3.1 The Reds in the Greens: Challenges to Green Finance

Sh. Vaibhav Singh

Abstract

As the spectre of climate change induced extreme weather events, associated disasters and a long-term alteration of the familiar environment looms large, the need to transition to greener and more sustainable development pathways has never been more urgent. In this scenario, the need for timely availability of finance that is affordable and willing to sustain through the length of a green project becomes pertinent. However, the recent trends in the market point to a declining appetite for 'greeniums' that reflect the premium that investors are ready to accept while investing in such instruments. This is in the form of lower yields of financial instruments that the investors accept in lieu of the fact that money raised is being used to fund green transition.

Keywords

Cyber-attacks, Network Infrastructure, Vulnerabilities, Network Infrastructure Security

The Challenges in the Sovereign Green Bonds Market in India

The cancellation of the 30-year green bond auction in June 2025 by the Reserve Bank of India (RBI) is a case in point. Bids worth ₹10,943 Crore were received against a ₹5,000 Crore target. However, the bids for yields were in likelihood higher than the RBI's tolerance level (ET Bureau, 2025). Although, the prevailing Middle-Eastern geopolitical tensions at that time are also to blame for the increased yield demand, it is significant to note that previously in May 2024, a 10-year green bond issue was also cancelled, indicating a fundamental mismatch between the Central Bank's expectations and market demand (Trivedi, 2025). The greenium provides a buffer for issuers to raise cheaper finance by reducing the yields. However, globally as geopolitical uncertainties reduce investor appetite, the increased yields by 20-50bps eat into the 7-17bps historical greenium buffer (Trivedi, 2025). In this scenario, India's historically low greenium, 2-3bps reflects an inherent challenge of a yet to fully mature market (Trivedi, 2025).

This challenge for raising green finance through Sovereign Green Bonds (SGB) has been plaguing India since their launch in 2022-23. In this scenario, the

Government's target for FY26 of mobilizing ₹25,342 crore through SGBs seems to be a herculean task. For FY25, SGBs had risen from ₹20,785.60 crore in FY24 to ₹25,297.89 crore in FY25 but were short of the target of ₹32,060.86 crore (Kundu, 2025). For FY26, SGBs were intended to fund schemes like *KUSUM,* the Green Hydrogen Mission, *PM Surya Ghar Muft Bijli Yojana,* etc. among other projects like metro constructions, energy efficient locomotives, etc.

In this scenario, while the Government might be able to raise funds through conventional bonds or other alternatives, it becomes however, pertinent to confront the challenges of raising finance for a green transition. Importantly, though these challenges pertain to the Government only, the scenario is equally difficult for corporate issuers as well. Though, that is a matter of discussion for some other day.

Tiding Over the Challenge: Innovating for a Better Finance Landscape

The world needs investments of upto $3-6 trillion annually until 2050 to meet the 1.5 °c Paris Agreement target and here green bonds are one of the key instruments (Policy Circle Bureau , 2025). Thus, resolving issues of investors is important to bridge the finance deficit while also integrating innovative financial instruments to further the cause. In this scenario, it becomes important to integrate bonds with traditional financial institution-based credit to fund green projects as also pointed out by Dr. Ajay Mathur, former Director General of the International Solar Alliance (Mathur, 2024). Developing on an illustration of a power plant, he draws an interesting parallel in the finances of a 100 MW coal and an equivalent solar+wind+storage plant. He argues a role for financial institutions in providing the initial capital for projects in terms of credit while reducing its tenor. As a comparison he argues that a viable 100 MW coal plant would need ~₹900 Crore while the equivalent renewable energy plant would need ~₹1900 Crore. In this, the gap of ₹1000 Crore can be bridged by reducing the tenor of the credit as the coal plant would take 4 years to start producing electricity while the renewable plant would be up and running by the second year. Afterwards, a viable plant can then raise a bond from the market to repay the loan and therefore, free the bank's book to ensure that the availability of capital by recirculating the same limited capital into the market. Thus, integrating bonds as a next step in the finance cycle can aid institutional capital achieve scales while mobilizing markets to pitch in to fill the gaps.

At the same time, it is pertinent to build markets for SGBs by making it compulsory for pension funds and other social security funds to invest a part of the corpus in them. Additionally, green bonds raised at the level of local governance institutions like ULBs and District Panchayats with tangible delivery timelines on the ground can be furthered to democratize the climate finance landscape. Herein, corporates can be encouraged to invest while local prominent cooperatives can be engaged for the purposes of ensuring due diligence in proper utilization of available financial resources. When we are celebrating the International Year of Cooperatives, it is important to recognize their potential in furthering climate goals. Amul, for example, with its vast membership of dairy farmers can help induce climate friendly practices in the sector while also encouraging better outcomes for its members. In this respect, therefore, mobilization of green finance right at the grassroots level can enhance its efficiency.

Green Finance for a Greener and a More Stable Grid

While overall market sentiments affect the allocation of resources across sectors, it is important to ensure that overall certainty remains aligned in favour of green sector's growth potential. To ensure that, strict vigil over 'greenwashing' practices and ensuring their non-proliferation is important to retain investor confidence. Along with that, a better prioritization of renewable energy infrastructure projects is needed to build a sustainable energy generation model which is self-contained. It has been observed that grid-level planning remains an afterthought while installing renewable energy plants. The case in point is the rapid expansion of renewable energy infrastructure in the past decade in India without corresponding increase in either energy storage or other alternatives like nuclear energy to replace the thermal power that remains the only baseload generation source. Temporal and seasonal variations in the renewable energy sources production is a cause of concern when, for example, the evenings in summers see a dip in solar generation while energy demand rises for cooling applications. Currently, India has around 212 GW renewable capacity, including large hydro. At the same time, coal-based thermal capacity stands at 220 GW with just 7% growth post FY20 (Walia & Sasi, 2025). At a time when plant load factor is already high, ramping up thermal power generation to bridge shortfalls becomes difficult, leading to energy shortfalls in peak usage hours.

From an energy sector perspective, such structural issues challenge investor confidence in funding instruments devised to finance such renewable energy projects that might face viability challenges due to grid-level uncertainties. This is reflective of a siloed project planning. Hence, devising an integrated grid-level master plan and then allowing SPVs and local level governance bodies to raise climate finance can help overcome some of the challenges.

Future Oriented Funding: Finance for R&D

Climate finance for green energy transition however, is just one of the many facets of the sector. Funding for research and development which remains dismal, especially in India where whole R&D spend across sectors hovers around 0.6% to 0.7% is a cause of concern as well. Innovative technologies and solutions require stable capital that is willing to incubate an idea and also willing to bear the risk of failure. Mobilizing public and private resources here is important wherein government has undertaken the Anusandhan National Research Foundation with an outlay of ₹50,000 crore during 2023-28, of which ₹14,000 crore would be from the Central Government and remaining mobilized through donations from private sector and public enterprises (PIB, 2024). Here, initiating special InvITs-like funds with a prospect of benefiting their investors by means of breakthrough research can be one of the ways complimenting the broader idea while going forward.

Thus, challenges in green finance that appear as ‘reds’ in the ‘greens’ need to be recognized and addressed. This can partly be done by means of creating greater markets for instruments like Sovereign Green Bonds by including them into pension and other social security investment funds’ allocations as has been discussed above. Furthermore, generating awareness about these instruments by emphasizing over their long-term stability as an investment instrument while adopting higher and better disclosure standards can help generate greater interest (Gupta, n.d). Making use of instruments like InvITs to fund green infrastructure projects is another possibility. Furthermore, the integrated development of projects aligned with climate friendly goals across sectors can help boost synergy that enhances investor confidence. As discussed above, undertaking projects with a ‘whole-of’ approach rather than in siloes while anticipating the future linkages ahead of the curve can help make projects financially viable at the earliest, allowing faster recirculation of limited resources. The investors should be able to see the vision of a solved jig-saw puzzle before they are expected to bet on individual pieces to fit in and solve the issues at hand. Thus, conceptualization in itself should be the most robust stage of a project in order to attract finance. Furthering alternative investment models while reducing project turn-around times is important to boost the availability of capital in the market. However, in all this, it is important that countries that have been historically significant polluters and emitters pay their fair share of the dues and also share clean technologies with all other countries, especially the emerging and developing economies to facilitate a smoother transition towards a more climate-friendly world order. Till then, it should be our endeavor to ensure the greening of all the ‘reds’ in the way of our green future.

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Author's Profile

Mr. Vaibhav Singh is an Officer Trainee of the Indian Police Service (IPS), 2025 batch, who has undergone the Special Foundation Course at the National Communications Academy – Finance (NCA-F), Ghitorni, New Delhi. He holds a Bachelor's degree in Political Science (Honours) from Kirori Mal College, University of Delhi, where he developed a strong academic grounding in governance, public affairs, and socio-political processes.

He has a keen interest in policy matters, particularly those focused on building a future-ready, sustainable, and resilient society. His engagement with contemporary governance issues reflects a forward-looking perspective anchored in evidence-based thinking and institutional accountability.