



The Geopolitics of the Green Transition: The ISA and the Indian search of the Global Green Order

Mr. Nitin Kumar¹

Abstract:

This paper studies the grand strategy of India in the context of the global transition towards the green, that India is using climate leadership as a Strategic geopolitical tool to achieve a significant position in the world order. India has been eager to take charge of the post-carbon world with institutional solutions, such as the International Solar Alliance (ISA) and the One Sun, One World, One Grid (OSOWOG) plan, instead of being a passive victim of climate change as it has historically been. These structures are strategic oppositions to the Chinese ambitions of the Belt and Road Initiative (BRI) and Global Energy Interconnection (GEI), with the aim of organizing the Global South into a solar bloc. Nevertheless, the Indian ambitions of being the OPEC of Solar Energy can essentially be limited by the Chinese dominance paradox on the solar manufacturing supply chain across the world. In the end, the article shows how India leverages its new-founded Green Capital to bargain towards higher geopolitical positions, traversing the intertwined nature of climate finance, technological reliance, and multipolar rivalry to become not a rule-taker but a rule-maker in the twenty-first century.

Keywords: Green Geopolitics, Indian Foreign Policy, Solar Diplomacy, Osowog, International Solar Alliance (Isa), Climate Diplomacy, Indian Foreign Policy, Energy Security, Sino-Indian Relations, Energy Statecraft.

1. Introduction: Beyond Carbon Hegemony to Solar Statecraft

Even in the twentieth century, the extraction, refinement and transportation of hydrocarbons were so closely tied to the balance of power on an international scale. Geography of fossil fuels was the key determinant of the geopolitical structures of the cold war and the unipolar era that followed that of the creation of OPEC and the declaration of the Carter Doctrine to the giant maritime security systems that surround the Strait of Hormuz. The strength was held by those who had oil under their own sovereign sands, and those whose blue water navies were able to win its passage through the global commons. Energy was not a commodity

¹ 8th Semester, B.A. Program (History and Political Science), Ram Lal Anand College, University of Delhi, New Delhi



but the final medium of hegemonic exchange, determining cooperation and provoking war, and keeping the post-war economy in place.

With the world facing the existential crisis of anthropogenic climate change, the macroeconomic shift to a so-called Green Transition is gaining momentum at a rate never seen before. To regard this change simply as an ecological requirement or an achievement of environmentalism, is, however, to misconceive the facts about contemporary international relations. Replacement of fossil fuels with renewables is the biggest redistribution of geopolitical power in the world since the Industrial Revolution. It heralds the demise of carbon geopolitics and the emergence of a new world of Global Green Order, where the power over the supply chains of electrons, rare earth minerals, silicon, and so on, takes the place of the power over oil barrels and gas pipelines.

This paper critically dismantles the grand strategy of India in this new paradigm. It suggests one main thesis: New Delhi does not apply climate leadership as merely a moral act or an act of altruism, but rather as a very, very cynical, merciless geopolitical tool to win the long-awaited place at the high table of world government. India is making the geographic and institutional attempt to be the centre of a post-carbon world by seeking to become what can be conceptually called the OPEC of Solar Energy.

2. The History of Climate Diplomacy: Victims to Leaders

To value the sheer temerity of the present strategic blueprint of India, it is important to first know about the deeply-rooted, very defensive stance that the Indian climate diplomacy adopted in close to thirty years of the multilateral negotiations.

2.1 Post-Colonial Paradigm and Defensive Statecraft.

Since the 1992 Earth Summit in Rio de Janeiro, and the contentious 2009 Copenhagen Summit, the Indian position on climate change has been viewed through a prism of post-colonialism that upholds the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC). Indian diplomats were able to make the historical argument with mathematical and historical accuracy that the stock pile of greenhouse gases that were leading to the climate crisis were the historical direct responsibility of the industrialized West. Thus, the Global North was required to shoulder all the moral and financial costs of a drastic reduction in emissions, and developing countries such as India needed infinite carbon space to propel hundreds of millions of their citizens out of abject poverty by industrializing them on coal.



Western capitals and multilateral institutions often described India as a recalcitrant obstructionist on climate during this period. The main goal of New Delhi was purely defensive, it did not want its economic growth to be choked by Western-imposed, legally binding carbon limits. The climate change was not perceived as a strategic opportunity, but as a slow-moving neo-imperialist weapon by the West to freeze the economic pecking order of the world.

2.2 The 2015 Paradigm Pivot

A strategic precalculus took place in India in the run-up to the 2015 climate leaders conference in Paris (COP21). Prime Minister Narendra Modi saw that there were geopolitical boundaries to constant obstructionism; it put India to the margins of the global community, estranged vital strategic allies such as the United States, and in effect handed over the moral high ground to Beijing, which was quietly remaking itself as a green technology leader. More so, domestic economic realities, which were unavoidable, such as disastrous air pollution in urban areas, a crippling macroeconomic reliance on imported Middle Eastern oil that drains foreign exchange reserves, and disastrous agricultural shocks necessitated a colossal domestic green transition irrespective of international pressure.

In case India intended to make a multi-trillion-dollar domestic transition to renewables, it diplomatically decided to weaponize its intended transition. India shifted its focus away, as the defensive victim who insists on a right to pollute, to the positive Vishwaguru (world teacher) of sustainability. India was a dramatic launcher of the International Solar Alliance (ISA) at Paris. India overnight re-positioned itself in a way that it was being made to look like the indispensable spearhead of the green transition of the developing world, which was just so well fitting the domestic energy needs with a globally trumpeted diplomatic stance.

3. The International Solar Alliance: Building the Solar Energy OPEC

The introduction of the ISA is a radical institution-building. It is the first time in recent history when a large intergovernmental treaty-based organization of international scope is conceived on Indian soil, and permanently based in Gurugram.

3.1 The Geopolitics of the "Suryaputras"

The geographic as well as conceptual layout of the ISA is geopolitical in nature. The geopolitical map of the Global South is superimposed by the alliance that initially limited membership to the 121 "Sunshine Countries" in between the Tropics of Cancer and Capricorn in part or entirely. These countries were



poetically called by PM Modi the Suryaputras (Sons of the Sun). By bringing together these countries, including the greater part of Africa, southeast Asia, Latin America, and Oceania, New Delhi was making it clear that it was the institutional leader of the post-colonial world in the energy landscape of the twenty-first century.

Traditionally, developing countries bargained one-on-one at an enormous disadvantage with the Western fossil fuel conglomerates or Chinese government-supported businesses. The ISA is meant to harmonize this fragmented group to harmonize solar technologies, marshal tremendous demand to lower panel prices with bulk purchasing, and jointly bargain climate finance on far more preferable conditions.

3.2 Bretton Woods Bypass and Financial Statecraft

The technology cost of solar panels has been dropping, but the high cost of capital is the greatest impediment to the Green Transition of the Global South. A solar farm in Senegal or Sri Lanka with utility scale would demand enormous start-up costs, yet interest rates imposed by Western commercial banks and institutional investors would be prohibitive because of perceived sovereign risk, currency volatility, and political instability.

This financial gameplay should be viewed in the context of the ongoing inability of the Global North to make on its 100 billion annual promises of climate finance that was made at the 2009 Copenhagen summit. Such dishonoured promise had sown resentment throughout the Global South, leaving a colossal lack of trust. The ISA cleverly takes advantage of this gap. India is redefining climate finance by turning its back on its dependence on Western state-funded charity and shifting to the de-risking of institutional capital privately.

The ISA is aimed to circumvent this Western funding choke with new blended finance. The ISA is a guarantor by setting up a system, such as the Global Solar Facility (GSF), where the risk is diversified across dozens of developing countries and guaranteed to cause the cost of capital to be reduced drastically among the private investors. Should this be successful, this is a gigantic, institutionalized change in the financial power of the world. In the same way that OPEC had dominated markets through the coordination of the flow of a vital resource, the ISA tries to dominate green markets through the coordination of demand and funding of solar energy. Should African and Southeast Asian countries learn to depend on an Indian-driven system to provide the funds needed to survive, New Delhi creates profound, systemically engraved



geopolitical advantages that threaten the conventional supremacy of Bretton Woods organizations such as the World Bank.

4. The Crown Jewel: "One Sun, One World, One Grid" (OSOWOG)

Although the ISA is the institutional instrument, the grand strategic masterpiece of the green diplomacy of the Indian country is the one sun, one world, one grid (OSOWOG) project. Introduced in collaboration with the United Kingdom at COP26 in Glasgow in 2021, it is possibly the most far-reaching, continent-wide vision of infrastructure in the modern age.

4.1 HVDC Interconnections: Engineering and Geopolitics

The technical underpinning of OSOWOG is brilliantly simple: The sun never sets. The major drawback of solar energy is that it is intermittent by its nature. To solve this without necessarily having to go to all-encompassing use of very costly, eco-unfriendly lithium-ion battery banks, OSOWOG suggests building a large system of High-Voltage Direct Current (HVDC) transnational transmission grids across the world. When the sun sets in Vietnam it is powered by the heat of the afternoon sun in India. Several hours later, when the subcontinent becomes black, India obtains electricity through the solar parks in Oman and Saudi Arabia through ultra-deep submarine cables. With the continents physically hardwired, the world is able to continuously chase the sun, harmonizing base-loads between the time zones which are dissimilar.

Nonetheless, the geopolitical vulnerability of OSOWOG brings in absolutely new vectors of the engineering reality. It would take millions of dollars in capital and deep-sea cable-laying machinery, a technology now dominated by European and Chinese companies, to lay thousands of kilometres of HVDC submarine cables across the Arabian Sea to link Gujarat with Oman, or across the Bay of Bengal to link the Andaman Islands with ASEAN grids. Moreover, these key submarine infrastructural chokepoints serve as soft targets to hybrid warfare and maritime sabotage. National survival in essence becomes grid security, and requires a sustained and strong naval force to patrol the undersea pathways. In turn, OSOWOG is a unintended booster to the militarization of the Indian Ocean because the Indian Navy has now to be able to protect not only sea lanes of communication (SLOCs) to oil tankers, but also vital subsea electrical corridors.

Marketed internationally as a utopian vision of climate solidarity, OSOWOG is perceived in New Delhi as an offensive, massively calculated geopolitical retaliation against the Chinese Belt and Road Initiative (BRI) - namely, the Global Energy Interconnection (GEI) initiative of Beijing. According to the geopolitics



of the grid, those who have the power to dominate the centre of a transnational power grid, possess very powerful tools of coercion. When a country depends on a cross-border grid to supply its base-load power, the state that has the power to set the routing "switch" in effect has the power to control the sovereignty of that country. India is pushing OSOWOG, and in the process, positioning itself, rather than China, as the geographic and technological hub of centrality between the grids of the Middle East to those of Southeast Asia.

4.2 Strategic Symbiosis: Obtaining the Extended Neighbourhood

OSOWOG helps India to exert power deep into its extended neighbourhood without the deployment of a single warship. In suggesting to link India's strategically vital Andaman and Nicobar Islands to the ASEAN power grid through the use of submarine cables, India provides Southeast Asia with a clean-energy alternative to Chinese-financed coal plants, literally linking ASEAN energy security to New Delhi.

With interconnecting grids in the Middle East, Gulf Petro-states with their hysterical efforts to convert their colossal sovereign wealth funds to green hydrogen and solar energy will never cease to be intertwined with the Indian macroeconomic powerhouse in the post-oil economy. OSOWOG is the physical connections of the India sphere of influence, an effort to construct a Green Empire of interdependencies that are explicitly defined to exclude Chinese hegemony.

5. The Dragon in the Sun: The Paradox of the Chinese Dominance

An objective examination of the grand strategy of India must at once face the gaping, most dangerous paradox of this grand strategy: India would like to spearhead the solar revolution, but the physical means of production are simply, almost monopolistically, dominated by its main strategic foe, China.

5.1 The Supply Chain Chokehold

The Green Transition, is essentially a vast exercise of huge material draw and high-tech production. China is now having a stranglehold in the world solar supply chain that even exceeds the dominance of the oil in the 1970s by OPEC. The manufacturing of a solar panel is an extremely energy-consuming process- starting with the quartz that is extracted and purified to become metallurgical silicon, to the hyper-pure polysilicon, casting the ingots and assembling modules.

By mid-2020s China dominates an estimated 80 percent of the world polysilicon production (much of which is located in the Xinjiang region, and is heavily dependent on coal power, often with heavy subsidies), 95



percent of the global solar wafers, and more than 80 percent of the module production. This poses a frightening strategic weakness of the ISA ambitions of India. When New Delhi vows to make huge solar implementation in Africa under the ISA flag, it is, implicitly, mainly enhancing the sale of Chinese-made panels. When India itself depends on importation of billions of dollars of Chinese wafers in order to make its own domestic transition, its pretence to being the leader in the Green Order is fatally weakened.

5.2 The "China Plus One" Imperative and Domestic Policy

The Indian state is aware of this existential threat and has embarked on a huge and heavily subsidized initiative to decouple its green transition with Beijing. To address the Chinese dumping, New Delhi had put up huge tariff barriers, which included a Basic Customs Duty (BCD) of 40% on imported solar modules. It also introduced Approved List of Models and Manufacturers (ALMM) as a non-tariff barrier to exclude Chinese companies in the government-subsidized projects.

However, the process of switching imports of Chinese wafers to local production is fraught with enormous domestic challenges. Semiconductor-grade polysilicon construction facilities demand huge, continuous power and water supplies, which are highly subsidized, and continuous land acquisition, aspects that have traditionally plagued Indian industrialization. The ambitious Production Linked Incentive (PLI) schemes confront the daunting reality of India with its cumbersome federal system, with state-level red tape capable of holding mega-projects up to a decade. In addition, China is not resting on its laurel; it has been ever reducing the price of its solar modules, and it has been massively subsidizing excess capacity to literally dump its cheap solar panels on the world market and put out of business newcomers before they can enjoy the economies of scale. The solar sovereignty of India is therefore a tiring competition against Chinese market manipulation as well as Indian administrative sluggishness.

Diplomatically, India is using the Western fear of the Chinese having an absolute green monopoly. India leverages Mini lateral forums such as the Quad, with particular working groups on key technologies and clean energy supply chains, to gain Western capital and technology transfers and to permanently disrupt the Chinese monopoly by aggressively positioning itself as the only trusted, democratic option that could attain the needed economies of scale.



6. The High Table: Climate Leadership as Grand Strategy.

The eventual aim of this elaborate diplomatic clockwork is to raise the position of India in the world geopolitical pecking order. There is no stronger currency that New Delhi could have in its quest to ensure that it gains permanent seat in the high table of world governance than Climate Leadership.

6.1 Global Status and Bid to UNSC

India has long been lobbying to get its own permanent seat in the United Nations Security Council (UNSC) with a veto. Non-traditional reasoning, however, in terms of population size or GDP growth has continually been unable to overcome the institutional inertia of the P5 countries. The Green Transition offers India a radically new, ethically beyond reproach, lever. New Delhi complicates itself by proving themselves to be too big to be ignored by showing that global climate objectives are mathematically infeasible without its cooperation and enormous domestic transition.

When Indian diplomats enter the UN, they do not offer themselves to be the representatives of a new Asian giant; they offer themselves to be the irreplaceable tip of the hat of the survival of the developing world. This creates massive diplomatic pressure on the West; it is practically unimaginable to require India to make the costliest energy shift in the history of humankind and at the same time to deprive it of a permanent seat at which the rules of the world order are drafted.

6.2 Making Global South a reality

This was a brilliant blueprint that was implemented during the G20 Presidency of India. India was able to put the priorities of the Global South on the agenda itself, and effectively negotiated the space between the geopolitical obsession of the Global North and the need of the developing world to write off its debts and access energy. India changed the climate debate over to the more important topics of Climate Finance and Multilateral Development Banks reform.

Moreover, taking the very playbook of the ISA, India also used the G20 forum to start the Global Biofuel Alliance (GBA). India, relying on its colossal farming reach, aims at structuring the worldwide market of sustainable biofuels, placing itself at the focal point of another significant player of the post-carbon economy. India vehemently protects African and Asian countries against the Green Protectionism like the Carbon Border Adjustment Mechanism (CBAM) of European Union, which will impose a penalty on the developing economies in the name of environmental policies. Having positioned itself at the very



crossroads of Western capital and Global South demand, India positions itself as an essential geopolitical crossover of the twenty-first century.

7. Conclusion

As the world architecture of power brutally shifts out of extraction of carbon under the earth to gathering of silicon under the sun, India has seen the Green Transition as the one strategic disruptor. With a historic chance to avoid the fixed twentieth-century hierarchies that many rising powers may struggle to get around, India is vigorously building the institutional and physical framework of the Global Green Order in the International Solar Alliance and the continent-wide infrastructural vision of OSOWOG.

References

Aklin, Michaël, and Johannes Urpelainen. *Renewables: The Politics of a Global Energy Transition*. Cambridge: MIT Press, 2018.

Bhawal, Sayantani, and Aparna Roy. "India's Leadership in the International Solar Alliance: A Paradigm Shift in Climate Diplomacy." *Strategic Analysis* 43, no. 6 (2019): 511-525.

Dubash, Navroz K. (ed.). *India in a Warming World: Integrating Climate Change and Development*. New Delhi: Oxford University Press, 2019.

Goldthau, Andreas, Michael Keating, and Caroline Kuzemko (eds.). *Handbook of the International Political Economy of Energy and Natural Resources*. Cheltenham: Edward Elgar Publishing, 2018.

International Energy Agency (IEA). *Special Report on Solar PV Global Supply Chains*. Paris: IEA, 2022.

International Renewable Energy Agency (IRENA). *A New World: The Geopolitics of the Energy Transformation*. Abu Dhabi: IRENA, 2019.

International Solar Alliance (ISA). *Towards 1000: ISA Strategy Document*. Gurugram: ISA Secretariat, 2021.

Jaishankar, S. *The India Way: Strategies for an Uncertain World*. New Delhi: HarperCollins India, 2020.

Ministry of New and Renewable Energy (MNRE), Government of India. *Concept Note: One Sun One World One Grid (OSOWOG)*. New Delhi: MNRE, 2020.



Mohan, Aniruddh. "From Rio to Paris: India in Global Climate Politics." *India Review* 16, no. 1 (2017): 39-61.

Narlikar, Amrita. "India's Role in Global Governance: A Modification?" *International Affairs* 98, no. 1 (2022): 93-111.

Overland, Indra. "The Geopolitics of Renewable Energy: Debunking Four Emerging Myths." *Energy Research & Social Science* 49 (2019): 36-40.

Saran, Shyam. *How India Sees the World: Kautilya to the 21st Century*. New Delhi: Juggernaut Books, 2017.

Scholten, Daniel (ed.). *The Geopolitics of Renewables*. Cham: Springer, 2018.

Urpelainen, Johannes, and E. George. "The International Solar Alliance: A Case of India's Normative Power?" *Global Environmental Politics* 21, no. 2 (2021): 88-109.

Yergin, Daniel. *The New Map: Energy, Climate, and the Clash of Nations*. New York: Penguin Press, 2020.

Publisher's Note: *The views and opinions expressed in this article are solely those of the author(s) and do not necessarily reflect those of the publisher, editors, or the editorial board.*