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From Grants to Green Bonds: Designing Equitable Financing Mechanisms for the India–Europe Green Energy Partnership

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Title

**From Grants to Green Bonds: Designing Equitable Financing Mechanisms for the India–
Europe Green Energy Partnership**

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Executive Summary

India needs a very large sum of money to move towards clean energy while still growing its economy and creating jobs. According to a study by the CEEW-Centre for Energy Finance (CEEW-CEF), India will need a cumulative investment of USD 10.1 trillion to reach net-zero carbon emissions by the year 2070. The study also says that there could be a shortage of USD 3.5 trillion to meet the net-zero pathway target. India would need investment support of USD 1.4 trillion from developed economies in the form of concessional finance by 2070 to bridge this gap.

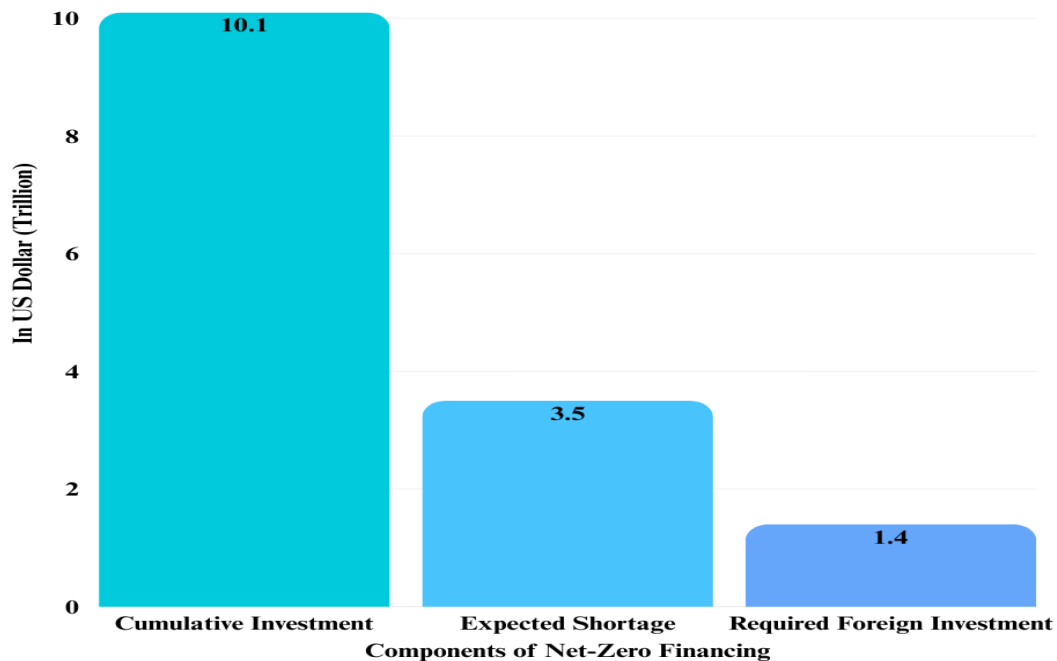


Figure 1: India's net-zero financing needs by 2070. (Source: Singh & Sidhu, 2021)

India and the European Union can work together to build fair and effective ways to shift towards clean energy. The EU has strong financial markets and experience in funding green technologies, which can support India's efforts. This paper examines the current state of green finance in India. The potential role of the European Union is also critically assessed. Key policy, financial, and institutional gaps are identified. Blended finance emerges as a central analytical focus. Sovereign green bonds are also evaluated as a financing instrument. Along with this, Joint EU–India investment platforms are explored and opportunities for cooperation in carbon markets are examined.

Introduction and Context

India can raise more money for clean energy by working with the following stakeholders:

- a. Private Investors
- b. Global Climate Organizations
- c. Development Banks
- d. Multilateral Institutions

India needs stable policies, and open systems to have market confidence. Indian banks and financial institutions should lead in providing green finance. New technology and skill-building can help reduce costs and implement green projects at a much faster pace. The government has already done changes to attract investment. Few of the change are:

- a. Allowing automatic approval for foreign investment.
- b. Improving power purchase agreements
- c. Setting up renewable energy parks and green corridors
- d. Making bidding processes easier.

India and EU can work together to fund projects related to clean energy transition. The EU has strong financial markets, long experience in climate action, and advanced green technology. The European Investment Bank (EIB) was the first in the world to issue a green bond in 2007, called the Climate Awareness Bond, and has since raised billions in many currencies to support renewable energy and energy efficiency projects.

The European Union issued €12 billion in green bonds in 2021 and crossed €60 billion by 2024 under its Next Generation EU programme, which supported green infrastructure, transport, and buildings. The EU has also created the European Green Bond Standard (EUGBS), which ensures that money raised is used for genuine climate projects, follows clear rules, and is checked by independent reviewers under the supervision of the European Securities and Markets Authority (ESMA).

India has also stepped into the sovereign green bond space. In early 2023, the Government of India issued its first sovereign green bonds, raising INR 80 billion (around USD 1 billion) on January 25, split equally between five-year bonds (coupon rate: 7.10%) and 10-year bonds (7.29%). A second issuance on February 9 raised an equivalent amount, bringing the total to INR 160 billion (around USD 2 billion). These bond auctions saw significant interest and the bids exceeded supply by over four times. Proceeds from these green bonds are governed by India's Sovereign Green Bond Framework, launched in November 2022 and assessed as "Medium Green" by Cicero for its alignment with international standards. By adopting practices similar to the EU, such as clear project standards, transparent reporting, and independent reviews, India can build investor trust and attract more funding. By partnering with the EU, India can access finance, technology, and expertise through joint

platforms and blended models. While the EU offers deep markets and strong policies, financial cooperation under the Clean Energy and Climate Partnership remains limited compared to India's vast needs.

Problem Analysis

The financial systems for green projects in India are not adequate. The amount of money required is huge. According to The World Bank, Indian cities will need about 2.4 trillion US dollars by 2050 and up to USD 10.9 trillion by 2070 to build climate-friendly infrastructure. The following are the challenges associated in funding green projects:

1. The cost of borrowing money in India is higher than in Europe. This makes green energy projects less attractive for private investors.
2. There are risks related to foreign exchange rates.
3. India does not yet have a clear rulebook/SOP on green projects.
4. The EU and India use different standards, so it is harder for investors from both sides to work together. TERI's report on green bonds says India should make clear rules, give tax benefits, and teach investors more about green finance so the market can grow.

Policy Options and Strategies

This section explains four main strategies that India and the European Union can use to make green finance fair and effective.

Blended Finance

Blended finance means using public money together with private money to fund projects. Public money can come from government budgets, development banks, or international climate funds. This money reduces risks, which makes private investors more willing to join. The Clean Technology Fund (CTF) supported by countries like the UK, US, and Germany, and working with the World Bank and other development banks is one such example of blended finance. It has around USD 5.8 billion in original commitments and has invested about USD 5 billion of its own money. This has helped attract much more money, about USD 36 billion in co-financing, with expectations to reach over USD 52 billion in total.

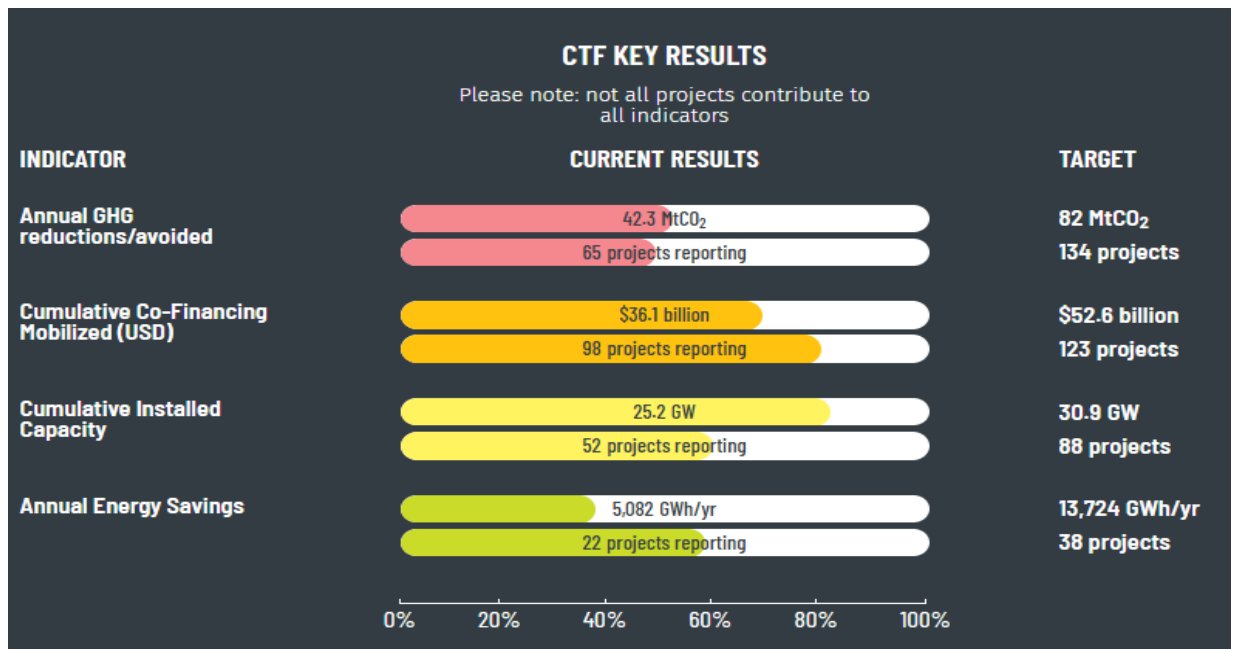


Figure 2: CTF key results against targets on emissions, financing, capacity, and energy savings.

Another example of blended finance is the Global Energy Alliance for People and Planet (GEAPP) backed by the Rockefeller Foundation, IKEA Foundation, and Bezos Earth Fund. It blends money from philanthropies, governments, and private firms to support clean energy projects in Africa, Asia, and Latin America.

One key example of blended finance demonstrating India–Europe resilience is Neev Fund II, a ₹100 million equity fund established by the European Investment Bank (EIB) and the State Bank of India. It invests in Indian small and medium-sized companies working in clean energy, electric mobility, water conservation, and resource efficiency. This fund mixes European money with Indian finance networks. It backs eco-friendly businesses, creates local jobs, and drives sustainable growth. A big win is its investment in RETAS Enviro Solutions. This climate-tech company makes modular rainwater tanks called Rainmaxx. Since teaming up with Neev Fund II, RETAS has captured over 75 billion liters of rainwater. That recharge boosts groundwater and helps communities fight water shortages and city floods.

Another key example is the India-UK Green Growth Equity Fund (GGEF). It's hosted by India's National Investment and Infrastructure Fund (NIIF) with UK government backing. Both sides kicked it off with GBP 120 million each (about USD 240 million apiece). The goal was to mobilize up to GBP 500 million (around USD 600 million) in total. It targets renewable energy, electric vehicles, and waste management projects in India. A success story from GGEF is its investment in Ayana Renewable Power, a clean energy platform that has reached over 1 GW (gigawatt) of operational renewable energy capacity.

India and the EU can boost green finance through common standards, guarantees, and local currency bonds. Joint issuances, blended finance, and retail options like savings bonds and mutual funds can attract investors, expand capital, and support India's low-carbon future.

Sovereign Green Bonds

Sovereign green bonds are issued by governments to raise money only for projects that help the environment. These projects can include renewable energy, clean transport, water systems, or climate adaptation. France's sovereign green bonds in 2017 showed that such issuances can be scaled effectively.

India entered the green bond market in 2023 with two sovereign bond issues worth about two billion US dollars. India and the EU can work together to make sovereign green bonds even more effective. They can build a common green standard so that investors know exactly what qualifies as a green project. Both sides can also issue bonds together, which would attract bigger pools of global investment. Cross-border platforms could be set up to bring European pension funds and Indian institutions into the same projects. So far, sovereign green bonds have mostly attracted large investors. India and the EU can create green savings bonds that allow people to invest small amounts. Digital platforms and mutual funds can also give people direct access to certified green projects.

Joint Investment Platforms

Joint investment platforms pool finances from various stakeholders to fund large projects. Funding agencies may include governments, banks, private investors and multilateral institutions. For countries like India and regions like the European Union, such platforms can make it easier to connect European capital with India's growing demand for sustainable infrastructure.

One strong global example is the Global Infrastructure Facility (GIF), hosted by the World Bank. The GIF brings together governments, development banks, and private investors to prepare and fund large infrastructure projects, including clean transport and renewable energy. A standout project is the solar power pilot auction program in Vietnam, where GIF funded \$1.5 million to help the country transition to competitive solar power auctions and attract private investment.

Another key example is the Green Climate Fund (GCF), the world's largest dedicated climate fund. It works with accredited international and regional institutions to co-invest in projects ranging from renewable energy to climate-resilient agriculture.

India and Europe already have some good examples of joint investment platforms. For instance, the NIIF Master Fund has attracted billions in equity commitments, creating space for international partners to co-invest in clean energy and climate-resilient projects.

Another promising model is the India–UK Green Growth Equity Fund (GGEF), which operates under NIIF and channels joint investments into renewable energy, electric mobility, and waste management. While we discussed GGEF earlier as a blended finance case, it is also an investment platform because it pools resources from multiple investors, including sovereign funds, multilateral institutions, and private capital. Its success story with Ayana Renewable Power, which has built more than 1 GW of renewable energy capacity, highlights how these platforms can scale up clean energy in India.

India and the EU can build stronger platforms by setting common green standards, offering guarantees, and using local currency funds. These platforms should combine finance with European technology and focus on renewable energy, clean mobility, resilient cities, and climate adaptation projects.

Carbon Market

Carbon markets allow countries, companies, and even individuals to trade credits for reducing greenhouse gas emissions. This creates financial value for climate action and makes it cheaper overall to fight climate change. One of the best-known cases is the European Union Emissions Trading System (EU ETS). Launched in 2005, it is the world's largest carbon market, covering power plants, industries, and airlines within Europe. The system sets a cap on emissions and allows companies to trade allowances. By 2021, EU ETS had helped cut emissions from covered sectors by about 41% compared to 2005 levels. Another global example is the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) run by the International Civil Aviation Organization (ICAO). This program makes airlines offset part of their emissions by buying carbon credits from climate-friendly projects worldwide.

India has also set up its own Carbon Credit Trading Scheme (CCTS) under the Energy Conservation Act of 2022. This will allow Indian industries to earn credits for reducing emissions and trade them in a regulated market. The European Union, with its long experience in running carbon markets, can directly support India by sharing rules, digital platforms, and monitoring systems. Another emerging space is the India–EU Clean Energy and Climate Partnership. While it has so far focused on renewable energy and energy efficiency, it could evolve into direct cooperation on carbon markets.

India and the EU can bolster carbon markets by establishing shared standards for credible carbon credits. This enhances transparency and draws investor interest. Market linkage would enable Indian firms to sell credits

directly to European buyers, channeling foreign capital into the region. Investments in satellite monitoring and digital registries will ensure precision and reliability. Revenues from carbon markets must also support local communities, including farmers and forest dwellers. In the future, a joint India-EU platform could facilitate seamless credit trading. It would advance renewable energy and reforestation efforts, while extending to South Asia to attract broader green investments.

Conclusion

India's shift to clean energy is one of the boldest worldwide. But it needs steady, big, and cheap funding. The EU fits perfectly. It has deep capital markets, a strong track record in green bonds, and real climate leadership. Tools like blended finance, sovereign green bonds, joint platforms, and carbon market ties already lay a solid groundwork.

Now, it's time to grow these efforts. Harmonize green standards. Set up clear ways to pull in public and private cash. Link India's huge need for green infrastructure with Europe's money and tech. That creates fair, effective financing. Share risks and rewards evenly. Make sure local communities win, not just investors. Build in long-term strength.

A joint India-EU green finance setup could be a global blueprint for North-South teamwork. It shows how climate action and growth go hand in hand. This speeds India's net-zero journey and cements Europe's climate lead. Together, they prove inclusive sustainable finance sparks both growth and toughness.

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