minutes of 4th India-China Strategic Economic Dialogue. https://www.mea.gov.in/bilateral-documents.htm?dtl/27478/Agreed_Minutes_of_4th_IndiaChina_Strategic_Economic_Dialogue
2018	Dialogue	5th India–China SED	Dr Rajiv Kumar, Vice-Chairman, NITI Aayog	He Lifeng, Chairman, NDRC	• Cooperation in RE, resource conservation, and aligning Make in India and Made in China		Embassy of the People's Republic of China in India. (2018). China-India Strategic Economic Dialogue boosts pragmatic cooperation, mutual benefit and win-win results. https://in.china-embassy.gov.cn/eng/

Year	Type	Title	Organisation-I	Organisation-C	Content/Issues	Mechanisms	Source
2019	Dialogue	6th India China SED	Dr Rajiv Kumar, Vice Chairman, NITI Aayog	He Lifeng, Chairman, NDRC	**WG on Resource Conservation and Environmental Protection** ● Waste management ● Construction and demolition waste and resource conservation ● Low-cost construction technology ● Methods of flood and erosion control, and air pollution ● Waste to Power, co-processing of Septage with Sewage Sludge and storm water management **WG on Energy** ● RE ● Clean coal technology ● E-mobility and energy storage ● Smart Grid and Grid integration ● R&D for developing new technology for manufacturing solar cell from alternate material and improvement of efficiency of solar cells	● Continued interaction and exchange of relevant information more frequently ● Formations of WGs	Economic Diplomacy Division. (2019). 6th India-China Economic Dialogue concludes with 6 agreements. https://indbiz.gov.in/6th-india-china-economic-dialogue-concludes-with-6-agreements/; Press Information Bureau. (2019). 6th India-China Strategic Economic Dialogue (SED) concludes in New Delhi; Both sides agree to promote deeper cooperation in various fields. https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1584574
Additional sources: Ministry of External Affairs. (2014). List of Documents signed during the State Visit of Chinese President to India. https://www.mea.gov.in/bilateral-documents.htm?dtl/24012/List+of+Documents+signed+during+the+State+Visit+of+Chinese+; Ministry of External Affairs. (2015). List of Agreements signed during the visit of Prime Minister to China (May 15, 2015). https://www.mea.gov.in/bilateral-documents.htm?dtl/25260/List+of+Agreements+signed+during+the+visit+of+Prime+Minister+to+China+May+15+2015;							

Note: BASIC = Brazil, South Africa, India, China; BRICS = Brazil, Russia, India, China, and South Africa; CBDR = common but differentiated responsibilities; CBM = Coal Bed Methane; COP = Conference of the Parties; EIA = Environmental Impact Assessment; EV = electric vehicle; GIS = Geographic Information System; GoI = Government of India; LED = Light-Emitting Diode; MEA = Ministry of External Affairs; MFA = Ministry of Foreign Affairs; MoEFCC = Ministry of Environment, Forest and Climate Change; MoU = Memorandum of Understanding; MWR = Ministry of Water Resources; NABARD = National Bank for Agriculture and Rural Development; NAPCC = National Action Plan on Climate Change; NDRC = National Development and Reform Commission; EWG = Expert Working Group; PPP = Public-Private Partnership; QELRO = Quantified Emission Limitation and Reduction Objective; R&D = Research and Development; RE = Renewable Energy; S&T = Science and Technology; SED = Strategic Economic Dialogue; UNDP = United Nations Development Programme; UNFCCC = United Nations Framework Convention on Climate Change; WG = Working Group.

Table A–2: Workshop 1: Pathways for India–China Climate Cooperation, May 22, 2025

No.	Designation
1.	Former Indian Ambassador to China
2.	Professor, Centre for Policy Research
3.	Principal Energy Specialist, Asian Development Bank

Table A–3: Workshop 2: Configuring India–China Climate Cooperation, August 22, 2025

No.	Designation
1.	Director, Institute of South Asian Studies, National University of Singapore
2.	Research Fellow, Institute of South Asian Studies, National University of Singapore
3.	Distinguished Fellow, Centre for Social and Economic Progress
4.	Fellow, Centre for Social and Economic Progress
5.	Assistant Professor, University of Delhi, India
6.	PhD Candidate, Department of International Relations, Tsinghua University, China
7.	Visiting Senior Research Fellow, Institute of South Asian Studies, National University of Singapore
8.	Research Fellow, Institute for Environment and Sustainability Lee Kuan Yew School of Public Policy, National University of Singapore
9.	Former Director, Indian Renewable Energy Development Agency Limited
10.	Principal Economist, Economic Research and Development Impact Department, Asian Development Bank
11.	Lead Researcher, Climate Change in Southeast Asia Programme Institute of Southeast Asian Studies, Singapore
12.	Director, World Resources Institute, China
13.	Professor of Policy Studies, Indian Institute of Technology Delhi
14.	Senior Fellow, Centre for Social and Economic Progress, India
15.	Senior Research Fellow, East Asian Institute, National University of Singapore

Table A–4: List of Interviewees

No.	Designation	Date
1.	Former Minister of Environment	June 17, 2025
2.	Professor, Delhi University	June 23, 2025
3.	Former Foreign Secretary and Ambassador of India to China	June 20, 2025
4.	Former Ambassador of India to China	June 30, 2025
5.	Former Chairman of the Planning Commission	July 1, 2025
6.	Lead Climate Specialist, South Asia, World Bank	July 2, 2025
7.	Director, Energy Transition, Asian Development Bank	July 4, 2025
8.	Regional Co-Lead (Asia), Climate Finance, International Finance Corporation	July 14, 2025
9.	Professor, Shiv Nadar University	August 11, 2025
10.	Professor, Jindal Global University	August 13, 2025
11.	Scholar at Centre for Contemporary China Studies, Ministry of External Affairs	August 18, 2025
12.	Professor at the Shanghai Institutes for International Studies	August 18, 2025

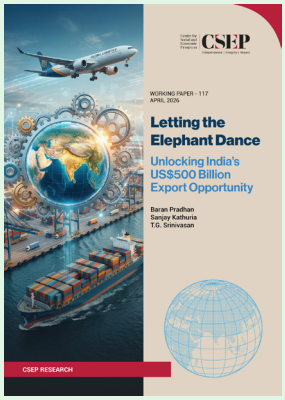
About the authors

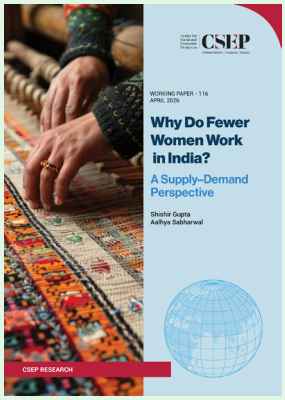
Pooja Vijay Ramamurthi is a Fellow in CSEP. She has a PhD in Science, Technology and Environmental Policy at the School of Public and international Affairs (STEP) at Princeton University. She studies climate and energy transition policy, particularly focusing on the role that India can play in accelerating domestic and international action towards decarbonisation.

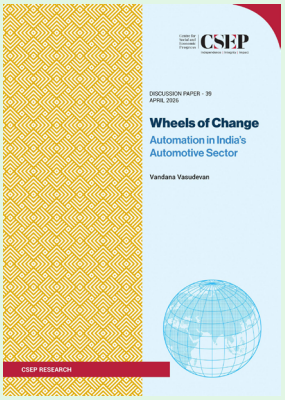
She is a recipient of the Prize Fellowship for Social Sciences at Princeton University. She has also received her double Master's degree in Sustainable Energy from the Royal institute of Technology, Sweden and Instituto Superior Tecnico, Portugal via the Innoenergy scholarship granted by the European Union.

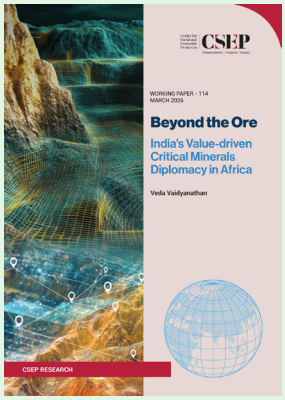
Shruti Jargad is a Non-Resident Research Associate in the Foreign Policy Vertical. She has a double masters in China Studies and Political Science from Peking University and Jawaharlal Nehru University respectively. She has undergone Mandarin language training at National Taiwan Normal University as a recipient of the Mandarin Language fellowship from Ashoka University. She has previously worked at Institute of Chinese Studies, New Delhi and Ashoka University, Sonipat. Her research interests lie in the party-state system, China's domestic politics and its relations in the neighbourhood.

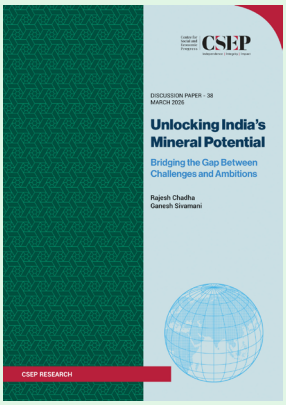
Other publications

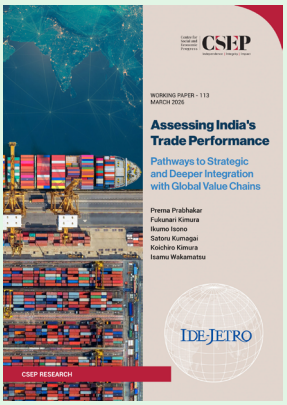


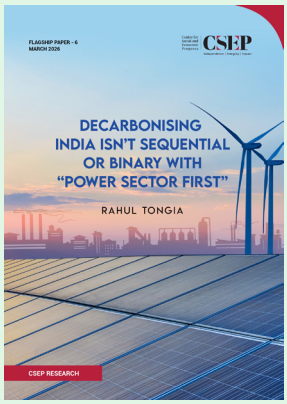


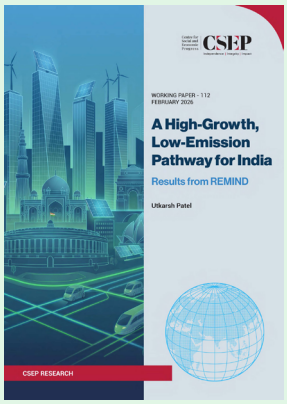


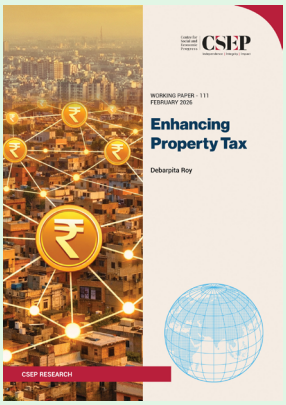


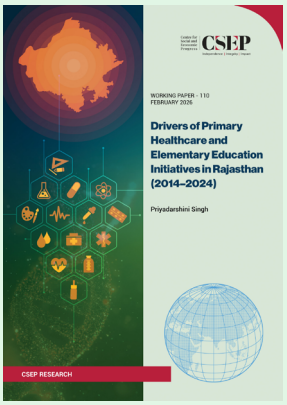


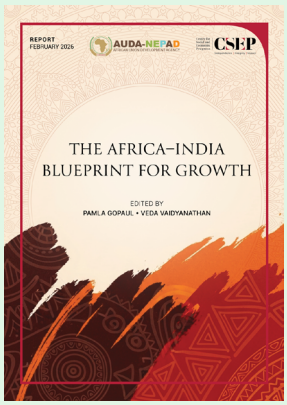


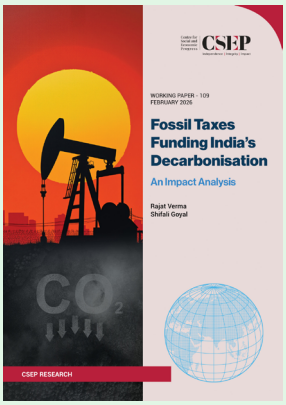












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