

GREEN ENERGY COOPERATION STEERING A ROBUST INDIA-EU PARTNERSHIP

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Abstract. The transition from fossil fuels to green energy is changing the landscape of energy diplomacy. The supply volatility of fossil fuels, current geopolitical uncertainties, technological innovations, technical cooperation, increasing economic viability of renewable energy and growing demand for sustainable growth make a strong case for transition to green energy. Countries are striving to ensure greener future and international cooperation is critical to realise a sustainable green future. Green transition is the focus of the growth agenda of India and the European Union (EU). Cooperation in climate governance is an emerging area as both India and the EU aims to achieve zero carbon emission by 2030 and 2070, respectively. The creation of the EU-India Clean Energy and Climate Partnership in 2016 reflects the mutual interest in making green diplomacy a core area of cooperation. The shared interest of a green future is paving way for sustainable green energy partnership. Joint collaborations on research and development, financial assistance and technology transfer would facilitate in building a reliable and enduring India-EU green partnership.

The paper delves into renewable energy diplomacy between India and the EU as both intensifies green transition. It argues that despite complexities, cooperation in renewable energy is gaining momentum and will be one of the critical components in strengthening the trajectory of India-EU partnership.

Keywords: Energy Security, Diversification, Green Energy, Sustainable Development, Green Hydrogen.

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1. Introduction

Pursuit of safe, secure, continuous and affordable supply of energy is the foundation of a strong economy. Threat to energy security puts national security at peril. With oil and gas often been used as strategic assets and geopolitical weapon in international politics, energy diplomacy has taken a strong foothold in diplomatic deliberations.

Energy security has various dimensions: it is “not just about countering the wide variety of threats; it is also about the relations among nations, how they interact with each other, and how energy impacts their overall national security” (Yergin, 2012, p. 266). A naval debate before the First World War highlighted the pivotal role of energy in international politics and had put the spotlight on the need for “diversification of supply” (Yergin, 2012, pp. 266-267). In 1911, the Royal Navy of Britain decided to use oil instead of coal to run the Navy. Britain had to secure the safe and regular supply of oil from Persia to run the Navy and thus focussed on diversification. The emphasis on diversification is evident from a statement of Winston Churchill, then the First Lord of the Admiralty in 1913: “On no one quality, on no one process, on no one country, on no one route, and on no one field must we be dependent. Safety and certainty in oil lie in variety and variety alone” (Yergin, 2012, p. 267).

The linkages between energy security and world stability have been proved time and again. Oil as a strategic commodity came into limelight again during the 1956 Suez crisis and the 1967 Six-Day War when oil supply to Europe was affected. Later, the 1973 oil embargo strained the global energy market. OPEC used oil as a strategic weapon to pressurise the US against the backdrop of the 1973 Arab-Israel war. The US since then has given special attention to energy security and energy diplomacy. The Soviet era pipeline system in the former Soviet space has given Russia an edge over the former Soviet states. Further, in the on-going Russia-Ukraine war, Russia has used energy as a weapon to pressurise Europe. The recent geo-political developments have once again reinforced that oil and gas are strategic assets. These assets are often used for geopolitical manoeuvring, putting global stability at stake. Energy security thus plays a decisive role in international politics and in shaping relations among countries.

With the shift from fossil fuels to renewable energy sources like wind, solar, hydro and others, the narrative of energy security has widened. The shift towards renewable expanded the “scope of energy diplomacy” and encompassed “more parameters in the negotiation process” (Gerani and Komnios, 2025). The milieu of international energy politics

changed significantly with the advent of new technologies and growing technical cooperation among countries thereby reducing the competitive advantages of the oil and gas producing countries (Gerani and Komnios, 2025).

The growing environmental concerns give further impetus to shift to green energy. Greater emphasis on the use of renewable energy for sustainable development has thus added a new dimension to energy diplomacy. Green energy lies at the core of the Sustainable Development Goals (SDGs). The quest for clean energy is embedded in the 2030 Agenda for Sustainable Developments. Among the 17 Goals, Goal 7 ensures access to affordable, reliable, sustainable and modern energy for all, and Goal 17 mentions strengthening the means of implementation and revitalizing the global partnership for sustainable development. Sustainable growth is the essence of development, and SDG 7 and SDG 17 underscore the significance of energy diplomacy in ensuring safe, secure and sustainable future.

2. An Overview of India-EU Partnership

One of the guiding principles of Indian foreign policy is the principle of “*Vasudhaiva Kutumbakam*”, meaning world is one family. Keeping in view India’s broader philosophy of one world, India cooperates with countries across the globe based on shared interests. With Europe too, India is engaging on various common interests like climate change, multipolar world order, threats emanating from pandemic, etc.

India-EU partnership has gradually evolved since 1960s. Common values and principles of democracy, rule of law, rule based international order and multilateralism lies at the core of the partnership. In 1962, India was amongst the first countries to establish diplomatic ties with the European Economic Community (EEC). In 1994, India-EU Cooperation Agreement and the Joint Political Statement of 1993 expanded the horizon of the partnership from economic to political dialogue and annual summits. The first India-EU Summit was held in June 2000 at Lisbon and the Strategic Partnership was signed in 2004, paving way for a more substantial partnership. Several dialogue mechanisms dealing with myriad issues like trade, energy security, science and research, non-proliferation and disarmament, counter terrorism, cyber security, counter-piracy, migration and mobility, etc. have over the times build the foundation of the partnership.

The strategic partnership witnessed a low phase since 2009. However, with time, there was renewed interest in reviving the ties as reflected in the various documents signed in the subsequent years. In the 2017 Summit, both sides acknowledged each other as

“natural partners”. The 2018 document “A Partnership for Sustainable Modernization and Rules-based Global Order” mentioned that India has “a key role in the current multi-polar world and a factor of stability in a complex region and calls for greater India-EU political, security and defence cooperation”. In the Joint Summit in May 2020, India and the EU agreed on the “India-EU Strategic Partnership: A Roadmap to 2025”, which became the blueprint for the partnership.

The visit of the President of the European Council, Antonio Costa, and President of the European Commission, Ursula von der Leyen as the Chief Guests for the 2026 Republic Day of India is a milestone in India-EU ties. This was the first ever visit by leaders of the EU as Guest of Honour for the Republic Day. The visit culminated in the signing of the landmark Free Trade Agreement, negotiations for which began way back in 2007. Hailed as the ‘mother of all deals’ the recently concluded FTA is a defining moment in India-EU ties.

The developments witnessed in the beginning of 2026 are the outcomes of some of the landmark initiatives of 2025. In November 2025, India and the EU held the 11th India-EU Foreign Policy and Security Consultations and the 6th Strategic Partnership Review Meeting in Brussels. The meeting assessed the progress of the ‘India-EU Strategic Partnership: A Roadmap to 2025’. The College of Commissioners visit to India in February, first India-EU Strategic Dialogue in Brussels in June and adoption of the Joint Communication on a New Strategic EU-India Agenda in September are the key developments in 2025 that led to the signing of the historic Free Trade Agreement.

Economic Cooperation is the strongest link in the partnership. In 2024-2025 and 2023-2024, India-EU bilateral trade in goods was US\$ 136 billion and US\$ 135 billion, respectively, making EU the largest trade partner of India in goods (Ministry of External Affairs, 2025 and PIB, 2026a). The bilateral trade in services in 2023 was US\$ 53 billion (Ministry of External Affairs, 2025). In 2023, the EU’s investment in India was US\$ 117 billion while India’s investment in EU was about US\$ 40 billion (Ministry of External Affairs, 2025).

India-EU ties have evolved from “aid to global partnership” (Paulo, 2019). The EU initially focused on development within India, primarily assisting India to achieve its MDG target of reducing poverty (Paulo, 2019). Later, there was emphasis on India’s role as a development partner as reflected in the 2008 Joint Action Plan. It mentioned both sides’ commitments to “join efforts in international fora in using expertise in global development

policy to promote the achievements of the Millennium Development Goals and aid effectiveness” and to “conduct a dialogue on issues relevant to cooperation with third countries” (India-EU Summit, 2008).

India-EU development partnership saw a major shift in 2003 after India limited the number of international donors in the country and engaged in bilateral programmes with smaller European countries (Paulo, 2019). In 2014, the EU ended the Development Cooperation Instrument (DCI), which is the grant-aid under the EU’s bilateral cooperation instrument (Paulo, 2019). Shifting from the ‘traditional aid’ domain helped in widening the scope of India-EU cooperation.

3. Drive Towards Cleaner Energy

The Statute of the International Renewable Energy Agency (IRENA) defines renewable energy as “all forms of energy produced from renewable sources in a sustainable manner” like bioenergy, geothermal energy, hydropower, ocean energy (including tidal, wave and ocean thermal energy), solar energy and wind energy (Conference on the Establishment of the International Renewable Energy Agency, 2009). Fossil fuels are primarily responsible for causing greenhouse emissions and 60 percent of the world’s electricity generation comes from fossil fuels (United Nations, 2025a). As in 2023, the power sector was the largest contributor to global greenhouse gas emissions (United Nations, 2025a). To mitigate the climate challenge, efforts are taken to reduce emissions by almost half by 2030, and net-zero by 2050 (United Nations, 2025a). For a sustainable healthy planet, alternate energy sources are being explored and nurtured.

In the period from 2015-2024, annual electricity capacity of renewables increased by around 2,600 Gigawatts (GW), which was a 140 percent increase, and fossil fuels electricity capacity increased by only around 640 GW (16 percent) (United Nations, 2025a). Initiatives to promote use of various alternative energy sources for a greener future are increasing. In 2024, US\$ 2 trillion was spent on clean energy, which was US\$ 800 billion more than the amount used on fossil fuels (United Nations, 2025a). Clean energy sectors accounted for 10 percent of global GDP growth in 2023 (United Nations, 2025a). The percentage share of clean energy in the GDP growth in 2023 accounted for 5 percent in India, 6 percent in the United States, 20 percent in China and about 33 percent in the EU (United Nations, 2025b).

In July 2025, the UN Secretary General in his remark on Climate Action stated that “90% of new renewables worldwide produced electricity for less than the cheapest new fossil

fuel alternative”, which is “not just a shift in power” but a “shift in possibility” (United Nations, 2025b). He further stated that the shift to green energy is about “energy security and people’s security”, “smart economies” and “decent jobs, public health, advancing the Sustainable Development Goals” (United Nations, 2025b). Highlighting the geopolitical significance of renewables, the Secretary General noted that renewables stand for “real energy security, energy sovereignty and freedom from fossil-fuel volatility” (United Nations, 2025b).

3.1. India’s Quest for Renewable Energy. India is also gradually shifting to renewable energy as evident from various initiatives taken from time to time. India at the COP26 in 2022 presented the *Panchamrit* or ‘five nectar elements’ of India’s climate action. It aims at reaching 500 GW non-fossil energy capacity by 2030, 50 percent of India’s energy requirements from renewable energy by 2030, reducing total projected carbon emissions by one billion tonnes by 2030, minimising carbon intensity of the economy by 45 percent by 2030 over 2005 levels and achieving net zero emissions by 2070 (Ministry of Environment, 2022).

Globally, India ranks 4th in renewable energy installed capacity in wind power and 3rd in solar power capacity in 2025 (Energy and Environment, 2025). Further, 50.07 percent of India’s total installed power capacity (484.82 GW) is from renewable sources, a COP 26 commitment that India fulfilled five years before the 2030 target (Energy and Environment, 2025). In January 2025, India reached the milestone of 100 GW of installed solar capacity (Press Information Bureau (PIB), 2025c). The solar energy installed capacity in 2025 was 136 GW (NITI Aayog, 2026). In November 2025, the total non-fossil power installed capacity was 262.74 GW, which accounts for 51.5 percent of India’s total installed electricity capacity (PIB, 2025c).

In 2025, India recorded the addition of highest ever renewable energy capacity. Till November 2025, the total renewable energy added was 44.51 GW, nearly double of the capacity added in 2024 (24.72 GW) (PIB, 2025c). The total renewable energy installed capacity of India in November 2025 was 253.96 GW (PIB, 2025c). Further, India has made considerable progress in *PM Surya Ghar: Muft Bijli Yojana* (PMSG: MBY), which was started in 2024 to provide rooftop solar (RTS) installations in one crore residential household by 2026-2027. In 2025, about 14.43 lakh RTS systems have been installed over 18.14 lakh households (PIB, 2025c).

3.2. EU’s Focus on Renewable Energy. The energy sector is the largest contributor of greenhouse emission in the EU. The share of renewable energy sources in the EU’s energy

consumption increased from 12.5 percent in 2010 to 25.2 percent in 2024 (European Commission, 2026c). In 2022, renewables accounted for 18.9 percent of the EU's total energy supply as compared to the global average of 13.9 percent (European Commission, 2026c). Also, the EU leads in renewable technology, development and deployment.

The European Green Deal, launched in 2019 is the blueprint guiding the EU's green energy transition. It aims to reduce emission by 55 percent compared to 1990 level and be carbon neutral by 2050. The three principles of the Green Deal, to reduce greenhouse gas emissions, are: 1) ensuring a secure and affordable EU energy supply, 2) developing a fully integrated, interconnected and digitalised EU energy market and 3) prioritising energy efficiency, improving the energy performance of buildings and developing a power sector based largely on renewable sources (European Commission, 2026b). The EU's efforts to step up cooperation in green energy are also evident from a few diplomatic initiatives. To promote green energy partnership, most European embassies now have diplomats with specific responsibilities on climate change and energy (Nordenstam, 2023).

The on-going Russia-Ukraine war has reinforced the need for energy diversification. Europe to reduce dependence on Russian energy supply is now emphasising on increasing use of renewables to meet its energy demands. According to the revised Renewable Energy Directive of 2023, the target for the share of renewable energy in the EU's energy basket has to be minimum 42.5 percent (European Commission, 2026d). In May 2022, the European Commission introduced the *REPowerEU* plan to reduce dependence on Russian fossil fuel. The Commission noted that "high amounts paid for Russia's fossil fuels are helping Russia sustain its war against Ukraine" (European Union, 2022).

The three pillars of the *REPowerEU* plan are: saving energy, producing clean energy and diversifying the EU's energy supplies (European Commission, 2026d). To boost the use of renewable energy, the Commission had proposed to scale up the renewable energy target directive to 45 percent by 2030 (European Commission, 2026d). Also, it indicated that green hydrogen will be central to decarbonise industries and transport. The plan targets 10 million tonnes of domestic production and 10 million tonnes of imports by 2030 (European Union, 2022). It also mentioned green hydrogen partnerships to promote import of green hydrogen and facilitate decarbonisation in the partner countries (European Union, 2022).

3.3. India-EU Shared Interests. To meet its target of net zero emissions by 2050, the EU members have initiated several domestic policies and encourages cooperation with international partners. India, also is working towards climate mitigation with programmes like expansion of renewable energy in the power sector, National Cooling Action Plan,

National Clean Air Plan, etc. India had a target of installing 175 GW of renewable energy capacity by 2022, with ambitious plans to generate 40 percent of energy capacity from non-fossil sources by 2030 (PIB, 2018). A Parliamentary Panel highlighted that low installation of solar roof-top and wind energy projects are the prime reasons for the shortfall in achieving India's renewable energy capacity target of 175 GW by 2022 (The Economic Times, 2023). However, by 2022, renewable energy capacity of 120.90 GW (nearly 69 percent) has already been installed in the country (The Economic Times, 2023). Renewable energy installed capacity has increased by more than 236 percent since 2014, which is indeed a significant step forward (The Economic Times, 2023).

India, the world's third-largest energy consuming country aims to reach 500 GW of 'non-fossil energy production capacity' by 2030. The EU aims to reduce net greenhouse gas emissions by at least 55 percent by 2030. Europe and India want to be carbon neutral by 2050 and 2070, respectively. Transition to green energy is at the core of both sides' agenda for sustainable future. Green energy cooperation is a promising and evolving area in the partnership.

4. Cooperation in Renewable Energy

Amongst the diverse areas of cooperation, clean energy and climate action is emerging as a key area of India-EU partnership. Cooperation in green energy got a fresh impetus with the creation of the EU-India Clean Energy and Climate Partnership in 2016. It focuses on promoting clean energy and climate friendly technologies and joint research. At present, both sides are working on various projects like cooperation in offshore wind energy, rooftop solar and solar parks, integration of renewable energy and storage, smart grids, bio-fuels and energy efficiency in buildings.

Sustainable development is a one of the core areas of India-EU Strategic Partnership (PIB, 2017). The 2016 Declaration states:

Both sides recalled the adoption of the 2030 Agenda for Sustainable Development, the joint commitment to its implementation with the complementary new EU Consensus on Development and India's "sab ka saath, sab ka vikas" policy initiatives, and reaffirmed the importance of global partnerships to achieve the Sustainable Development Goals and poverty alleviation. In this regard, they reiterated their commitment to collaborate on common priorities and looked forward to exploring the continuation of the EU-India Development Dialogue. Both sides also recognised the need to mutually reinforce the Sendai Framework for Disaster Risk Reduction 2015-2030.

The 14th India-EU Summit in 2017 adopted the Joint Statement on Clean Energy and Climate Change. The Joint statement reinforced both sides' commitments to implement the Paris Agreement and the 2030 Agenda for Sustainable Development. The Statement acknowledged both sides willingness to cooperate in clean energy transition through mechanisms like green cooling, solar pumping, implementation of the climate action commitments, energy storage technologies, electric mobility, advanced biofuels, etc. ('EU-India Joint Statement on Clean Energy and Climate Change', 2017).

The 2020 India-EU Summit that adopted the 'EU-India Strategic Partnership: A Roadmap to 2025' also had a strong focus on climate change and environment degradation. Among other areas, India and the EU in the Joint Statement agreed to "boost cooperation to support clean energy transition" (Ministry of External Affairs, 2020). The 2025 Roadmap also highlights the mutual interests in addressing climate change and promoting clean energy. It emphasised on "cooperation in energy efficiency and in renewable energy, including its integration in the energy system such as through smart grids", "safe and sustainable low greenhouse gas emission, energy security, integration of electric vehicle charging infrastructure in the energy grid, energy research & innovation and support of a just energy transition and on mobilising finance and improving the market and investment environment with a view to enhancing sustainable energy access and resilience" ('EU-India Strategic Partnership: A Roadmap to 2025', 2025).

Expressing similar views, the 2021 Summit mentioned the "importance of achieving the goals of the Paris Agreement, including strengthening climate change mitigation as well as adaptation and resilience to the impacts of climate change, providing means of implementation including finance, and fully implementing them without delay" (Ministry of External Affairs, 2021).

From 2022-2024, there were no annual summits, although there were high level visits. The Joint Communication on a new Strategic EU-India Agenda signed in February 2025 focused on advancing the clean transition and resilience to meet the target set by each side for being carbon neutral. The EU reiterates its support for India as a "clean energy and technology supplier" and agrees to continue "cooperation in renewable energy, energy storage, smart grids, energy efficiency, and renewable fuels" (European Commission, 2025a). The Communication also indicated EU's support for cleantech business exchanges and offshore Wind Business Summits. Also, the creation of the 'EU-India Task Force on Green Hydrogen' is a significant step facilitating the production, storage and distribution of green hydrogen.

The 16th India-EU Summit in 2026 also agreed to increase “cooperation in clean transition and energy resilience in the framework of the EU-India Clean Energy and Climate Partnership” (European Commission, 2026a). It announced both sides intent to start the India-EU Wind Business Summit from 2026.

In international climate diplomacy, India and the EU are major stakeholders cooperating to combat global challenges, such as climate change or achieving the targets of the SDGs. Thus, achieving targets of SDG-7 (energy) and SDG-13 (climate change) are integral to the partnership. In the ‘EU 2025 Strategy on India’, the EU proposes the negotiation of a broader Strategic Partnership Agreement to promote sustainable modernization and address global challenges together.

Climate partnership between India and the EU is facilitated by a few institutional mechanisms. The EU-India Energy Panel established in 2005 indicated the significance of energy diplomacy in India-EU cooperation. The Panel was set up to promote secure and sustainable energy supplies of fossil, renewable and nuclear energy (Ministry of External Affairs, 2005). There are four Joint Working Groups under the Energy Panel: Energy Security, Renewable Energy, Energy Efficiency, Smart Grids and Electricity markets and Clean Coal. The 10th meeting of the India-EU Energy Panel was held in November 2024, which stressed on ‘energy transition priorities’ of India and the EU and reviewed the second phase of the India-EU Clean energy and Climate Partnership 2021-2024. Focusing on clean energy, the Panel created a framework for India-EU Green Hydrogen cooperation. The Meeting identified five areas of cooperation in the 3rd phase of the India-EU Clean Energy and Climate Partnership 2025-2028 that includes green hydrogen, offshore wind, regional connectivity, electricity market integration and smart grids, energy efficiency, and energy and climate diplomacy (Ministry of External Affairs, 2024).

The European Investment Bank (EIB), the financier of the EU’s projects is one of the largest multilateral financiers of climate finance. From 2016-2020, the EIB has provided US\$ 100 billion to climate related projects (The European External Action Service (EEAS), 2021). EIB Global, the development arm of the EIB during the visit of EIB’s Vice-President Nicola Beer to India in October 2025 announced to invest US\$ 60 million in the India energy Transition Fund (European Investment Bank, 2025).

The EU-India Trade and Technology Council (TTC) was announced in 2022 and the first ministerial meeting was held in May 2023. One of the three Working Groups of the TTC is on green and clean energy technologies, which is in addition to the already existing Energy Panel or the Climate Change Dialogue. The second meeting of the India-EU TTC was

held in February 2025 emphasising on research and innovation to promote technological collaborations. India and the EU agreed for long-term joint research projects to support research in clean energy projects as part of the India-EU TTC Working Group on Clean and Green Technologies.

In India, the economic viability of solar and wind power is expanding. However, there are still many hurdles in enhancing renewable power capacity. Slow progress in solar rooftop installations, lack of access to finance, and shortcomings in the transmission infrastructure are some of the major hurdles. The EU is an important partner of India in addressing these challenges. India is the largest beneficiary of EIB solar lending outside the EU. The EIB has approved EUR 640 million of new investment in solar projects in India to provide clean energy to around 4.2 million households and to avoid over 4 million tonnes of carbon emissions (European Investment Bank, 2018).

In the renewable energy sector, a major development in the partnership is the International Solar Alliance (ISA). France and India launched the ISA to promote solar energy in developing countries. The EU joined as a partner organization to the ISA with the signing of the Joint Declaration in 2018. The President of European Commission H.E. Ursula von der Leyen during her keynote address at the ISA Headquarters in 2022 stated:

India and the European Union are closely aligned in the fight against climate change. Both India and the EU have embarked on their way to net zero emissions. And in both India and Europe, solar energy will play a key role to get there. Now, we need to step up EU-India cooperation in developing solar energy. We can learn from each other how to finance, promote, and deploy solar energy and how to secure global supply chains and material needed for solar panels (PIB, 2022).

Green hydrogen, derived from splitting water using renewable electricity is emerging as a key player in our efforts for a sustainable future. The 10th India-EU Energy Panel has identified green hydrogen an area of deeper cooperation under the 3rd phase of the India-EU Clean Energy and Climate Partnership 2025-28. India launched its National Hydrogen Mission in 2023 while the EU launched the European Hydrogen Strategy in 2020.

India targets to produce 5 MMT of Green Hydrogen annually by 2030 (PIB, 2025b). The National Hydrogen Mission is “a strategic pathway toward industrial competitiveness, import reduction, and long-term energy security linking sustainability with self-reliance” (PIB, 2025b). The EU aims to produce 10 million tonnes of renewable hydrogen annually by 2030 and by 2050, 10 percent of the EU’s energy needs will be fulfilled by renewable

hydrogen (European Commission, 2025b). India can benefit from the experience of the EU's Hydrogen Alliance to deploy clean hydrogen technologies by 2030.

Green hydrogen is an emerging area of mutual interest. The first 'EU-India Green Hydrogen Business Forum' was inaugurated in September 2022. India and the EU started a research and innovation initiative under TTC to convert biogenic waste to green hydrogen (PIB, 2025a). The second 'India-EU Green Hydrogen Business Forum' was held in May 2025 indicating both sides' commitments towards clean environment. The member states of the EU and the EU participated in the international conference on Green Hydrogen 2024 in India, and India joined as an exclusive country partner of 'European Hydrogen Week' in 2024. India has set up a US\$ 10 billion green hydrogen and green ammonia project at Kakinada in Andhra Pradesh. Despite advances in electrolyser technology, the production of green hydrogen remains costly compared to traditional fossil fuels, making it uneconomical (Vaid and Dubey, 2025). In future, these bottlenecks can be addressed through more sustained India-EU cooperation on Research and Development.

5. Key Challenges in Green Partnership

With the EU and India trying to achieve zero carbon emission by 2050 and 2070, respectively, green partnership is taking a strong foothold. However, there are a few critical issues impeding the partnership. The primary factors that hinder green partnership include the EU's strict environment regulations like Carbon Border Adjustment Mechanism (CBAM) and both sides' deviating views on climate policies.

One of the moot problems in India-EU partnership is the CBAM that is aimed at reducing carbon leakage. Under CBAM, carbon taxes are imposed on emission intensive imports like cement, steel, iron and fertilizers from non-EU countries. India, along with many other countries like Russia, Turkey, Brazil have opposed the EU carbon tax policy as it creates trade barriers. India's steel exports to Europe will face the brunt of the CBAM policy. For countries of global south, it would not be possible to completely phase out carbon from their economic development. The high carbon related costs will be expensive for Indian exporters. The EU has proposed to expand its carbon border tax regime to include taxes on manufactured industrial goods also. Indian exports to Europe have to deal with high cost due to the CBAM tax.

India did not receive direct exemption from CBAM in the 2025 India-EU Free Trade Agreement, but has been able to secure forward-looking most-favoured nation assurance and a commitment that any flexibility granted to third countries will also be applicable

for India (PIB, 2026b). In the current scenario, countries cannot delay the shift to green steel for a long period. India too has been taking initiatives to reduce carbon emission like preparing a 'Green Steel Mission' with a cost of about Rs 1500 crore to assist the steel industry. Also, the Ministry of Steel has released a 'Taxonomy for Green Steel' in December 2024. The contentious issue of CBAM needs to be carefully negotiated taking into account concerns of both sides.

India-EU shares divergent views on climate action at COP, which is yet another bottleneck in the green partnership. India's position on climate change is based on the principle of 'Common but Differentiated Responsibilities and Respective Capabilities' which does not align with the EU's principle on climate change. India has opposed the Climate Finance Deal adopted at the 2024 COP 29 Summit. According to the deal, the developed nations would contribute US\$ 300 billion per year to developing countries to tackle climate change. India and many developing countries have opposed the deal. The developing countries argue that the stipulated amount is far too little from the Global South's demand of \$1.3 trillion to address climate action. India and the developing countries argue that having historically contributed most to the global emission, the developed countries have the responsibility to finance and transfer technology to assist the developing countries to mitigate climate change issues. The EU and other developed countries on the other hand demand that developing countries with high emission should also contribute to the world climate finance.

Another issue is the time frame for discontinuing the use of traditional fossil fuels. India supports gradual 'phase down' of traditional fossil fuels whereas the EU argues for a systemic 'phase out' of fossil fuels. These fundamental differences make India-EU green partnership complex. For a sustained green partnership, these core differences need to be negotiated carefully.

6. Conclusion

The growing role of renewables in the energy basket of India and the EU is opening more avenues for engagement. Cooperation in renewable energy sector adds new dimension to the India-EU strategic partnership. Green energy not only addresses development issues but also caters to the broader security challenges that India and the EU face in contemporary times. Secure and affordable supply of energy is imperative for national security. With nation's trying to ensure energy independence, the role of renewable energy is increasing. Diversification is central to energy security. Green energy is emerging as an inevitable part of this diversification process and thus has a strategic dimension.

In addition to partnership with the EU, India also has climate related partnership with the EU member states like India-Denmark Green Strategic Partnership, Solar Energy Partnership with Germany, etc. However, there are a few fundamental climate policy differences that both sides have to deliberate upon to steer the partnership.

Environmental concerns, ensuring sustainable growth and geopolitical uncertainties are formidable reasons for transition from fossil fuels to alternate energy sources. India and the EU constitute the two largest economies and among the top greenhouse gas emitters. India-the EU's mutual target of zero carbon emission by 2030 and 2070, respectively, make climate governance a prospective area of engagement. Further, the rising US trade tariff and the growing dominance of China in critical mineral, make India-EU partnership mutually attractive. Thus, both sides need to explore cooperation in the renewable energy sector through joint collaborations in research and development, technology transfer, and investments.

Critical materials like lithium, rare-earth material, etc. are needed to build green energy technologies. India and the EU are keen to diversify supply chains for critical minerals, which is heavily tilted in favour of China. To reduce import from China, both sides are exploring ways to cooperate on mineral extraction, processing and innovation technologies. Also, cooperation with third parties can be explored in this sector.

India is emerging as a manufacturing hub for clean-tech equipment like solar panels, batteries, grid equipment, etc. Through joint collaborations, investments and technology transfer, the EU can assist India to develop as a thriving manufacturing location for clean-tech products. India eventually, can emerge as a major clean-tech products export destination of the EU. On the other hand, the EU by diversifying its supply chain reduces dependence on China for clean-tech products. Currently, the EU purchases the bulk of its clean tech products from China.

Regular and economical supply of green ammonia and green methanol is critical for sustaining the EU's decarbonisation drive of heavy industries and shipping industry. The EU can be a potential export destination of India's green hydrogen and its derivatives like ammonia and methanol. A significant progress has been made with the Ministry of New and Renewable Energy notifying the 'Green Ammonia and Green Methanol Standards' in February 2026. It will help the products to be classified as 'green' facilitating exports.

Green energy is an emerging area of mutual interest that will play a decisive role in building an enduring and sustainable India-EU partnership. For a stronger partnership, differences have to be addressed through regular negotiations. The upcoming 2027 India-EU annual

summit needs to identify substantial areas of green partnership. Regular high-level visits are critical to sustain a vibrant green partnership. Both sides need to work together to explore opportunities for joint collaborations, especially in research and development. The first India-EU business summit on Wind Energy scheduled to be held in 2026 is a laudable step. The creation of the EU-India Task Force on Green Hydrogen is yet another constructive initiative. Regular meetings of these forums with clear strategies for cooperation will add substantially to the expansion of the green partnership. The prospects and benefits of green partnership make it imperative for both sides to mitigate the existing complexities.

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