

Outlook on Zero-Emission Truck Financing in India

Insight Brief for Public-Sector Decision Makers



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RMI is an independent nonprofit, founded in 1982 as Rocky Mountain Institute, that transforms global energy systems through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all. We work in the world's most critical geographies and engage businesses, policymakers, communities, and NGOs to identify and scale energy system interventions that will cut greenhouse gas emissions at least 50 percent by 2030. RMI has offices in Basalt and Boulder, Colorado; New York City; Oakland, California; Washington, D.C.; Abuja, Nigeria; and Beijing. RMI has been supporting India's mobility and energy transition since 2016.

Introduction

As India works to achieve its net-zero goals and strives for sustainable development, the transportation sector is emerging as a critical area for transformation. Elevated levels of air pollution and carbon emissions from the trucking sector make transitioning to zero-emission trucksⁱ (ZETs) essential, and access to financing will be key to that transition. Financial strategies are needed to reduce risk and improve access to credit to enable original equipment manufacturers (OEMs), charging infrastructure providers, and fleet operators to finance their transition to ZETs.

Today, diesel trucks are a recognized asset class, with banks and nonbanking financial institutions (NBFCs)ⁱⁱ offering commercial loans, typically asset based, where the vehicle is collateral. The secondary market also is seeing significant banking activity, with financing available to purchase used vehicles due to their clear depreciated value. However, given the nascency of the ZET market, financing for ZETs still needs to develop and will take time to mature.



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- i** The term zero-emission trucks is used throughout this report, however, note that the report focuses specifically on plug-in charging as a refueling technology when referring to and costing infrastructure, given its market maturity and ability to be deployed incrementally. For a comprehensive exploration of ZET technologies beyond plug-in charging, refer to the Principal Scientific Adviser to the Government of India's report *Technology Assessment of Zero-Emission Trucking on the Delhi-Jaipur Corridor*, November 2023, https://psa.gov.in/CMS/web/sites/default/files/psa_custom_files/Delhi%20Jaipur%20Highway_311023_Without%20Blank%20%282%29.pdf.
 - ii** An NBFC is a company registered to make loans to individuals and businesses but does not accept deposits, differing from a bank.

As ZETs enter the market and the market grows, financing challenges will result from the hesitancy of financiers to underwrite the asset and residual value risks associated with new asset classes. Moreover, while already established petrol and diesel stations do not need additional infrastructure investment, infrastructure development is still required in the ZET market. This infrastructure development, including physical charging stations and required grid upgrades for adequate power supply, presents an investment cost and risk.

The ZET ecosystem consists of four market segments: ZET manufacturing,ⁱⁱⁱ ZET purchasing, charging infrastructure development, and requisite grid upgrading, each necessitating tailored funding and risk management. For ZETs to proliferate in the Indian market and for India to achieve a 100% ZET sales penetration by 2050, investment will be needed. A cumulative investment of INR 2 lakh crore (US\$27 billion) will be necessary for ZETs to reach a 4% sales share by 2030 and for requisite charging infrastructure and grid upgrades to be developed. To further scale and solidify the transition, a cumulative investment of INR 257 lakh crore (US\$3 trillion) will be required for ZETs to achieve a 75% sales share by 2050.¹

Financing tools like concessional debt, equity, risk-sharing facilities, and viability-gap financing can kick-start this nascent market until revenue from owning and operating ZETs and charging infrastructure fully cover costs. These interventions can close the total cost of ownership (TCO) gap between ZETs and diesel trucks, stimulate demand, expedite the mass production of ZETs to foster market growth, maintain cost efficiencies over time, and attract private-sector investment. This insight brief identifies how specific financial tools can spur ZET adoption and provides actionable steps to implement these mechanisms.

Pathways to Implement Financial Tools to Initiate and Scale the ZET Market

The development of ZET-specific financial products will play a crucial role in overcoming initial hurdles to ZET market growth and infrastructure adoption, hastening the transition at a pace beyond what market conditions alone can achieve. Such funding is needed because private capital is risk averse and will come at a high cost, as in most nascent markets. Targeted financial support is required to spur market development at a speed conducive to achieving India's economic and net-zero goals.

The actions below represent immediate steps that multilateral development banks (MDBs), development finance institutions (DFIs), and the Government of India can take to kick-start ZET financing flows, enabling India to tap into the near-term benefits of ZETs. These suggested financial tools aim to increase resources within the ZET ecosystem by leveraging public capital to incentivize private-sector investment. Additionally, guarantees can distribute the liability of an investment during the initial stages of ZET market development. Exhibit 1 offers recommendations for financing the deployment of the first 10,000 ZETs, a scenario used to conceptualize the financing need for initial ZET deployment pilots and demonstration corridors. The suggested recommendations should undergo further scrutiny and refinement and are presented as an initial step forward.

ⁱⁱⁱ Financing pathways for ZET manufacturing are not extensively discussed in this insight brief, but such funding is nonetheless crucial. Because many manufacturers have existing financial resources and relationships with finance institutions, their approach to financing this transition will be to leverage these existing networks and will likely be highly company specific.

Exhibit 1

Suggested actions to catalyze financing and deployment of 10,000 ZETs

Market segment	Financing product description	Implementation pathway and stakeholders identified ^{iv}
ZET purchase	Loan guarantees: agreements in which a portion of the losses will be repaid to the lender in the event of default	DFIs such as the Small Industries Development Bank of India (SIDBI), with support from MDBs, set up a risk-sharing facility covering a share of losses.
	Concessional debt: loans with longer tenures and interest subvention	MDBs and DFIs can develop concessional on-lending facilities for local financiers to offer longer-tenure financing, and in turn, local financiers like NBFCs can on-lend to ZET buyers, offering debt at a longer tenure of seven to eight years. ²
	Purchase incentives: incentives offered to defray the initial capital cost of ZET procurement	The Ministry of Heavy Industries can extend the Electric Mobility Promotion Scheme to ZETs and include ZETs in future FAME schemes, ^v if any, lowering the purchase cost for the first 10,000 ZETs. ^{vi} Purchase incentives can be capped at INR 33 lakh per vehicle allocated for heavy-duty electric trucks (e-HDTs) and INR 14 lakh for medium-duty electric trucks (e-MDTs). ³
Charging infrastructure	Viability-gap funding: to close a revenue cost gap for public-private partnership projects ⁴	The Ministry of Heavy Industries can provide a one-time grant for the development of public charging projects to offset the revenue-to-cost gap incurred by charge-point operators. These funds can be used to deploy publicly available fast chargers (100–500 kW) to meet the charging demands of the first 10,000 trucks.
Requisite grid infrastructure	Central financial assistance: structured for specific activities and the creation of public infrastructure	Central financial assistance, through the allocation of grants, can support the development of requisite grid infrastructure and provide power at charging stations to charge the first 10,000 ZETs. Cost coverage of expected line extension and transformers is estimated to cost INR 167 crore (US\$20 million). ⁵

^{iv} This proposed implementation pathway and identified stakeholders draw upon historical precedent to give an idea of which actors may be best suited to aid in the development of a specific financial product.

^v The Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME) Scheme, issued by the Ministry of Heavy Industries, provided incentives to spur EV adoption. The scheme was then expanded upon in Phase-II, referred to as FAME II.

^{vi} The 10,000 figure is based on a targeted three-year forward-looking sales projection for ZETs to describe initial market growth.

Following initial ZET deployment and piloting, additional financial tools can be leveraged to drive market expansion and achieve sales penetration of 15%, a crucial market saturation point at which technology diffusion can be self-sustained through market forces.⁶ Again, the 15% sales figure is simply a target and a scenario to describe financing tools that may be best suited for bolstering private capital inflows to drive ZET market scale. Exhibit 2 provides recommendations tailored to sustaining market growth.

Exhibit 2

Financing interventions to reach a ZET market tipping point of 15% sales penetration

Market segment	Financing product description	Implementation pathway and stakeholders identified
ZET purchase	Commercial lending tailored to ZETs: loans issued by private financiers at commercial lending terms	By initially receiving concessional financing, NBFCs can gain comfort in lending to ZETs and eventually work to offer asset-based financing and loans with longer loan tenures.
Charging infrastructure	Concessional equity: equity with return expectations below market rates	The Green Climate Fund or MDBs can establish a fund to blend public and private capital to invest in ZET fleets and charging infrastructure operators; ^{vii} the fund can seek a concessional rate of return, roughly a 15% internal rate of return (IRR) in 15 years. ⁷
Requisite grid infrastructure	Concessional debt: debt offered at below-market rates	Public-sector undertakings such as the Power Finance Corporation Ltd. offer distribution companies (DISCOMs) loan products. ⁸ Such funds can be provided to cover the cost of line extensions and transformer upgrades; in return, DISCOMs can issue demand charge holidays for charge point operators (CPOs) until charging utilization rates stabilize.
	Green bonds: capital raised by entities at a predetermined interest rate	The Government of India can issue a sovereign green bond for clean transportation through the Reserve Bank of India to initiate patient capital for grid infrastructure development. ^{viii}

Upon ZET market maturity or with (a) greater certainty in ZET demand, (b) proven strategies to manage ZET charging cycles as well as confidence around power availability, and (c) a viable secondary market for ZETs, many of the key risk factors persistent in the ZET market today would subside. With lower risk, private capital can play a more prominent role in funding the scaled growth of the ZET market.

^{vii} A financial mechanism established under the United Nations Framework Convention on Climate Change (UNFCCC) to assist developing countries in adapting to and mitigating the impacts of climate change.

^{viii} A sovereign green bond is a type of bond issued by a government to finance projects with environmental benefits. These bonds are specifically earmarked for projects that promote sustainability and reduce carbon emissions.

Decision Makers' Guide to Financial Tools and How They Can Work for ZETs

Financing interventions are not stand-alone but are most effective when combined. Blended finance, which leverages the use of guarantees, concessional financing tools, and viability-gap financing to invoke greater private investment, can increase funding flows to the emerging ZET ecosystem by accommodating a range of risk and return preferences.

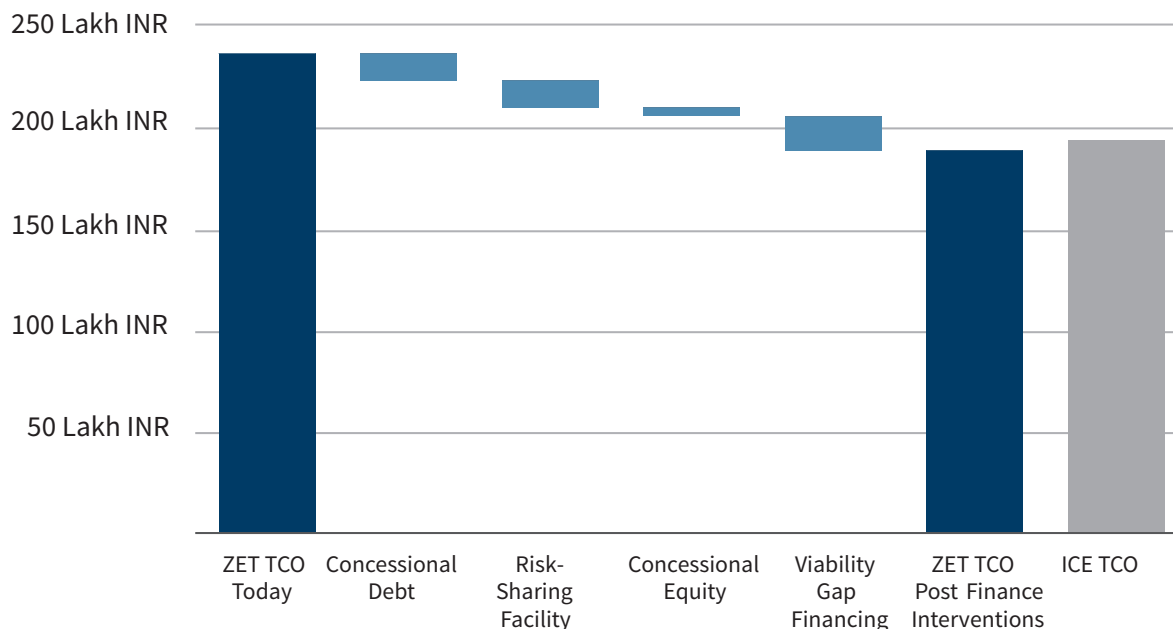
The combination of funding tools and risk-sharing facilities can collectively initiate capital flows to ZETs, redistributing the financial liability and enhancing confidence in the ZET market. Integrating these finance solutions can create a positive ambition loop, enabling improved access to financing. Leveraging an optimal blended financing approach requires iteration; hence, the next section seeks to identify ways the identified financing solutions can be designed to cater to the state of the market and unique conditions of the Indian freight ecosystem.

Exhibit 3 uses HDT as an example to show how a blended finance approach can narrow the TCO gap, with ZETs initially 20% to 30% more expensive than diesel trucks and, after financing interventions, with ZETs at a slight (3%) TCO advantage. Such interventions can be pared back as the ZET market reaches economies of scale, with the capital costs of ZETs falling and the TCO of ZETs becoming more favorable.⁹

Exhibit 3

Impact of financial tools on TCO of e-HDT ZETs in 2026

Light blue bars show cost reduction potentials through various finance tools.



Note: The analysis is based on a bottoms-up calculation of the TCO of ZETs based on anticipated capital and operational costs for the year 2026. The monetized impact of each financial tool was then derived based on a unit-cost analysis comparing the baseline against how a financing tool could influence the interest rate, loan tenure, or electricity costs of ZET charging, affecting operational costs. The model seeks to achieve a 3% superior ZET TCO; thus, financing tools were modeled to achieve this threshold. See the *Comprehensive Guide to Financing the Zero-Emission Trucking Transition in India* for detailed documentation of the methodology used.

Enabling the shift to ZETs requires an orchestrated financial strategy to initiate market development and then drive scale. This section outlines the roles of different financial tools, including debt, equity, guarantees, and viability-gap financing, in catalyzing the initial deployment of ZETs and promoting scale.

Exhibits 4–8 highlight potential implementation pathways and possible responsible actors. The tables also evaluate each financial tool’s direct or indirect impact on ZET TCO. In addition, they consider market precedent by examining the ability to draw from relevant best practices from similar market segments or global standards to aid in implementation. Finally, they evaluate each tool’s deployment readiness, considering the duration needed for due diligence, refinement, and negotiation processes among stakeholders for implementation.

Debt: ZET ecosystem actors can raise debt through concessional debt on favorable terms or commercial loans at market lending rates. Moreover, the government, MDBs, fleets, and OEMs can raise debt-based finance through green bonds to support large ZET projects and requisite grid infrastructure development to generate patient capital.



Exhibit 4 Debt Implementation pathway and feasibility

● High ● Moderate

Tool	Description and implementation considerations
<p>Concessional debt products for ZETs^{ix}</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● MDBs, such as the World Bank and philanthropists, can act as concessional capital providers to help increase lending to ZETs, providing funds to DFLs earmarked for ZET lending. ● Domestic development finance facilities such as SIDBI and the Indian Renewable Energy Development Agency can then on-lend to NBFCs, providing these actors with longer-tenure financing to reduce their liquidity risk. ● With access to longer-tenure funds, NBFCs can lend to fleets over longer tenures, seven to eight years, with an interest rate of 9%, which is on par with that of diesel trucks today. ● A precedent in India has been established for developing concessional on-lending for EVs in the design of the EVOLVE (Electric Vehicle Operations and Lending for Vibrant Ecosystem) program.¹⁰ Additionally, in the EU, development banks have extended loans for fleets to purchase low-emission vehicles.¹¹
<p>Debt products for line extensions</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● Public-sector undertakings,^x such as the Power Finance Corporation Ltd., can offer loan products for line extensions from substations to transformers at charging stations,^{xi} and such financing could be provided at concessional or market rates from 9% to 11% depending on local circumstances, such as power availability, substation placement, and project power demand. ● Lessons learned can be drawn from Power Finance Corporation Ltd.'s extension of loan products to DISCOMs.¹²
<p>Commercial loans for ZET asset-based financing</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● Asset-based financing is offered for ZETs, where the ZET is collateral for the loan, as opposed to fleets taking a small business loan or using corporate finance. For this to take place, there must be more confidence in the residual value of a ZET. ● Banks and NBFCs offer commercial-term loans with modified tenure, given the higher capital expenditures of ZETs. For this to occur, NBFCs also need access to longer-tenure capital from banks to reduce their liquidity risk to on-lend for ZET uptake. ● De-risking measures must instill confidence in financiers, encouraging them to provide asset financing for ZETs so this financing tool can come to fruition. This solution is viable in the longer term, particularly as the market matures further.¹³
<p>Green bonds for the ZET ecosystem</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● The Government of India can issue green bonds to raise funds for investment in public works and sustainability-oriented projects.^{xii} Under India's sovereign green bonds framework, eligible projects can include clean transportation and the deployment of charging infrastructure.¹⁴ ● As the issuer, the Government of India would provide transparent reporting under the sovereign green bonds framework.¹⁵ ● Green bonds have been used to fund infrastructure development and have been used in the United States to fund electric mobility initiatives.¹⁶ Despite nascency in the e-mobility sector and lengthy setups, such investments can deliver funds for large projects.

ix Concessional debt is debt raised, typically, at below-market rates, such as loans with reduced interest or longer tenure.

x Public sector undertakings or public sector enterprises in India are government-owned entities in which the Government of India, a state government, or a joint venture owns a majority share.

xi This refers to extensions of high-tension power lines (11 kV and above).

xii Green bonds are investment vehicles that pay investors a fixed rate of return over a specified period and are used to finance or refinance a green project. In this context, we are referring to bonds issued by a public entity or for a public-private partnership project.

Guarantees: Risk-sharing facilities or guarantees provide coverage for a specific share of losses arising from lending for a particular activity. These tools aim to mitigate the financier’s loss in the event of default, fostering market confidence, especially in nascent markets where technology and residual value risks are prominent. Risk-sharing facilities can be designed in many ways; the terms and conditions can be established to offer either first- or second-loss coverage. A risk-sharing facility can be established by creating an escrow fund to cover instances of default. Contributions to the escrow fund can come from philanthropic organizations, MDBs, and potentially industry actors such as OEMs. The fund will then serve as a financial safety net for participating banks and NBFCs to leverage in case a ZET loan is defaulted upon. The funds would then be used to cover a share of the participating finance institution’s losses.

Exhibit 5 Guarantee Implementation Pathway and Feasibility

● High ● Moderate

Tool	Description and implementation considerations
<p>Loan guarantees</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● A facility to address both first- and second-loss scenarios can be developed. First-loss guarantee coverage can range from 40% to 60% of the first 3% of initial losses incurred by borrowers,^{xiii} and a second-loss guarantee can cover 75% to backstop additional losses (3% to 13%).^{17,xiv} The coverage plan should include clear terms and conditions for borrowers to lend towards ZETs and can consist of a nominal annual fee to sustain the program. ● Lessons learned can be drawn from the launch of the SIDBI and Shell Foundation risk-sharing facility.¹⁸



xiii First-loss guarantees are commonly deployed in high-risk markets. A guarantor absorbs the initial portion of losses incurred by a lender or investor up to a predetermined percentage and specified amount. Such guarantees would be prudent for covering defaulted vehicle loans, given the high value of ZET loans relative to other vehicle segments.

xiv Second-loss guarantees protect against large runaway losses. The lender covers losses to a specified level, and beyond this, the guarantor backstops a portion of losses. This is seen as a measure to protect against substantial losses, i.e., if a start-up or small fleet were to default.

Concessional equity: This pathway involves equity with lower return expectations than market norms. Such investment is critical in capital-intensive businesses. Concessional equity can attract private investment, crowd in capital, and expand investment opportunities within the ZET ecosystem.

Exhibit 6 Concessional equity implementation pathway and feasibility

● High ● Moderate

Tool	Description and implementation considerations
<p>Concessional equity</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● The Green Climate Fund or MDBs can establish a financing platform to crowd in additional private equity investment into the ZET ecosystem. ● The fund could raise some of its equity capital through corporate social responsibility donations; such contributions would not be eligible for a return. ● Concessional funding can potentially be blended with return-seeking capital to increase the fund’s leverage; a desirable threshold would be for the fund to seek a concessional rate of return of 15% IRR in 15 years.¹⁹ ● Creating equity funds to support sustainable transportation is still a relatively nascent practice. However, the Green Climate Fund has initiated a pilot program for EVs.²⁰ By building on this precedent, such efforts could become valuable tools to fund ZETs.



Viability-gap financing: Viability-gap financing refers to a grant designed to initiate market development or bridge the financial gap between total project cost and expected revenue for public-private partnership projects.

Exhibit 7 Viability-gap financing implementation pathway and feasibility

● High ● Moderate

Tool	Description and implementation considerations
<p>Purchase incentives</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● The Ministry of Heavy Industries Electric Mobility Promotion Scheme could be extended to ZETs, or a similar scheme modeling FAME II could be extended, providing purchase incentives for ZETs. ● Subsidies can be extended to the first 10,000 ZETs. Funds can be capped at INR 33 lakh per vehicle allocated for e-HDTs through 2026 and INR 14 lakh for e-MDTs.²¹ ● This is a viable near-term pathway to spur initial ZET demand and deployment; precedent has been set with the establishment of FAME II and the Electric Mobility Promotion Scheme.²²
<p>Grants for requisite ZET grid infrastructure</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● The Government of India can create a central financial assistance scheme to provide financial support for requisite grid infrastructure costs for ZET charging, specifically line extensions to charging station transformers. ● The Ministry of Power could be the nodal entity providing conditional financial assistance to DISCOMs for line extensions and the installation of requisite transformers. In receipt of such funds, DISCOMs could be required to issue demand charge holidays for CPOs until charging utilization rates stabilize, enabling the electricity price for ZET charging to fall.²³ ● The Ministry of Power has granted funds to DISCOMs for the development and strengthening of distribution networks under initiatives like the Integrated Power Development Scheme and Renewable Energy Integration under the Green Energy Corridor. However, such schemes would need to be adapted for the specific intention of funding line extensions for ZET charging.²⁴ ● The Ministry of Petroleum and Natural Gas (MoPNG) can develop targets for oil companies to convert a percentage of their retail stations to charging hubs, providing fiscal incentives to support the deployment of initial chargers.
<p>Viability-gap funding^{xv}</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● The Ministry of Finance can provide funds to offset the revenue-to-cost gap (from charging hardware investment) incurred by private charging operators. Commonly, a competitive bid process is opened to develop public charging infrastructure; funding is provided to the lowest bidder, and government funds are used to close the revenue and cost gap. ● A one-time or deferred grant can be offered to private-sector companies/CPOs to make a publicly accessible charging project commercially viable. In return, tariff stipulations can be established to provide funding. ● The Ministry of Finance has developed a process to fund public-private infrastructure projects; extending these facilities to finance public charging infrastructure projects may be a viable pathway for implementation.²⁵

^{xv} Viability-gap funding, per Ministry of Finance guidelines, is defined broadly as funding to bridge the gap between total project cost and expected revenue for public-private partnership projects, *Viability Gap Funding (VGF) Guidelines*, Government of India, accessed January 29, 2024, https://www.pppinindia.gov.in/report/vgf-guideline_1691500048.pdf.

Insurance: Insurance is financial protection for ZET customers. Liability insurance, mandated by law, covers bodily and property damage in accidents.²⁶ Comprehensive insurance is technically optional and extends protection beyond collisions, covering incidents like product failures, theft, and natural disasters. Comprehensive insurance covers mechanical failures that might otherwise lead the borrower to default, and specific comprehensive insurance covers can safeguard lenders if they need to repossess an asset by ensuring that some residual value can be recovered.

Exhibit 8

Insurance product implementation pathways and feasibility



● High ● Moderate

Tool	Description and implementation considerations
<p>Extended warranties</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● Battery and electrical warranty extensions provide coverage for specific OEM products and parts beyond standard warranty periods. ● Warranties cover residual value risk and provide coverage in instances of a product failure or quality issue. OEMs are likely best positioned to implement such practices, forming tie-ups with insurance agencies. ● More data on ZET battery performance and battery management systems is needed to underwrite and provide extended coverage.
<p>Adjusted depreciation schedules for batteries</p> <ul style="list-style-type: none"> ● TCO impact ● Market precedent ● Deployment readiness 	<ul style="list-style-type: none"> ● Implementing depreciation schedules for batteries would offer stakeholders a clearer understanding of their recoverable value. ● By creating depreciation schedules using battery management data and shared metrics on battery health, insurers can depreciate these components in a manner that aligns with analytics rather than the common practice of assigning minimal, if any, value to used batteries. ● Depreciation coverage has been implemented by insurers to protect equity they have in vehicles. However, extending them to the ZET segment would be novel. Monitoring and assessing the impact versus the risk exposure that insurers and third parties would take to implement such a measure are necessary.

Actions Needed to Fund the ZET Transition

The government, MDBs, and DFIs play crucial roles in catalyzing funding for the ZET ecosystem. Ideally, their actions can stimulate increased market participation from financiers. To realize the benefits of ZETs, immediate and longer-term strategic actions are required to initiate capital flows. Exhibit 9 features key actions.

Exhibit 9 Actions needed to initiate capital flows

	 Near term actions <i>6 months to 1 year</i>	 Market-sustaining actions <i>1 year to 5 years</i>
Ministry of Finance	<ul style="list-style-type: none"> • Create a viability gap funding arm for public charging development 	<ul style="list-style-type: none"> • Collaborate and provide a sovereign grantee for risk-sharing facilities
Ministry of Heavy Industries	<ul style="list-style-type: none"> • Provide ZET incentives to defray ZET purchasing costs for the first 10,000 ZETs 	<ul style="list-style-type: none"> • Issue green bonds to support grid infrastructure development for ZETs • Work with MoPNG to develop targets for oil companies to shift a share of their retail locations to changing hubs
Ministry of Power	<ul style="list-style-type: none"> • Deploy high-power capacity chargers along corridors 	<ul style="list-style-type: none"> • Work with public sector undertakings to extend concessional debt to DISCOMs for line extensions and transformer installations for charging
Multilateral development banks	<ul style="list-style-type: none"> • Develop risk-sharing facilities to cover ZET market losses 	<ul style="list-style-type: none"> • Provide concessional finance to be further on-lent to local financiers
Domestic development financial institutions	<ul style="list-style-type: none"> • Work with MDBs and thought partners on viable risk-sharing facility structures 	<ul style="list-style-type: none"> • Become the issuing and implementing agency of risk-sharing facilities
Philanthropists	<ul style="list-style-type: none"> • Provide concessional finance to be further on-lent to local financiers 	<ul style="list-style-type: none"> • Develop and invest in grid readiness strategies for ZETs
Local finance institutions and banks	<ul style="list-style-type: none"> • Assess the financing intricacies of ZETs and invest in ZET pilots • Develop tailored lending products for ZETs and charge point operators, elongating loan tenure 	<ul style="list-style-type: none"> • Utilize and apply for the use of loan guarantees and increase lending to ZETs

The government plays a pivotal role in fostering confidence and incentivizing the transition to ZETs by providing financial incentives and facilitating tailored financing mechanisms. MDBs and DFIs can collaborate with the Government of India to offer concessional financing platforms and reduce private-sector investment risks through loan guarantees. Furthermore, commercial investors can contribute by developing specialized lending products and understanding the nuances of the ZET market to bridge the gap between perceived and actual risks.

In addition to financing interventions, other mechanisms can further reduce ZET operational expenses. ZET-specific business practices, like leasing, mobility-as-a-service, and extended warranty coverage, can enable market actors to distribute and manage risk more effectively. Additionally, implementing complementary measures, such as demand aggregation, ZET corridor development, after-market support, and the employment of telematics data can further boost market confidence and create a favourable investment environment. These measures mitigate risks linked to ZET capital and operational expenditure, especially during the early stage of ZET deployment.

Transitioning to ZETs requires a strategic blend of financial tools. In this dynamic landscape, continual evaluation, adaptation, and customization of financial tools are imperative to meet the evolving needs of the ZET market. Collaboration between governments and financiers is critical to foster a resilient ZET market and to ensure sustainable funding and accelerated growth.

Endnotes

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