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Bargaining with the ‘Empire’: Strategic subordination and dollar dependence in India’s energy transition

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Abstract

India’s green transition is framed as a vision of energy security, developmental ambition, and strategic autonomy. We argue, however, that the expansion of renewable energy in India increasingly depends on financial circuits embedded in the US dollar-centered global credit hierarchy. Through a Global Credit View, we surface how the Indian state pursues energy sovereignty through a strategic dependence - building and deploying public institutions that de-risk projects, stabilise revenue streams, and render renewable infrastructure investable for transnational capital. Focusing on critical institutional nodes, we trace how they convert domestic energy assets into financial claims suited to offshore credit markets. This architecture enables rapid scale-up and preserves state-led directionality in institutional terms, yet it also deepens exposure to currency volatility, global financial cycles, and creditor discipline. India’s energy transition, we argue, is therefore not only a techno-industrial project, but also a monetary settlement structured by ‘strategic’ subordination.

Keywords: energy transition; transition finance; infrastructure governance; energy gigantism; global credit hierarchy

1. Introduction

The persistent hegemony of the U.S. dollar (USD) as the global anchor currency remains a fundamental inquiry within contemporary global political economy. As Murau and Schwartz (2025) observe, this dominance necessitates an investigation into the co-evolution of monetary and political power and the structural implications of its resilience. For energy transition researchers, the analytical focus has traditionally centered on the techno-economic ‘process’ and material ‘outcomes’ of decarbonization - often dictated by the logic of electricity gigantism (Shidore & Busby, 2019). In our previous comparative research in an international consortium (ReSET), our analytical focus was on the sequence of imagination, rules, and the materiality of infrastructure (eg. Haldar et al., 2024; 2026; Peddibhotla et al., 2024). However, this focus largely bypassed the monetary foundations, specifically the credit systems upon which these multi-scalar transitions are precariously built.

Historically, the assumption grounded in the Sovereign Credit View (SCV) has also steered the understanding of how the vast capital required to trigger and sustain an energy transition is mobilised. This perspective posits that financing emerges from sovereign value generation,

predicated on asset quality, demand stability, and managed through consistent revenue flows. It assumes a state of relative autonomy, where equity/debt formulations are secondary to sovereign capacity. Yet, emerging scholarship contends, the SCV owing to its insufficiency to account for the scale of offshore, USD-denominated credit creation by non-U.S. private and public financial institutions (Murau & van't Klooster, 2023). This theoretical gap prompts us towards a critical inquisition into the nature of 'subordination' within the energy transition. Beyond acknowledging the presence of blended finance, there is a requisite for the structural quantification of this schema to understand how subordinate financial systems are tethered to the U.S. dollar core.

Adopting the Global Credit View (GCV) allows for a more nuanced understanding of how credit instruments operate within an adaptive network of interlocking balance sheets (Murau & Schwartz, 2025). This framing is particularly salient in the case of India -one of the world's fastest-growing economies (International Monetary Fund, 2025) and a third largest emitter in the global climate landscape (IEA, 2023). India's energy transition provides an ideal site for GCV analysis due to the sheer volume of its renewable energy (RE) targets - 500 GW of non-fossil capacity by 2030, and the highly complex institutional architecture engineered to finance this ambition (Haldar et al. 2023). Using this lens, we explore the Indian context to determine how the pathway for energy transition is constructed through these balance sheets, linking domestic instruments to the global dollar hierarchy. A central fascination of this inquiry is the co-evolution of public and private credit realms. Specifically, we investigate how public actors facilitate private credit creation by underwriting risk through the aggregation or manipulation of multiple balance sheets - effectively acting as de-risking intermediary for the global hierarchy. The theoretical distinction between state-based and market-based theories of money (Kalb, 2023) further provides a vital framing. We examine whether established state structures define the monetary system, or if, conversely, a prior form of market-generated monetary system serves as the foundational condition that intersects with and shapes the development of state capacity.

Exploring these questions is critical because the current global energy transition is frequently presented as a path toward national 'strategic autonomy' or 'energy sovereignty'. However, if the financial architecture of this transition is anchored in the offshore dollar system, the pursuit of green sovereignty may inadvertently deepen structural financial subordination. Understanding this paradox is essential for assessing the long-term viability of the Indian 500 GW decarbonization goals. Without uncovering the monetary dependencies, policymakers risk building high-tech infrastructure on a volatile credit foundation that remains vulnerable to the convenience yield of the dollar and the global financial cycle.

By situating India's energy transition within this monetary framework, we move toward a structural analysis of how India's and similar green transitions are integrated into the transnational credit hierarchy. This leads to the central inquiry of this study:

How does the Indian state deploy specialized institutional mediators to navigate the structural tension between its domestic developmental imperative for electricity gigantism and its systemic subordination within the USD-dominated global credit hierarchy?

Specifically, we ask - to what extent the manufacture of AAA-legibility through these nodes provides a viable pathway for transition finance, and what the resulting duration risks and currency volatilities imply for India's long-term strategic autonomy.

2. Methods

To address this question, we employ a financial mapping approach to investigate the monetary foundations of India's energy transition. Centered on the Global Credit View (GCV) (Murau & Schwartz, 2025), we examine the structural 'tethering' of balance sheets of key institutional nodes in India's RE sector. Tethering refers to the institutional mechanisms through which domestic financial instruments are anchored to the offshore dollar system via hierarchies of credit and state-backed risk guarantees.

This analysis focuses on three purposively chosen institutional nodes that represent the primary pillars of India's transition finance - the Solar Energy Corporation of India (SECI), Rural Electrification Corporation (REC) Limited, and the National Investment and Infrastructure Fund (NIIF). SECI serves as a central counterparty for risk-intermediation; REC - a sovereign liquidity engine for credit expansion; and NIIF - a conduit for capital interlocking and assetization.

The data corpus consists of document analysis of primary institutional sources, including annual reports (2014-2026), power purchase and sales contract structures, and financial newsletters from the selected entities. This is supplemented by secondary reports from the Climate Bonds Initiative (CBI) and the Reserve Bank of India (RBI). We hence trace the how these institutions transmute domestic operational frictions into bankable assets to secure integration into the transnational credit hierarchy.

3. Global political economy & India's energy transition

The contemporary shift towards renewables in the Global South- including India, is not merely a technological substitution but a massive and complex state-led, sociotechnical transition dictated by the political-economic notion of electricity gigantism (Swilling, 2019). Evolving from India's 1990s focus on addressing supply deficits and modernization, its current strategy centers on the pursuit of 500 GW of non-fossil fuel capacity by 2030 and a net-zero commitment by 2070 (Damodaran & van den Heuvel, 2023). However, this domestic push for sovereignty is structurally intertwined within the global credit hierarchy - centered on the offshore U.S. dollar (Crawford, 2023). To understand India's transition finance architecture, one must employ the Global Credit View (GCV), which reveals how the state's domestic 'market-making' labor is fundamentally a response to the requirements of transnational capital and the constraints of dollar-denominated credit (Murau & Schwartz, 2025).

India's energy trajectory has progressed through three distinct policy phases, each intensifying the state's role as a de-risking intermediary. The initial phase (1990s–2003) focused on modernization and attracting Foreign Direct Investment (FDI) through the early liberalization of the power sector. This was followed by the landmark Electricity Act of 2003, which introduced market-oriented competition and unbundled state utilities. The current phase, beginning with the National Solar Mission in 2010, marked a shift toward utility-scale solar gigantism, scaling targets from an initial 20 GW to an unprecedented 500 GW (Bardhan et al., 2019; Shidore & Busby, 2019).

On this trajectory, the Indian state has transitioned from a passive regulator to an active market-maker, shaping a state-led energy transition in a developmental polity, driven by the need for energy sovereignty and global image-building (Shidore & Busby, 2019). Central to this architecture are the Ministry of New and Renewable Energy (MNRE) and the Solar Energy Corporation of India (SECI). SECI, in particular, acts as a critical institutional buffer; as an intermediate procurer, it purchases power from developers and sells it to distribution companies (Discoms). By managing a robust Payment Security Mechanism (PSM), SECI provides the quasi-sovereign comfort necessary to insulate global developers from the revenue risks of financially distressed distribution utilities (Discoms), whose cumulative liabilities currently exceed USD 5000 billion (Jaspal, 2023). This institutional stabilization is the prerequisite for the second pillar of the blueprint: the transmigration of the transition's funding base from domestic fiscal outlays to international financial circuits.

Such strategic pivot from government budgetary support to a complex web of onshore and offshore debt markets is a deliberate response to severe domestic structural bottlenecks. The political economy of India's power sector is hamstrung by a redistributive welfarism where industrial consumers subsidize low-income households, contributing to a chronic Discom debt crisis that limits domestic fiscal space (Dubash et al., 2019). Furthermore, the domestic financial sector faces a severe asset-liability mismatch. Public sector banks, which hold roughly 70% of banking assets, are constrained by short-term deposit bases (typically up to 8 years), whereas RE projects require long-term debt (about 25 years) (Colenbrander et al., 2023).

To balance these internal deadlocks while maintaining transition momentum, the state actively steers the RE sector toward the global credit system. This is achieved through the 'assetization' of infrastructure - converting physical solar and wind projects into tradable financial claims via a sustainable debt market that reached a cumulative USD 55.9 billion by the end of 2023, encompassing green, social, and sustainability bonds (Climate Bonds Initiative, 2025). However, critical limitations have been surfaced in this value chain - including the inability of domestic refinancing institutions to securitize their liabilities effectively (Damodaran & van den Heuvel, 2023). Consequently, the national transition strategy necessitates making the sector lucrative to global credit by attempting AAA-legibility through vehicles like the National Investment and Infrastructure Fund (NIIF), which acts as a sovereign shield, internalizing domestic friction to secure safe yield for global Limited Partners (LPs) (Jaspal, 2023).

This strategic internalization of risk effectively tethers India's energy transition to the offshore dollar system. The shift from domestic budgetary support to global market-based financing transforms the state's de-risking labor into a mechanism for value extraction by the core financial institutions- creating a gateway between domestic institutional strategy and the structural logic of the global credit hierarchy. This very lucrativeness engineered to bypass domestic bottlenecks simultaneously subjects the transition to the volatility of global financial cycles (Dave, 2025). Through the lens of the Global Credit View (GCV) - India's transition architecture is defined by a strategic 'subordinate financialization'. Despite seeking energy sovereignty, India's reliance on offshore debt reinforces its dependence on the Offshore Dollar System (Siddiqui, 2026). Emerging economies like India continue to suffer from the 'original sin' i.e., inability to borrow abroad in its own currency. This forces Indian firms to rely on dollar-denominated external debt, exposing green projects to currency volatility and the convenience yield of the dollar (Dave, 2025).

This structural dependency means domestic monetary policy must frequently shadow the U.S. Federal Reserve to maintain financial stability, as exchange-rate pass-through and global financial cycles tighten domestic conditions. Furthermore, the debt servicing costs - often 24% to 32% higher in India than in the U.S. or Europe, is a risk premium that reflects the peripheral currency's position in the global credit hierarchy (Damodaran & van den Heuvel, 2023). Even large private players are forced into compliance with Western financial chokepoints, as the transnational web of dollar-denominated balance sheets overrides domestic autonomy (Siddiqui, 2026).

The Indian state has responded to these global hierarchical pressures through strategic resistance to preserve its policy sovereignty. For instance, India has pointedly avoided multilateral frameworks perceived as potential 'debt traps,' such as the G7-led Just Energy Transition Partnerships (JETPs), fearing that international conditionalities would infringe upon its domestic coal phase-down timeline and economic control (Nadaf, 2026). This strategy extends to the monetary sphere, where India has blocked proposals for a common BRICS currency to protect the monetary independence of its Central banking and regulatory authority- Reserve Bank of India (RBI), and avoid substituting dollar hegemony for Yuan dominance (Bhatia et al., 2025). Similarly, the withdrawal from the Regional Comprehensive Economic Partnership (RCEP) in 2019 and the vocal criticism of Chinese-led debt-trap diplomacy are also indicative of the State's commitment to trade autonomy and the prevention of regional insolvency (Singh, 2020). By prioritizing bilateral models like the Local Currency Settlement (LCS) with the UAE and utilizing domestic levers like Priority Sector Lending (PSL) mandates, India attempts to conduct energy trade while bypassing the risks of dollar-centric financial chokepoints (Cao et al., 2025).

Hence, the blueprint of India's transition finance reveals a precarious balance between the state's labor of de-risking to maintain the sector's lucrativeness for global capital, while simultaneously navigating a dollar-centered hierarchy that dictates the price and pace of its 500 GW decarbonisation agenda.

Considering this policy of 'strategic subordination' to accelerate energy transitions in India, we now zoom in on key institutional nodes – the Solar Energy Corporation of India (SECI), Rural Electrification Corporation (REC), and the National Investment and Infrastructure Fund (NIIF). This case-based approach allows us to surface mechanisms through which this state led institutions transmute domestic RE project risks into standardized assets for the global credit hierarchy.

4. Key institutional mediators of the global credit hierarchy

India's total mitigation investment requirements to achieve Net Zero by 2070 is estimated at around USD 22.7 trillion, reflecting an additional financing requirement of around USD 8.1 trillion. Within this, the power sector accounts for over 50 percent of investments- driven by renewables, transmission, and storage (NITI Aayog, 2026). Hence, mandating the need for massive, accelerated, and long-term capital mobilization.

Both in the Current Policy Scenario (continuation of existing policies and slower uptake of new clean technologies), Net Zero scenario, and the incremental investment demand is dominated by the power sector (Figure 1). For instance, the power sector accounts for about USD 4.5 trillion out

of the total incremental investment needs (USD 8.1 trillion). This indicates that although enabling low carbon transition in transport and heavy industry remains challenging, a significant proportion of India’s financing challenge attributes to power sector transformation, which in turn can accelerate low carbon transition in other sectors through electrification.

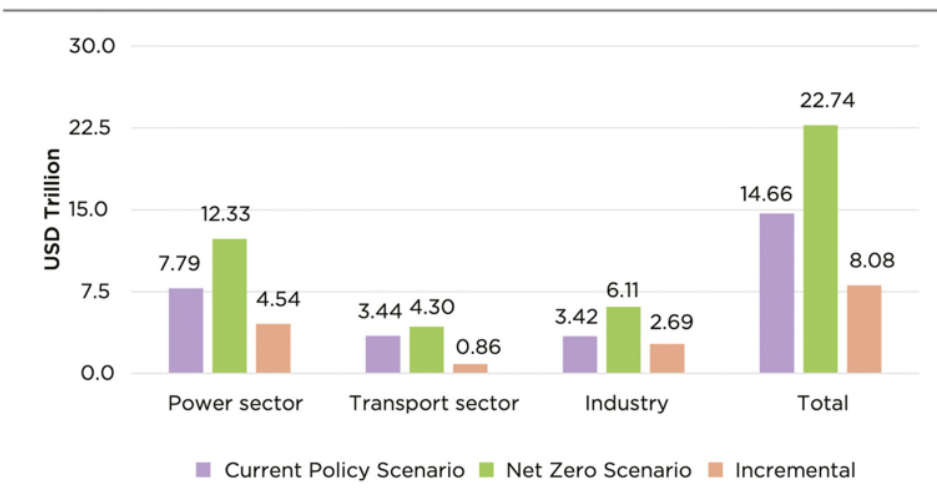


Figure 1: Sectoral estimates of cumulative and incremental investment needs
Source: NITI Aayog, 2026

To finance India’s power sector transition, a bulk of investment is estimated to be driven by both state-owned and private corporations- in the form of equity or debts. Within this landscape, specialized public-sector Non-Banking Financial Companies (NBFCs) - specifically the Power Finance Corporation (PFC), Rural Electrification Corporation (REC), and the Indian Renewable Energy Development Agency (IREDA)- serve as the primary conduits for debt mobilization. Yet, the scalability of the transition depends on a broader institutional framework capable of bridging the gap between global capital markets and local project risks. Consequently, to understand the full architecture of renewable energy finance, in addition to the supply of credit, we must also look into the mechanisms of institutional absorption and bankability. This requires an analysis of the Solar Energy Corporation of India (SECI) and the National Investment and Infrastructure Fund (NIIF). SECI operates as a pivotal risk-intermediary; by standardizing procurement and providing payment security, it transforms idiosyncratic physical projects into standardized assets for institutional lenders. Similarly, NIIF functions as a collaborative platform that anchors large-scale infrastructure by hybridizing domestic sovereign capital with global institutional equity. We analyze the three cases -REC, SECI, and NIIF- as the critical institutional nodes through which the Indian state negotiates its energy transition, functioning as a transmission mechanism between local infrastructure requirements and the structural demands of the global currency architecture.

4.1 Rural Electrification Corporation (REC)

REC Limited, alongside PFC, serves as a cornerstone of India’s power-sector financial architecture and a strategic node within the global currency hierarchy. Originally incorporated in 1969 to facilitate rural electrification, REC has evolved into a sophisticated 'Maharatna' non-banking financial company (NBFC) that mediates credit across the entire energy value chain (REC Limited, 2026). Within the GVC framework, REC is an active institutional node in the offshore dollar

system. By becoming one of the first Indian Public Sector Undertakings (PSUs) to issue green bonds amounting to USD 450 million (Sarkar & Khurana, 2024), REC functions as a transnational credit intermediary. Through the creation of these offshore liabilities, REC systematically converts local infrastructure collateral into global safe assets, effectively pumping dollar-denominated credit into India’s renewable energy transition to finance wind, solar, and renewable purchase obligations and refinancing requirements.

To move beyond the institutional role of REC and examine the reality of its credit mobilization, we now map a decade of borrowing that illustrates the systematic 'dollarization' of the Indian power sector’s financial base (Figure 2).

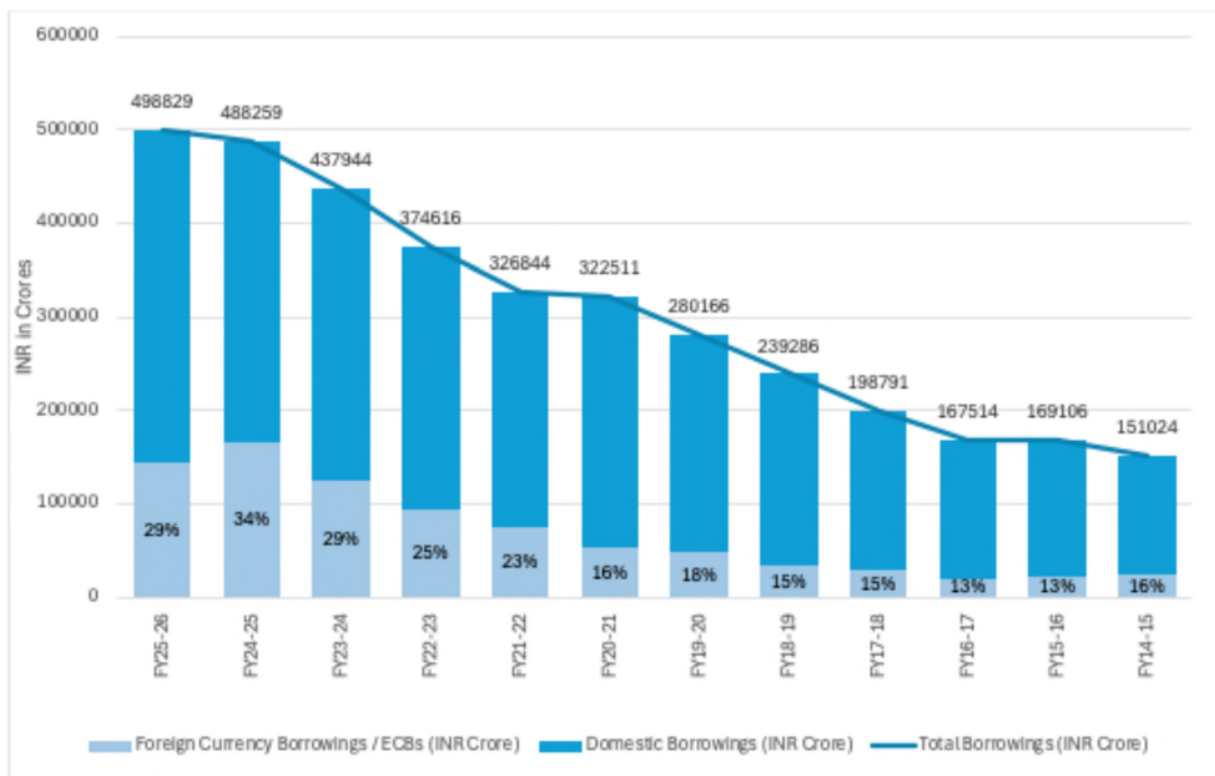


Figure 2: RECs borrowing profile (FY 14-15 to FY 25-26)

Source: Author’s composition (collated from REC financial presentations)

The longitudinal data reveals a structural inflection point in REC’s financial architecture post FY 2021-22. After maintaining a stable (around 15%) reliance on offshore credit for over half a decade, the corporation's foreign currency liabilities surged to 34% of the total borrowings by FY 2024-25 with a slight decline in recent numbers. In tandem with the stretching of the offshore dollar system into the Indian periphery, the total borrowings also grew significantly (49 % approx. between FY 21-25). Over the same period, the foreign currency borrowings outpaced the total balance sheet growth -surging by 119 % approx. This reflects that India’s physical energy infrastructure is fundamentally being leveraged against the elasticity of the

offshore dollar system. Figure 2 demonstrates that REC's massive expansion in the 2020s was only possible by becoming a subordinated node in the USD credit system, accepting dollar-denominated liabilities to fund domestic energy assets. The fact that more than one-third of REC – the PSU with highest level of Indian state ownership is owed to the offshore dollar system is an example of the interlocking of balance sheets and the blurring of lines between 'state' and 'markets'. The Indian state leverages its sovereign creditworthiness to manufacture safe assets (eg. REC bonds) that can draw global investments. Hence the role of the state shifts from merely regulator to guarantor -leading to the safe extraction of returns from India's energy sector by the American transnational empire.

The financial architecture supporting energy transition is also encoded in REC's cost-yield dynamics. As demonstrated in Figure 3, REC's cost of funds dropped from between 8.13 to 8.50 % in the early FY 2015 -17, to between 7 to 7.30 % starting FY 2018. The cost of funds excludes exchange rate fluctuations. Notably the cost remained fairly stable even during the global interest rate hikes between 2022-24 (Schäfer & Semmler, 2024), reflecting that the Indian state (through REC) is acting as a shock absorber by internalising currency and volatility risks onto its broader sovereign balance sheet. Looking at the Yield (interest income from interest earning loan assets), we observe a compression from 12.3% in FY 2015 to around 10% in the current period. This reflects the standardization and financialization of the energy transition in India. A decade ago, RE projects were idiosyncratic, i.e., high risk, domestically isolated, and non-standardised. With a compression- the power sector has been made legible to global finance. Standardized Power Purchase Agreements (PPAs) and SECI's intermediation- RE infrastructure is rapidly being translated into interest-bearing financial product (Chandra, 2025). This trend does not just signify cheaper energy; rather it indicates a deeper 'assetization' of energy projects, leveraging the transnational empire's financial architecture to subsidize domestic climate goals.

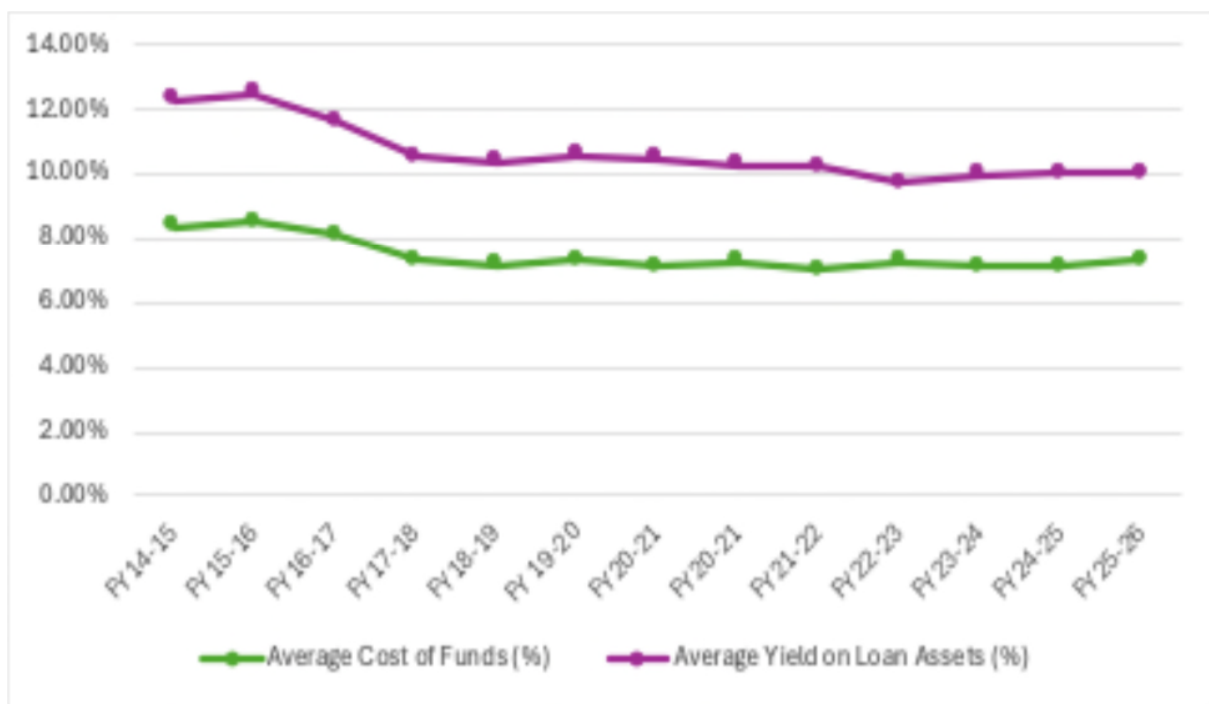


Figure 3: Longitudinal view of RECs cost-yield dynamics

Yield=Ratio of interest income to average interest earning loan assets

Cost of funds=Ratio of finance costs to average borrowings, without foreign exchange fluctuation gain/loss amortized.

Source: Author's composition (collated from REC financial presentations)

Looking at the difference between yield and cost, there is a persistent margin of between 2.7 to 3%. To build the physical assets (e.g. solar parks, smart grids) necessary to achieve India's decarbonisation goals by 2070, there is a need for immediate credit that cannot be generated solely domestically as discussed above. Hence while REC receives the 10% approx. yield, 70% of this interest income (cost of funds) is captured by the global dollar hierarchy. The intermediary margin for REC (approx. 30%) is used to manage domestic disks.

Thus, the longitudinal view of REC's cost and yield spread demonstrates how India operationalises a policy of strategic subordination to bypass domestic financial constraints and accelerate its energy transition.

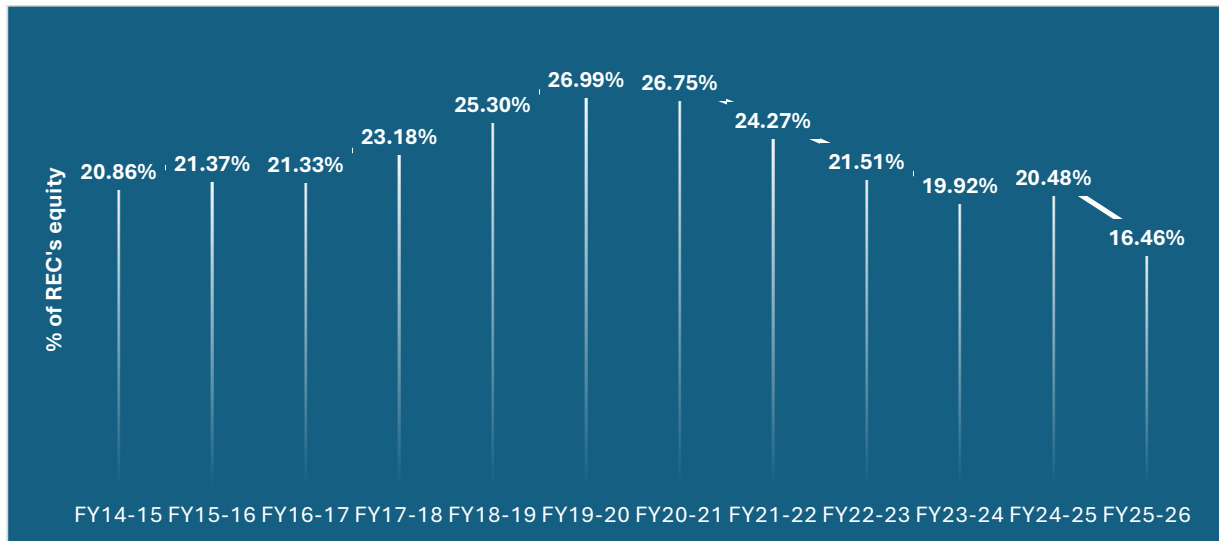


Figure 4: Proportion of Foreign institutional investor (FII) shareholding in REC
Source: Author's composition (collated from REC financial presentations)

Figure 4 reveals a qualitative shift in the quality of India's integration into the global financial architecture rather than a straightforward break from it. While REC's foreign currency borrowings have expanded sharply (figure 4), foreign ownership through FII has simultaneously retreated, pointing to a reconfiguration in the form through which external capital is embedded in India's energy financing.

Empirically, this takes the form of an inverted-U curve, i.e., FII shareholding rose from around 21% in FY2014 to nearly 27% in FY2020, before declining steadily after 2020 and dropping to 16.46% recently. Read alongside the rise in dollar debt; this is best understood not as foreign exit, but as a debt-equity cross that marks a more sophisticated phase of strategic subordination.

From a GCV, the shift matters because debt is more powerful than equity in the hierarchy of subordination. Equity represents relatively mobile risk capital, contingent on profitability and investor sentiment; debt, by contrast, is structural, and contractual. The movement from foreign ownership to foreign credit therefore suggests that external capital is shifting from shareholder role to creditor, seeking guaranteed interest-rent rather than exposure to operational risk. At the same time, the retreat of FII equity appears to be cushioned by domestic institutional investors, indicating a state strategy of domestic ownership, global financing. Hence, retaining strategic control over critical infrastructure while relying on systemic credit and the credit elasticity of the global dollar hierarchy for scale.

4.2 Solar Energy Corporation of India (SECI)

If REC serves as a central institutional node that pumps transnational credit, SECI plays the role of an institutional filter that streamlines operation through standardization of Indian RE projects-making them bankable for the American transnational empire. SECI was incorporated in 2011 as a not-for-profit company by the Government of India. It was later converted into a commercial company (2015) – now a 'Navratna' Central Public Sector Utility with major stakes in energy infrastructure development. The company covers multiple domains as a RE implanting agency,

including power trading, setting up RE projects with own investments, consultancy services on feasibility, commissioning, bid processes etc. (SECI Ltd., 2026).

The distribution sector has persisted as the primary structural bottleneck in India’s energy transition since the neoliberal unbundling and deregulation of the power sector in the early 1990s (Sharma et al., 2005). Even the relatively higher-performing Distribution Companies (DISCOMs) exhibit chronic financial fragility, driven by high procurement costs, systemic transmission and commercial losses, and the political economy of subsidized electricity (Das & Srikanth, 2010). This demand-supply mismatch and the recurring liquidity crunch, with DISCOM arrears to generation utilities reaching USD 6.78 billion by June 2025 (IEEFA, 2025) - effectively function as a barrier to the 'assetization' of the renewable energy sector within the GCV.

SECI addresses this liquidity bottleneck by acting as a risk-intermediation node that decouples developer returns from the underlying insolvency of DISCOMs. Through its Payment Security Fund (PSF), SECI manages a recursive liquidity cycle- injecting capital to plug payment delays, followed by ex-post replenishment on payment by DISCOMs. By internalizing these risks through sovereign resources including developer penalties and interest, the PSF transforms idiosyncratic energy infrastructure into standardized ‘Safe Assets’ that is financially legible for offshore dollar integration. Thus, the PSF is a buffer designed to stabilize financial flows over 25-year PPAs and Power Sale Agreements (PSAs).

Thus, to picture how SECI as a key institutional node for assetization and de-risking of RE infrastructure, we take a longitudinal view of SECI’s PSF corpus, with respect to its annual RE tenders awarded (Figure 5).

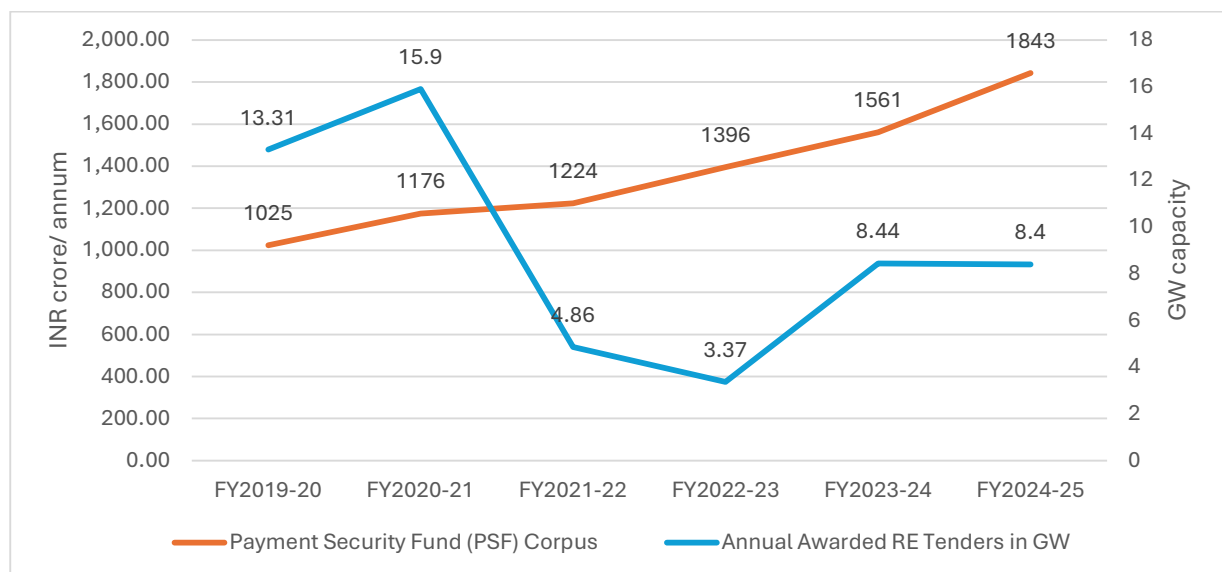


Figure 6: Relationship between Risk-Intermediation Capacity (PSF corpus) and Assetization Volume (Annual RE capacity awarded)

Source: Author’s composition (collated from SECI Annual Reports)

The empirical results reveal that while tender assets awarded experienced a dramatic contraction from FY 2020-21 to FY 2022-23, the PSF corpus issued by SECI continued expansion- growing about 80% in this duration. This contraction in volume of tenders awarded resulted from friction

between policy and physical dimensions of energy transition. In 2022 April, Indian government implemented a 40% customs duty on solar modules and 25% on cells, creating a cost-surge as historical low tariffs on equipment were no longer available to developers. An introduction of Approved List of Models and Manufacturers restricted imports creating demand overstressing the domestic manufacturing capacity. This led to a 'wait and see' approach by developers and SECI (SECI Ltd., 2023). This was coupled with massive backlog of unsigned PSAs as DISCOMs were reluctant to commit to new tenders while the older high tariff contacts were still in force. This nudged SECI to slow down new tender awards ensuring institutional consolidation, i.e. all existing capacity is safely tied up with utilities (SECI Ltd., 2022). Moreover, the post-COVID19 recovery witnessed a spike in copper, aluminum and steel prices essential RE infrastructure inputs. These global inflationary trends coupled with increased domestic tax (GST) rates from 5 to 12% hindered SECI auctions.

Thus, while in the period between 2021-23 physical rollout of infrastructure was volatile, the institutional manufacture of safe assets was being carried out in a linear fashion by SECI- depicted by the consistent growth in the PSF (Figure 6). This is indicative of a ratchet mechanism where the risk internalization capacity grows irrespective of the current infrastructure development rates. Once the RE assets are awarded, they enter the global credit hierarchy as interest bearing liabilities- indicating that payment security capacity must grow to internalise systemic volatility and ensure the cumulative portfolio remains attractive for the global credit system.

Overall, SECI acts as a risk-intermediation node by converting idiosyncratic infrastructure risks into standardized safe assets. This is evident through the expansion of PSF by 80% from 2020 to 2025, thus maintaining sovereign -adjacent liquidity to shield the global credit hierarchy from the structural fragility of the domestic distribution grid.

Analyzing the Year-on-Year (YoY) growth rates of SECI's power trading volume demonstrates a structural divergence from the physical rollout of the green transition. While annual tender awards contracted by 69.4% in FY2022 and 30.7% in FY2023, trading volume growth accelerated by 49% and 59.2% respectively during the same period (Figure 7). This indicates that SECI's institutional clearinghouse function is counter-cyclical, i.e., the state prioritizes the velocity of settlement and the liquidity of existing assets even when physical deployment is stalled by domestic frictions like the 'Great Indian Bustard' legal gridlock or supply-chain shocks (Naik & Kumar, 2025).

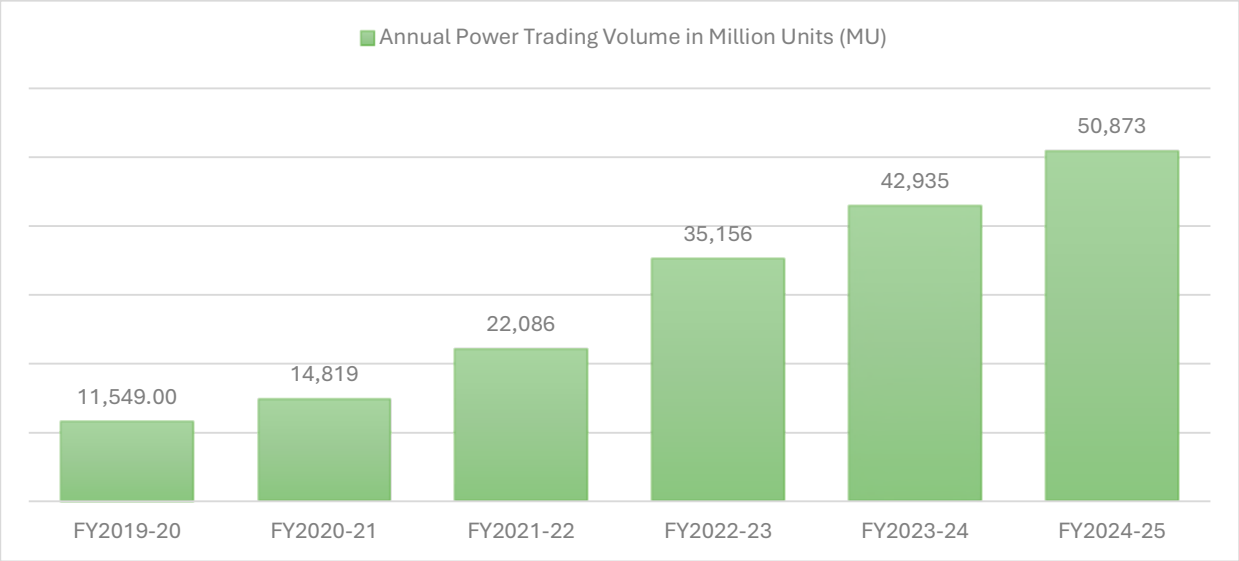


Figure 7: Annual Power trading (PPAs/PSAs) by SECI in Million Units
 Source: Author’s composition (collated from SECI Annual Reports)

From a Global Credit View perspective, this sustained expansion in trading volume - which reached 440% of its FY20 baseline by FY25 - facilitates the financial legibility required for offshore dollar integration. By ensuring high-velocity settlement across interlocking balance sheets, SECI is a key node in India’s strategic subordination, maintaining the liquid safe asset status of the Indian renewable sector within the transnational credit hierarchy regardless of physical down cycles.

4.3 National Investment and Infrastructure Fund (NIIF)

NIIF is a sovereign-anchored alternative asset manager established in 2015 through an announcement in the Union budget. Anchored by the Government of India, NIIF facilitates the flow of institutional capital into the country’s infrastructure and growth sectors. Offering structured debt and equity solutions for global institutional investors and Indian companies, NIIF currently manages assets worth over USD 4.9 billion across three strategic verticals: sustainable infrastructure, climate investments, and private equity (NIIF, 2026). With a volume of over USD 2.3 billion, its sustainable infrastructure fund (Master Fund- I) is India’s largest domestic infrastructure fund, focusing on portfolio development that is optimized for risk-adjusted returns (NIIF, 2026a).

As discussed above, while institutions like SECI and REC focus on securing revenue contracts and providing primary debt volume, NIIF represents a more complex institutional experiment in transition finance. As sustainability transition in the Global South requires a restructured state capable of moving beyond passive regulatory roles toward an ‘entrepreneurial governance’ that actively steers global financial flows into domestic infrastructure (Swilling, 2019). NIIF functions as this conduit, allowing international investors - sovereign wealth funds and pension boards - to participate in both the ownership and structured debt profiles of India’s transition. Where SECI and REC de-risk projects at the operational level, NIIF acts as the gateway linking the domestic

green frontier with the transnational credit hierarchy. It achieves this via specialized refinancing through e.g. NIIF IFL (an infrastructure debt fund), which ‘takes out’ early-stage construction debt and replaces it with standardized, long-term products tailored for global institutional appetites.

From the perspective of the Global Credit View (GCV), the institutional architecture of NIIF signals a shift in the role of the developmental state - from a provider of public goods to a de-risking intermediary (Swilling et al., 2016). The equity structure, where the Indian state anchors the fund with 49% while surrendering a majority 51% to global and domestic Limited Partners (LPs) (NIIF, 2026), constitutes a formal mechanism of strategic subordination to the transnational credit hierarchy (Bonizzi et al., 2020). This structure is operationalized through the mobilization of massive capital pools, such as the Private Markets Fund II (PMF II), which recently secured USD 750 million toward a USD 1 billion target, following the deployment of the USD 600 million PMF I (NIIF, 2026).

In this arrangement, the state provides a ‘sovereign shield,’ internalizing the socio-political and regulatory frictions of the domestic landscape to ensure the transition is governed by the risk-return logic of global institutional capital. This sensitivity is institutionalized through NIIF’s “GRIX” framework (Growth, Rates, Inflation, and Exchange rate), where the “X” for exchange rate - monitors the relationship between the peripheral rupee and core global currencies (NIIF, 2025). The aggregation of capital from entities such as Abu Dhabi Investment Authority (ADIA), Temasek, and G7-linked bodies like the Japan Bank for International Cooperation (JBIC) and the US International Development Finance Corporation (DFC), alongside pension giants like CPPIB, OTPP, and AustralianSuper, interlocks India’s physical green assets into the liability side of the global credit system (NIIF, 2024; 2025). By leveraging the state’s balance sheet to guarantee stability, the transition is reduced to a node for offshore capital seeking ‘safe yield’ prioritized for AAA (credit rating) legibility within the global dollar pool.

NIIF’s role also extends to the technical manufacture of liquidity. The full utilization of the USD 600 million PMF I, coupled with the realization of ~40% of its investments (NIIF, 2024), depicts a systematic pipeline for asset turnover. This process is epitomized by achieved exits with a combined enterprise value of USD 3 billion in 2025. A significant example is the Ather Energy IPO, which NIIF frames as a transition from “incubators to public listings” (NIIF, 2025).

From a GCV perspective, such public listings represent the final stage of assetization, converting under-financialized domestic technologies into tradable instruments (Christophers, 2022). By grooming homegrown champions for public markets, NIIF transmutes illiquid infrastructure into liquid financial claims - a process essential for managing duration risk in the hierarchy of money (Schwartz, 2024). This manufactured liquidity reduces the friction of capital repatriation, enabling the global credit hierarchy to extract value from the Indian periphery and re-integrate it into the core offshore dollar pool with minimal duration risk.

5. Discussion and conclusion

Our study was motivated by a central inquiry into the nature and quantification of subordination within the global monetary hierarchy. By adopting the Global Credit View (GCV), we traced the structural channels through which interlocking balance sheets tether India’s domestic energy transition to the offshore U.S. dollar core. This framework reveals that the India’s green transition

(aiming 500 GW by 2030) is not merely a material project of infrastructure deployment, but a complex monetary architecture defined by the co-evolution of public and private credit streams. Our analysis demonstrates that the Indian state does not merely regulate the transition; it actively facilitates private (often international) credit creation by underwriting risk through the strategic aggregation of institutional balance sheets.

The theoretical tension between state-based and market-based theories of money finds a distinct resolution in the Indian context. We find that established state structures have evolved to institutionalize a market-generated credit system as a prerequisite for development. The resulting financial architecture represents a calculated strategy of ‘domestic ownership, global financing’. By retaining strategic control over critical infrastructure while relying on the credit elasticity of the global dollar hierarchy to scaleup, the Indian state attempts to balance the pursuit of strategic autonomy with the realities of peripheral financial subordination.

A primary finding of our research –epitomized by the institutional evolution of NIIF - is the structural pivot from equity-based foreign investment to debt-based global financing. In the hierarchy of subordination, debt functions as a more powerful instrument than equity; while equity represents relatively mobile risk capital contingent on profitability, debt is structural, contractual, and indicative of a deeper integration into the transnational credit hierarchy. The retreat of foreign institutional equity, cushioned by domestic institutional investors, signals a transition where global capital shifts from the role of shareholder to that of creditor, seeking guaranteed interest-rent rather than exposure to operational risk.

Table 1: Taxonomy of Institutional Mediators in India’s Transition Finance

Institution	Financial Pillar	Specific GCV Function	Institutional Character
NIIF	Equity & structured debt	Capital Interlocking & Assetization (Conduit for Global Limited Partners)	Sovereign-Anchored Alternative Asset Manager
SECI	Revenue contract (PPA/PSA)	Risk-Intermediation & Settlement (Central Counterparty)	Power Trading & Clearinghouse
REC	Debt	Liquidity Provision & Credit Expansion (Liquidity Engine)	Sovereign NBFC (Infrastructure financing)

In this schema, specialized institutional nodes function as the essential mediators of the global credit hierarchy. While SECI and REC operate at the operational level to de-risk project cash flows and address the revenue volatility of distribution companies (Discoms), NIIF acts as the structural gateway. It serves as the conduit through which international sovereign wealth funds and pension boards participate in both the ownership and structured debt profiles of India’s transition.

Crucially, our analysis suggests that the question of dollar domination is ultimately subordinate to the question of structural stability provided by state-dominated risk guarantees. This structural dimension of the monetary system, which remains sovereign in nature, is the key axis around

which India's policy of 'strategic subordination' functions. The state's capacity to guarantee stability is the very feature that allows the domestic green transition to be interlocked with the global dollar hierarchy, defining the current financing system of the energy transition.

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