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Policy brief

The implications of NITI Aayog's net zero finance report for India: a tempered ambition

Summary

- The National Institution for Transforming India (known as NITI Aayog), in its 2026 report on India's net zero financing needs, estimates the nation requires US\$22.7 trillion in cumulative investment by 2070 to achieve net zero emissions.
- The report is the first of its kind to assess both the investment required for India's net zero transition and the capital that could be mobilised, estimating that reforms could unlock US\$16.2 trillion by 2070. Commercial banks and non-banking financial companies (NBFCs) are projected to provide 42% of financing while institutional investors and corporations account for 36%. Although banks and NBFCs are expected to provide 83% of total debt financing, institutional investors are identified as the largest source of equity capital.
- India's corporate bond market, equivalent to around 16% of gross domestic product, remains shallow and dominated by financial institution issuers. Related work undertaken by NITI Aayog on deepening India's corporate bond market calls for strengthening regulatory frameworks, enhancing market infrastructure, facilitating issuance by mid-size firms and broadening investor participation.
- Of the US\$16.2 trillion to be mobilised, NITI Aayog's analysis estimates that international finance flows would remain at 19%, broadly in line with current levels. This means a gap of almost US\$6.5 trillion will also need to be met by international capital.
- The report's recommendation to establish a dedicated green finance institution and strengthen the enabling environment for blended finance deserves serious attention. Some broad priorities emerge from the report. The banking system could explore a gradual reduction of the Statutory Liquidity Ratio towards the regulatory limit of 18%, while institutional players such as insurance and pension funds could be encouraged to reduce their allocations to government securities without compromising the risk-return objectives of individual investors. Together, these reforms could unlock capital for green infrastructure and help attract the international capital needed to close the remaining financing gap.

Policy briefs provide analysis on topical issues, presenting specific recommendations to inform ongoing policy debates. Drawing on the Grantham Research Institute's expertise, they summarise either our research findings or the state of knowledge about a particular issue.

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Introduction

NITI Aayog convened 10 working groups to develop a roadmap for achieving India's ambition of becoming a developed economy by 2047 while reaching net zero emissions by 2070. Each working group brought together a diverse set of stakeholders including policymakers, domain experts, researchers and industry representatives to provide input on, and help shape, India's transition strategy.

The exercise culminated in the publication of 11 reports examining the multiple dimensions of pursuing economic development alongside a low-carbon transition. These cover sectoral transition pathways for power, transport, buildings, industry, agriculture and waste, as well as cross-cutting issues including macroeconomic implications, critical minerals, social dimensions and climate finance.

This brief draws primarily on the findings of the *Financing Needs* report (Volume 9), with a focus on some of the key nuances around the scale, composition and mobilisation of finance required to support India's development and net zero transition.

The report estimates that India will require US\$22.7 trillion in cumulative investment by 2070 to achieve its net zero target. To put this into perspective, India's total annual energy investment stood at approximately US\$170 billion in 2026, of which around US\$113 billion was directed towards clean energy (IEA, 2026).

Estimates of India's mobilised climate finance vary considerably across studies, including those by think tanks and data providers like Climate Policy Initiative, the Council on Energy, Environment and Water and BloombergNEF, largely because of differences in sectoral coverage, technology assumptions, investment boundaries and estimation methodologies. Despite these variations, the broad message is consistent: the annual flow of capital into the transition will need to increase several-fold to meet the investment requirements implied by India's development and net zero pathways.

The report's implied financing trajectory therefore demands a fundamental structural transformation of how capital is sourced, intermediated and deployed across the Indian economy over the next four-and-a-half decades.

In this policy brief, we assess the distance between that investment ambition and the domestic financial system's current capacity to deliver it. We suggest the NITI report's recommendation for the formation of a new dedicated financial institution focused on blended finance structuring deserves serious attention. We also note three emerging priority areas (i.e. power, transport and industry) for closing the net zero financing gap.

India's net zero financing gap

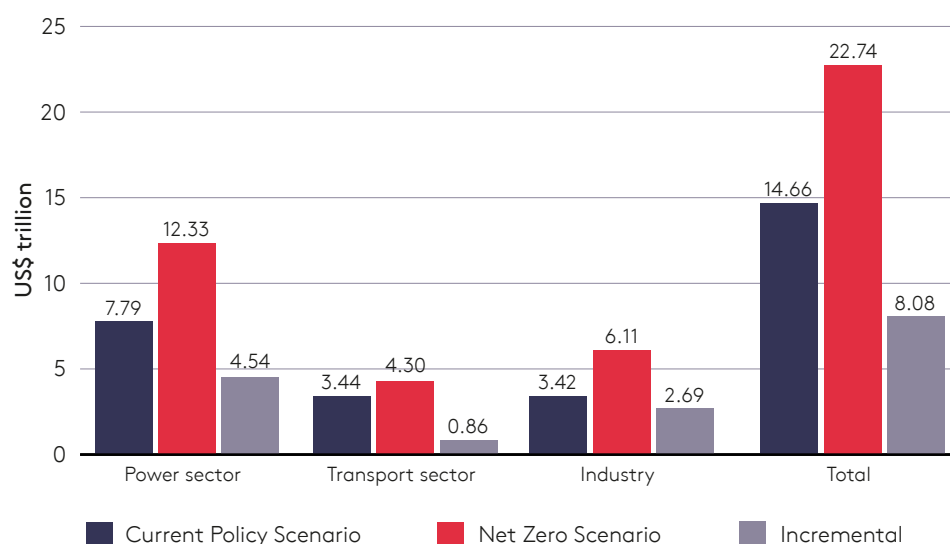
The NITI Aayog report assesses investment requirements under two scenarios: the Current Policy Scenario (CPS) and the Net Zero Scenario (NZS). Under the CPS, India continues to pursue its developmental objectives while the low-carbon transition proceeds at a relatively slower pace, requiring an estimated US\$14.7 trillion in cumulative investment by 2070. In contrast, the NZS combines the achievement of India's developmental aspirations with the objective of reaching net zero emissions by 2070, raising the cumulative investment requirement to US\$22.7 trillion.¹ This implies an additional incremental investment requirement of around US\$8 trillion over and above the CPS pathway.

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1. The NITI Aayog investment estimates do not fully capture the capital requirements associated with several emerging or cross-cutting areas, including industrial electrification technologies, biofuels, new-generation nuclear infrastructure, waste processing and alternative battery chemistries. The overall financing requirement should therefore be interpreted as a conservative estimate, with actual investment needs potentially being higher as these technologies scale up.

As shown in Figure 1, the power sector dominates, accounting for more than 50% of investment, driven by renewables; the transport sector accounts for roughly 20%, focused on electric vehicles (EVs), charging infrastructure and emerging hydrogen applications; and industry represents a quarter, with most investments expected post-2045 in hard-to-abate sectors such as steel, cement and chemicals.

Figure 1. India's investment requirements for net zero by sector



Source: NITI Aayog (2026a); p. 40, Figure 4.2

The NITI Aayog report also assesses how much of this investment requirement could potentially be mobilised through a set of targeted reforms aimed at deepening both domestic and foreign sources of capital. It estimates that such measures could mobilise around US\$16.2 trillion by 2070, leaving a financing gap of approximately US\$6.5 trillion.

Importantly, this gap widens over time from around US\$2.5 trillion by 2050 to US\$6.5 trillion by 2070. A key reason is the changing composition of investment needs after 2050, when a larger share of expenditure shifts towards capital-intensive and relatively less mature technologies, including green hydrogen, carbon capture, utilisation and storage (CCUS), direct air capture (DAC) and offshore wind. These technologies are therefore likely to require not only significantly larger volumes of capital, but also greater use of risk-sharing, concessional finance and other de-risking mechanisms to crowd in private investment.

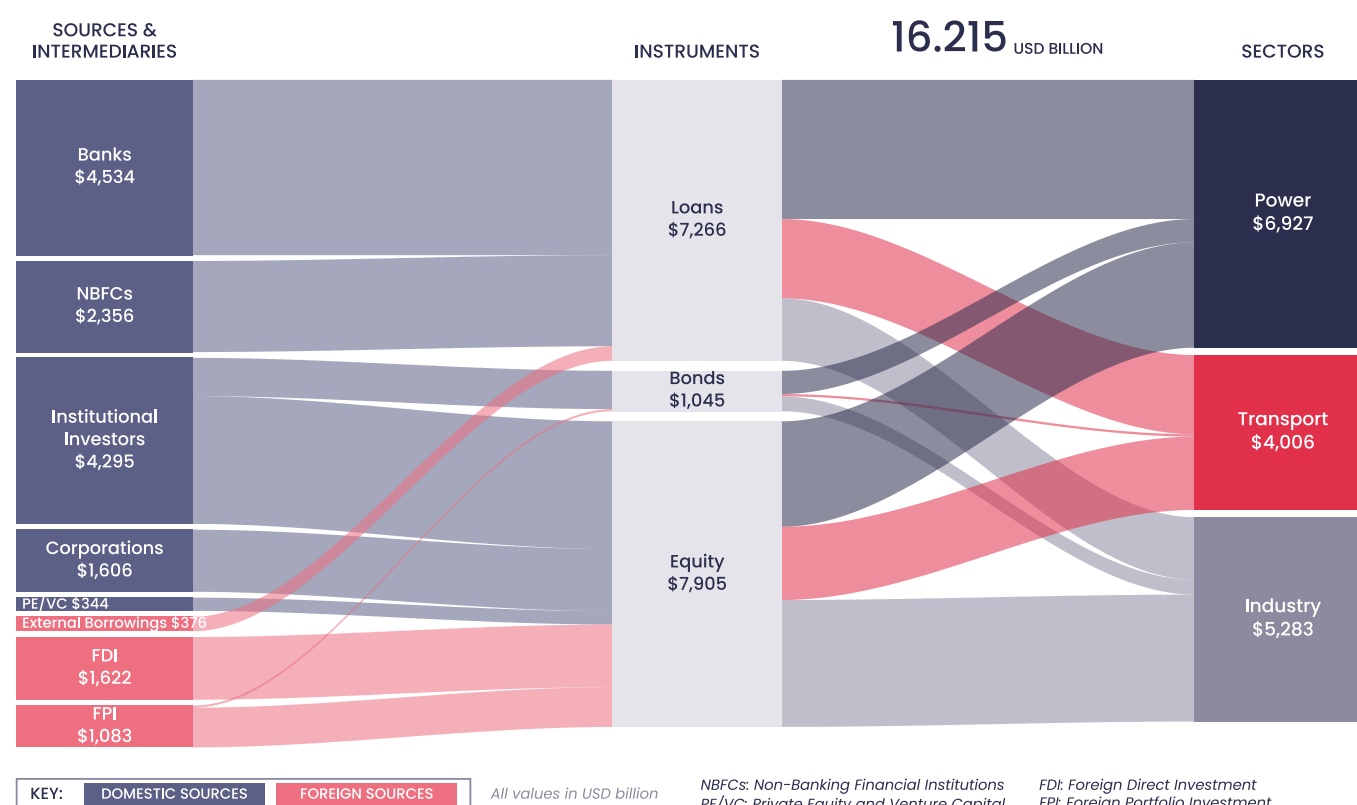
India's gross fixed capital formation, which measures a country's net physical investment, is approximately US\$1.2 trillion (FY2024–25). Current energy transition investment of US\$113 billion therefore represents roughly 9% of gross fixed capital formation. Under the NZS, average investments per year from 2026 to 2050 would push this share significantly higher, implying a fundamental reallocation of investment across the economy. With nearly all current flows of transition investment concentrated in renewables, power grids and transport electrification, building a credible investment case for low-carbon pathways in hard-to-abate industries will be critical.

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The domestic financing base: building from the inside out

The allocation of available capital from various sources and financial intermediaries to the power, transport and industry sectors through different financing instruments is presented in Figure 2.

Figure 2. NITI Aayog's estimate of financing needs for India by 2070 (US\$ billion)



Source: Adapted from NITI Aayog (2026a); p. 43, Figure 4.5

Commercial banks and non-banking financial companies (NBFCs) are projected to remain the dominant providers of debt financing across 2026–70. Commercial banks alone are expected to contribute approximately US\$4.5 trillion in net zero-aligned lending, with NBFCs adding a further US\$2.4 trillion (see Table 1). Together, this amounts to roughly 83% of total debt financing available, mirroring the current structure of India's debt market where banks and NBFCs account for approximately 81% of total credit.

Table 1. Sources of debt to be mobilised

Debt source	Projected contribution (US\$ trillion)	Share of total debt
Commercial banks	4.5	~55%
Non-banking financial companies (NBFCs)	2.4	~28%
Domestic institutional investors	~0.9	~12%
External borrowings/other	~0.4	~5%
Total	~8.3	100%

Note: Figures are approximate, derived from reported percentage shares.

Source: Data from NITI Aayog (2026a), Section 4.2.2

The continuity of bank/NBFC-dominant financing is both a strength and a constraint. It reflects the deep intermediation capacity of India's banking sector and the reach of NBFCs into infrastructure and project finance. But it signals that unless significant capital market deepening occurs, India's net zero financing will remain anchored to institutions with shorter- to medium-term liability profiles rather than the long-duration liabilities they are being asked to finance.

Within this bank-led financing architecture, there is nevertheless scope to expand balance-sheet capacity through a gradual reduction of the Statutory Liquidity Ratio (SLR) towards the Reserve Bank of India's (RBI) minimum requirement of 18%, maintaining it at that level thereafter and thereby freeing up bank balance sheets while strengthening appetite for green and transition lending. The SLR averaged around 28% during FY2019–23, substantially above the regulatory minimum. As holdings gradually converge towards the minimum requirement, banks could reallocate part of the resources currently held in government securities towards corporate bonds, infrastructure financing and other productive market instruments, supported by the parallel deepening of India's financial markets.

Institutional investors as a potential source of financing for India's low-carbon transition

Banks' significant exposure to long-term assets distorts the markets and generates undesirable effects on the banking system (e.g. asset–liability mismatch). Banks should be financing the early stages of commercial projects, but once a project is stable and has a steady cash flow, financing should be transferred to capital markets through bond issuances and the use of alternative assets. This, of course, also depends on whether the bond market is ready to absorb these projects.

The NITI report assigns a pivotal role to domestic institutional investors' pension funds, insurance companies, mutual funds and the Employees' Provident Fund (EPF). Institutional investors are projected to be the largest single source of equity capital for India's low-carbon transition, providing approximately 42% of total equity financing by 2070. This is an extraordinary target given the sector's current asset allocation.

Currently, domestic institutional investors maintain roughly 55–60% exposure to government securities and state development loans (SDLs). The NITI report assumes a gradual reallocation of government securities exposure, declining towards 50% by 2070, creating additional headroom for investment in high-quality corporate bonds, infrastructure assets and green financial instruments. Such reallocation would need to be supported by deeper capital markets, adequate credit enhancement and risk-management mechanisms, while continuing to safeguard the fiduciary obligations of pension, insurance and other institutional investors.

India's net zero transition requires a broader corporate bond market

India's corporate bond market currently stands at approximately 16% of GDP and would need to deepen to around 30% of GDP by 2070 to support the scale of long-term financing required for the transition.

However, the structural challenge is that corporate bonds in India are overwhelmingly issued by financial institutions rather than non-financial corporates. NBFCs and financial institutions alone accounted for

"Institutional investors are projected to be the largest single source of equity capital for India's low-carbon transition."

approximately 46% and 23% of total corporate bond issuances, respectively, in FY2024–25, while non-financial corporates accounted for only 31% (ICRA, 2025). Non-financial corporates continue to prefer bank loans owing to their cost advantages and established banking relationships. This reliance is a rational response to the relative cost of the two financing channels and is better understood as a symptom of a shallow, issuer-concentrated bond market than as a cause of its lack of depth.

Corporates must be actively encouraged to raise capital through bond markets by making bond issuance a competitive alternative to bank borrowing, which will require meaningful reform of the bond market.² The RBI has also highlighted the issue caused by extensive bank lending to infrastructure given the asset–liability mismatch for banks and the timelines on cash flows which make the duration of bank loans shorter than the ideal time horizon required for infrastructure projects (RBI, 2014). In addition, the RBI closely monitors the sector composition of bank loans and stress tests these loans. In this context, the RBI has provided guidance on moving the financing of longer-duration assets to capital markets.

Credit ratings remain a significant constraint for scaling up corporate bond issuances, but the question is whether credit enhancement mechanisms alone would be sufficient to address this. Real economy reforms, better risk-sharing between public and private counterparties, and a greater role for central counterparties in payment systems, have already driven a structural improvement in the credit profile of India's corporate sector over the past decade (ICRA, 2025). Further strengthening these reforms is likely to be a more effective way to improve corporate creditworthiness than relying on financial mechanisms such as government guarantees or partial credit guarantees.

Achieving a corporate bond market equivalent to 30% of GDP would require reducing primary market frictions through streamlined regulatory processes, harmonised disclosure requirements and greater digitisation of compliance, while also improving secondary-market liquidity and broadening the domestic institutional investor base.

The role of domestic institutional investors here is crucial and links with the recommendations above. Strong linkages between bank and NBFC lending and capital markets will be crucial for providing debt finance throughout the different stages of climate-related infrastructure projects. A clear sign of this missing stage of debt financing can be observed currently where high-yield long-term debt in the form of private credit has seen high growth from both domestic and international investors (EY, 2026; Gokoluk, 2025). The growth of this private credit market can be attributed to three factors: a shallow corporate bond market which is gated by ratings (Datta and Sengupta, 2023), a limited high-yield or leveraged loan market, and constrained banks which are risk averse (S&P Global, 2025). Addressing these constraints will require reforms across corporate bond markets, leveraged finance and the banking sector. These reforms are a recurring theme, and a fundamental prerequisite for mobilising capital at the scale needed for India's net zero transition.

The role of foreign capital: essential but not sufficient

Against the US\$22.7 trillion investment requirement under the NZS, the NITI Aayog report estimates that domestic and international sources, even

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2. For further details laid out by Niti Aayog see: https://www.niti.gov.in/sites/default/files/2026-01/Deepening_the_Corporate_Bond_Market_in_India.pdf

after the proposed enabling reforms, could mobilise around US\$16.2 trillion, leaving a financing gap of approximately US\$6.5 trillion.

The report argues that relying predominantly on additional domestic finance to close the investment gap could place pressure on India's limited pool of domestic savings, potentially crowding out other productive investment and raising the cost of capital, with adverse implications for economic growth. A substantial part of the remaining requirement would therefore need to be met through international capital.

This proposition is also examined in NITI Aayog's *Macroeconomic Implications* report (NITI Aayog, 2026b). The modelling in that report suggests that greater reliance on foreign financing can help sustain economic growth by reducing the crowding-out of domestic investment. When foreign financing is combined with support for renewable energy deployment, the NZS can deliver stronger economic outcomes than the CPS over the transition period, even before accounting for wider co-benefits such as improved air quality or reduced fossil fuel import dependence.

Greater reliance on foreign capital also introduces trade-offs. Pathways with greater foreign capital could result in higher current account deficits, peaking at around 3.2% of GDP in 2045, compared with approximately 2.3–2.5% under domestically financed pathways. Thus, while international capital can ease pressure on domestic savings and support higher investment and growth, its mobilisation needs to be accompanied by careful management of external accounts, currency and risks of capital outflows. This represents a significant shift in India's financing architecture: the contribution provided by international sources would need to rise to around 42% of cumulative capital requirements by 2070, compared with only around 17% of financing flows in FY2022–23. Mobilising foreign capital at this scale will consequently be central to closing India's net zero financing gap and reducing excessive pressure on domestic financial markets.

The NITI report places greater emphasis on foreign capital inflows in the form of foreign direct investment (FDI) or foreign portfolio investment (FPI), with a limited role for debt financing. Within this debt component, external commercial borrowings are expected to account for a larger share than foreign investment in domestic bond markets. As seen in Figure 2, the flow of foreign capital depends on India's current account deficit (CAD) targets. Over time, a higher CAD could enable India to mobilise larger amounts of foreign capital.

India's policymakers remain cautious about raising hard currency foreign debt capital, reflecting the legacy of past crises, such as the 1997 Asian financial crisis, and concerns about associated macroeconomic risks (Sur et al., 2024; Towe, 2001). As a result, we assume the report envisages the role of international investors in the net zero transition will be strongly weighted towards equity financing. Past emerging market crises in the region have led Indian regulators to take a cautious approach to hard currency foreign debt financing.

FDI is projected to scale up to 3–4% of GDP by 2047 and to account for approximately 21% of total equity financing over the period. This implies a sustained increase in long-term, project-level foreign capital flowing into decarbonisation of the power, transport and industrial sectors. For renewable energy, this trajectory is plausible: India has an established track

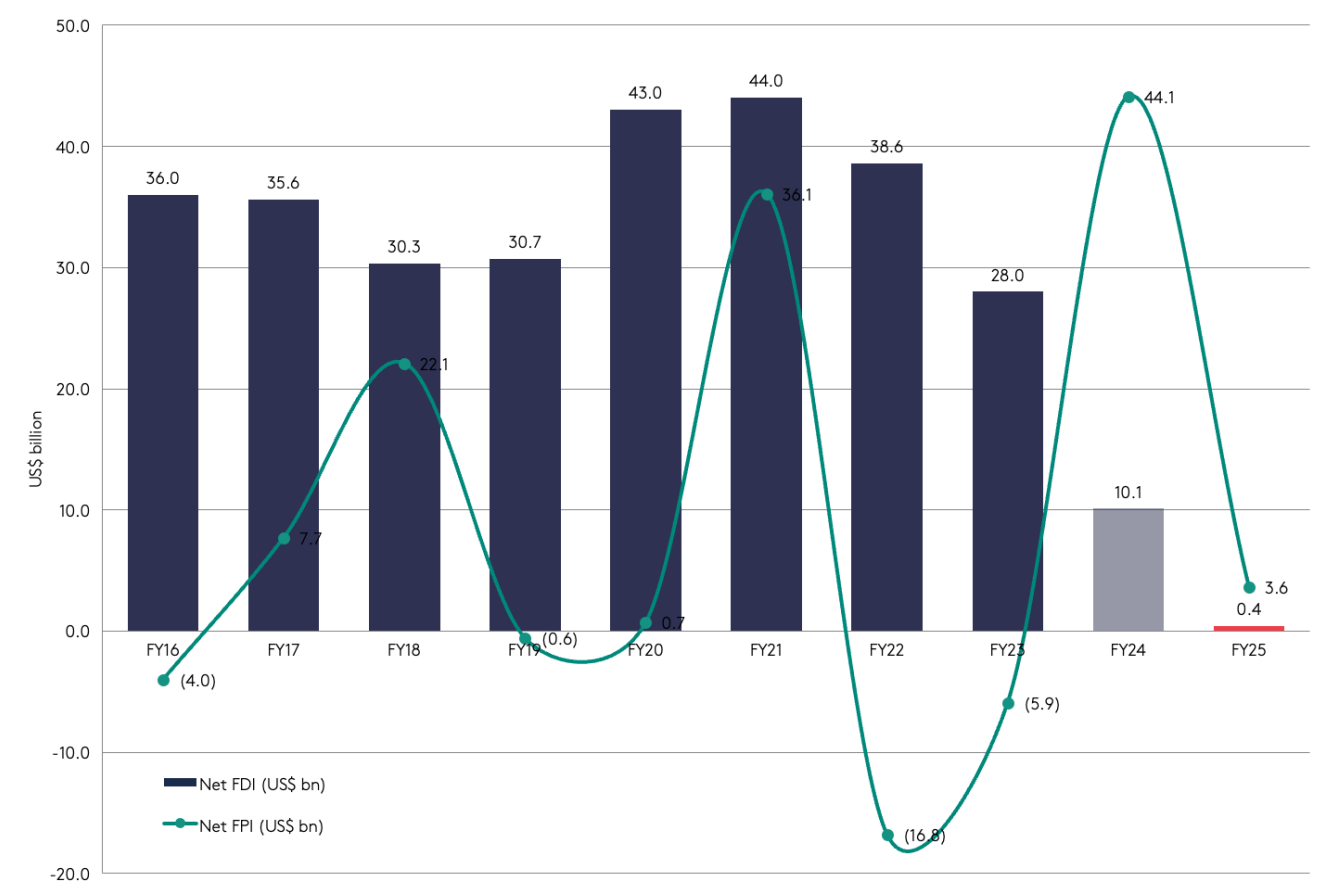
“When foreign financing is combined with support for renewable energy deployment, the NZS can deliver stronger economic outcomes than the CPS over the transition period.”

record of attracting FDI into utility-scale solar and wind. The harder test will be whether FDI can be channelled into the harder-to-abate industrial and carbon-capture technologies beyond CCUS that dominate post-2050 investment needs.

Notably, the NITI report allocates a greater share to FDI inflows than to FPI inflows for investments till 2070, with an estimated average FDI inflow to the power, transport and industry sectors of almost US\$38 billion a year and FPI inflows of US\$22 billion a year, respectively.

The estimated annual FDI and FPI needs for the next four decades for just the three sectors (power, transport and industry) analysed almost exceed the total FDI and FPI the country has received for all sectors in the last decade, as can be seen in Figure 3. Thus, if India is to meet these ambitious foreign investment requirements, extensive reforms and innovative new institutions and solutions will be essential.

Figure 3. Net foreign direct investment and foreign portfolio investment in India, 2016–25



Note: FY2025 FDI is provisional.

Source: Authors, based on data from RBI Annual Report, Appendix Table 8 – India's Overall Balance of Payments (RBI, 2025)

FPI, primarily through equity markets, is projected to grow to roughly 13% of total equity financing, with the report targeting a tripling of FPI participation by 2047. This is contingent on deeper, more liquid domestic capital markets and credible, internationally legible transition roadmaps by Indian corporates. SEBI's BRSR framework provides one anchor; the

forthcoming DEA taxonomy another. But the foreign exchange hedging costs that continue to make unhedged Indian rupee exposure unattractive for many foreign institutional investors remain a material constraint. India currently lacks the hedging architecture available in Brazil via the [IDB–Banco Central conduit](#), and the RBI’s Non-Deliverable Forward framework continues to impose frictional costs on offshore capital seeking domestic exposure.

Conclusion

NITI Aayog’s report arrives at a moment when the gap between India’s net zero financing ambition and its structural financial market capacity is most sharply in view. The report’s US\$22.7 trillion headline figure is less a projection than a structural challenge: the domestic financial system, however reformed, cannot close this gap alone, and an enabling environment for international capital must be created if it is to be filled.

Key requirements emerge from this analysis. First, India’s banking system must gradually reduce SLR holdings towards the RBI norm. Second, domestic capital markets, and the corporate bond market in particular, must deepen beyond the highly rated financial issuer enclave that currently defines them. Reforms that enable mid-market and sub-investment-grade corporates to access the bond market, alongside credit enhancement where warranted, are a necessary precondition for mobilising capital at scale. Domestic institutional investors’ pension funds and insurers could be given both the regulatory space and the incentive structure to allocate investment towards long-duration green infrastructure.

Regarding international capital, the report’s recommendation for a new dedicated financial institution is bold and deserves serious engagement.

This new institution, carefully designed to be complementary rather than competitive with existing development finance institutions, and focused specifically on incentivising the structuring of blended finance vehicles combining concessional public capital with commercial debt and equity to crowd in private investors at scale, could be genuinely transformative. International precedents, like the UK’s National Wealth Fund, Australia’s Clean Energy Finance Corporation and Brazil’s climate finance architecture, suggest the critical design constraint of such institutions is political durability: those that survive government transitions do so because their mandate is clearly differentiated from, rather than duplicative of, the banking system. India’s proposed institution must be defined by this distinction from the outset, with a mandate restricted to market facilitation and blended finance structuring rather than direct lending at scale. In addition to the creation of a dedicated financial institution, reforms to improve the enabling environment for international capital will be crucial and will be the subject of future LSE research.

The scale of the challenge is clear. The estimated annual FDI and FPI requirements for the power, industry and transport sectors alone exceed US\$60 billion a year, more than India has historically attracted across all sectors in most years. Closing this gap will require a policy and institutional framework that is not yet in place. NITI Aayog’s report is the most comprehensive government-led effort yet to identify the reforms needed to build that framework.

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