Plugging In: Advancing EV Infrastructure in India

Roles and recommendations for DISCOMs

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Disclaimer: *The data and analyses presented in this report are based on currently available information and are intended to provide projections rather than predictions of future outcomes. These projections are subject to change as new data and insights become available. The findings should be interpreted cautiously and used as a guide for planning and decision-making rather than a definitive forecast.*

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Introduction: Unlocking DISCOM Potential in the EV Infrastructure Market

India's EV charging infrastructure sector is at a critical inflexion point, with Indian electric distribution companies (DISCOMs) poised to play a pivotal role. Although momentum is building, with EVs making up 6.4% of all vehicle sales in India in 2023, they still represent a small portion of vehicles on the road — less than 1% of the total vehicle stock as of April 2025.[1] By 2040, RMI estimates India will need over 1.9 million public chargers and 2,75,000 battery-swapping stations.[2] These will be needed to achieve the country's targets of 30% EV penetration by 2030 and energy independence by 2047.[3] Although over 25,000 public chargers and 2,600 battery swapping stations are already deployed, several barriers continue to hinder market growth.[4]

In parallel, India's power sector has grown significantly over the past decade — electricity demand has grown by over 50% and peak demand by nearly 80%.[5] Given their unique positioning as power providers for EV infrastructure, DISCOMs have an opportunity to help India scale-up its EV charging and battery swapping to meet future market needs.[i]

Expanding India's EV transition depends on building accessible, reliable, and well-planned EV infrastructure that signals a clear market shift to consumers. This report explores the diverse roles DISCOMs can play in the transition — from enabling the market, to directly implementing infrastructure as charge point operators (CPOs).[ii] It also outlines key challenges, priority actions to drive market growth, and business models suited to DISCOMs acting as CPOs.

Opportunities and challenges

Over 70 DISCOMs operate across India's 28 states and eight union territories, navigating a complex and fragmented environment shaped by national and state-level regulation. Despite these challenges, DISCOMs are positioned to support EV infrastructure, whether as a CPO or by enabling private sector participation. To drive the scale-up of EV infrastructure, DISCOMs should consider the following priority actions:

- **Conducting long-term EV load planning to upgrade grid infrastructure strategically:** Developing analysis to understand anticipated EV load growth, assess grid readiness and need for long-term load management programmes, and proactively upgrade distribution grid infrastructure.

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i Charging stations and battery swapping infrastructure are collectively referred to as EV infrastructure throughout the brief.

ii A CPO, in this brief, refers to an entity that installs and/or manages charging infrastructure, including hardware, operations, maintenance, and charging network management. CPO business models vary, with specific responsibilities shaped by the use case. Private CPOs typically manage a full suite, or a tailored subset of these services. Although DISCOMs have a unique opportunity to offer EV infrastructure, not all DISCOMs can or should become CPOs. The report offers the DISCOM CPO pathway for those considering the opportunity to learn more about key first steps and business model options.

- **Streamlining processes to reduce barriers to entry for CPOs:** Implementing systems and processes to optimise interconnection through single-window processes and cost transparency.

- **Providing infrastructure and pilots to support future load mitigation:** Managing future load and operationalising demand response programmes for EV infrastructure through smart meters, smart chargers, and charging pilots.

- **Assessing innovative business models to become CPOs:** Determining the viability of operating EV infrastructure and examining global business models to determine the most suitable option. For instance, public-private partnership (PPP) options and models that offer concessional land revenue sharing both offer lower risk and capital expenditures.

Although EV infrastructure represents an opportunity for DISCOMs, realising these opportunities is contingent on addressing several barriers, including:

- **Increased grid load from EVs:** EV charging as a percentage of overall total electricity demand may remain relatively low (e.g., 3% by 2031–32 according to Indian Energy Storage Alliance) but understanding the ramp-up over time and locational load growth patterns will be key to reducing peak demand spikes and costly grid infrastructure upgrades.[6]

- **Lack of transparent interconnection processes and cost information:** CPOs face uncertainty or lack of clarity on interconnection costs and utility charges, adding financial constraints. Additionally, long timelines for the interconnection of EV infrastructure and unclear processes can delay projects and extend the payback periods.

- **Unclear business model viability:** Low charger utilisation rates, high up-front costs (e.g., grid infrastructure upgrades, utility charges, etc.), and land constraints in dense urban areas are putting the viability of some EV infrastructure business models into question. Lack of affordable financing due to minimal market data and proof points compounds this challenge. This challenge limits the proliferation of EV infrastructure, including a DISCOM's ability to become a CPO, despite market need.

India is not alone in facing these challenges, many countries have faced similar challenges while developing EV infrastructure. Electric utility involvement in EV infrastructure buildout has been a key enabler for countries with high EV adoption when they were at a similar market inflection point that India is experiencing now. The examples below highlight the pivotal role utilities played during early EV infrastructure deployment.

- **Norway:** Driven by government action and support — such as EV infrastructure targets — electric utilities and energy companies played a significant role in establishing charging networks during the early stages of the country's EV transition. Market signals from government actions encouraged utility investment, and by 2017, the country had 1,500 chargers installed, up from 300 in 2014.[7] Resultantly, private charging startups entered the market, gradually easing the infrastructure ownership and maintenance burden on utilities.[8]

- **China:** Early EV infrastructure development was driven by two large state-owned utilities that built and funded charging stations.[9] Over time, market signals triggered by high EV adoption rates led to independent EV charging companies entering the market, often backed by investment funds, which began to scale deployment of charging infrastructure.[iii]

India's National Policies and Guidelines Contributing to the Growth of EV Infrastructure

- **Ministry of Power's EV Charging Guidelines** offer guidance on EV infrastructure to provide consistent standards and more clarity to the developing market.

- **PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE)** supports the implementation of EV infrastructure through incentives for upstream grid infrastructure upgrades and fast charger installation targets, much of which will be installed in highway corridors and cities with high EV adoption.

iii Utilisation rates remain low, and many of these companies continue to operate at a loss, highlighting the importance of planned infrastructure development to match EV adoption.

Understanding Market Positions: DISCOM Roles in EV Infrastructure Development

The electricity distribution sector is becoming increasingly dynamic and competitive. Most DISCOMs have long faced financial stress, driven by infrastructure gaps and inefficiencies in tariff setting and billing. However, recent years have seen several state-owned and private DISCOMs report profits and improved service quality.[10] This positive momentum, coupled with rising demand for EV infrastructure, creates an opportunity for DISCOMs to strengthen operations, long-term planning, and EV infrastructure deployment.

Exhibit 1 presents a spectrum of DISCOM roles in EV infrastructure, from market-enabling to market-leading. All roles are essential to advancing the EV transition. Market-enabling roles typically involve lower capital investment, risk, and complexity, while market-leading roles may include DISCOMs operating as CPOs.[iv]

iv Not all DISCOMs will or should become CPOs. Individual DISCOMs may choose roles based on their appetite and capability for financial investment, operational modifications, and organisational capacity-building.

Exhibit 1 **Roles for DISCOMs in the buildout of EV infrastructure**

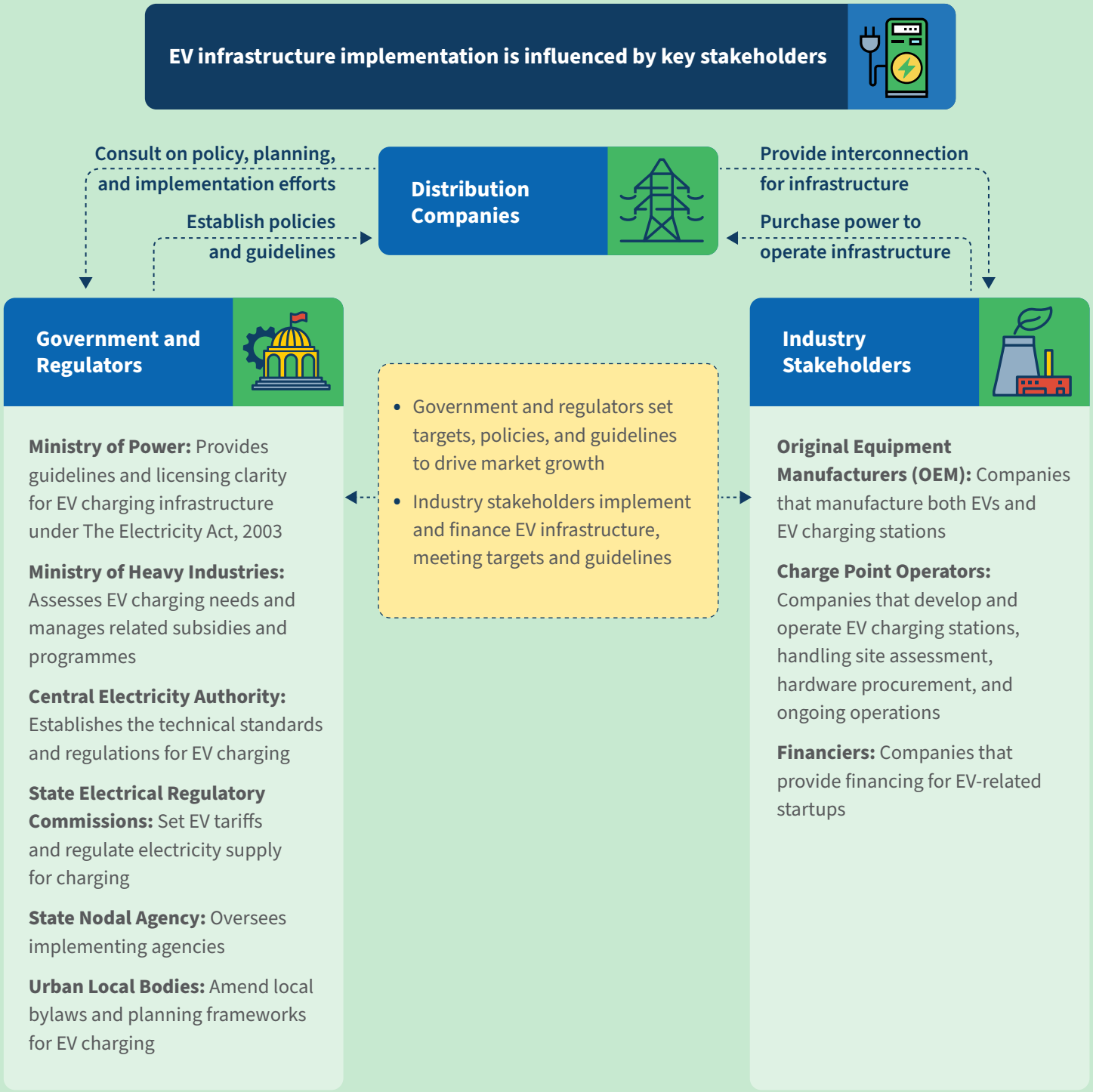
DISCOM ROLE		DESCRIPTION	KEY ENABLERS
MARKET-ENABLING	**EV charging stakeholder forum participant**	Engage in stakeholder forums to shape sub-national EV policies. This aligns with a DISCOM's role at the intersection of electricity supply, grid planning, and policy.	Sub-national government seeking input from diverse stakeholders, and awareness of and involvement in EV policy development by DISCOMs.
	Operational process streamliner	Streamline EV infrastructure deployment by providing clear timelines, transparent cost structures, standardised technical requirements, and single-window clearance for interconnection.	EV-specific interconnection guidelines from national agencies like the Central Electricity Authority (CEA). Coordination with state electricity regulatory commissions (SERC) and state nodal EV agencies to adapt these to state-specific contexts.
	Charging infrastructure incentive and/or subsidy provider	Promote verified EV equipment suppliers, facilitate consumer connections, and establish incentives — especially for residential and semi-public chargers. If permitted, offer purchase subsidies to boost adoption in key segments.	Residential consumers are easy to reach as they are a pre-existing customer base for DISCOMs. Requires building partnerships with electric vehicle supply equipment (EVSE) suppliers.
	Grid infrastructure and device upgrade implementer	Strategically upgrade grid infrastructure to reduce EV infrastructure impact, including upstream distribution grid infrastructure and smart meters.	Robust load forecasting and build out of advanced metering infrastructure.
MARKET-LEADING	**Charge point operator**	Establish and operate EV infrastructure. Business models vary (as detailed in **Exhibit 5** on page 15).	Stable operations, a reliable distribution grid, and access to strategic public land or partnerships for siting.

RMI Graphic. Source: RMI analysis

Accelerating the Development of EV Infrastructure through Stakeholder Collaboration

Although DISCOMs are an integral part of the EV charging ecosystem in India, they are just one part of a complex network of stakeholders. These stakeholders span various sectors, including manufacturing, power distribution, urban planning, transportation, and policymaking, and take on different roles in implementing EV infrastructure.

Exhibit 2 **Key EV infrastructure implementation is influenced by key stakeholders**



RMI Graphic. Source: RMI analysis

Advancing EV Infrastructure: Challenges, Solutions, and Priority Actions for DISCOMs

India's EV infrastructure market faces several challenges that hinder its growth; overcoming these barriers is essential for future development. DISCOMs, across all EV infrastructure roles, are well-positioned to address these barriers and should adopt a prioritised, strategic approach to implementing solutions.

Challenges and solutions for DISCOMs supporting the EV infrastructure market

DISCOMs' solutions to support EV infrastructure will vary depending on the roles they choose to take on. This section outlines the key challenges in infrastructure development and a set of solutions, including priority actions that DISCOMs can take.

Exhibit 3

EV infrastructure market challenges and solutions for DISCOMs supporting infrastructure buildout

CHALLENGE	DESCRIPTION	TARGETED SOLUTIONS
Lack of long-term regional EV load planning and limited insight into load growth	Insufficient forecasting and planning hinder a DISCOM's ability to anticipate grid upgrade needs, increasing the risk of load management issues. A lack of regional EV load assumptions, analytical tools, and data availability further limits planning at the state and DISCOM levels.	• **Priority Action** – Conduct detailed, long-term, regional EV load forecasting exercises. • Explore mechanisms such as localised solar generation or on-site storage, which can support long-term planning and enhance renewable energy integration.

Exhibit 3 **EV infrastructure market challenges and solutions for DISCOMs supporting infrastructure buildout (continued)**

CHALLENGE	DESCRIPTION	TARGETED SOLUTIONS
Limited visibility for CPOs and developers into the distribution grid infrastructure upgrade requirements	Many potential charging sites, including residential locations, require infrastructure upgrades to support added EV load. CPOs and site developers often lack early visibility into upgrade costs, timelines, and requirements, straining project finances and extending return-on-investment periods.	• Use long-term EV load forecasts to strategically upgrade sites that have high potential for EV infrastructure utilisation. • **Priority Action** – Develop a system for transparently publishing electricity capacity and site upgrade costs. • Work with Ministry of Power agencies, such as the CEA and the Central Electricity Regulatory Commission (CERC) to provide national EV interconnection guidelines, which states can then modify.
Risk of reliability issues and infrastructure damage due to technical grid limitations	In addition to grid upgrades for reliable EV service, technical issues such as harmonic injection also need to be addressed.[v] These can compromise grid reliability and damage infrastructure. In addition, limited deployment of smart metering infrastructure restricts a DISCOM's ability to monitor and manage new load effectively.	• **Priority Action** – Invest in smart meters for customer use cases likely to implement EV infrastructure. • Long-term load planning will also allow for more transparency into necessary grid upgrades to reduce these risks.
Lack of transparency around interconnection timelines and costs	CPOs often encounter long interconnection timelines, delaying project completion and extending payback periods. Interconnection costs and other utility charges are frequently unavailable up-front, creating further financial uncertainty during implementation.	• **Priority Action** – Implement a single-window process to streamline interconnection for EV infrastructure. • **Priority Action** – Publish clear interconnection costs and rates for more informed CPO decision-making, in addition to site upgrade requirements and costs.

v The grid supplies power in the form of a smooth sinusoidal wave of alternating current. Large electronic devices such as EV chargers could alter this wave by injecting distortions, also called harmonics.

Exhibit 3 **EV infrastructure market challenges and solutions for DISCOMs supporting infrastructure buildout (continued)**

CHALLENGE	DESCRIPTION	TARGETED SOLUTIONS
High operating expenses from electricity tariffs, utility charges, and increased peak load	High operating expenses from utility charges and electricity tariffs restrict viability for CPOs in some states. In contrast, subsidised EV tariffs do not generate enough revenue for DISCOMs to keep up with the requisite upgrades from increased grid load, leading to additional utility charges during commissioning and operation.	• **Priority Action** – Work with SERCs to implement time-of-day (ToD) rates for EV tariffs to encourage charging during off-peak hours. • **Priority Action** – Develop demand response programmes and managed charging pilots to reduce costs via cost-optimised charging patterns. • **Priority Action** – Encourage and invest in smart chargers to enable better load management, aggregation, and renewable energy integration.[vi, 11]

RMI Graphic. Source: RMI analysis

The priority actions outlined in **Exhibit 4** were selected based on external stakeholder input, as well as proven potential to accelerate EV infrastructure development. These actions also directly tackle the key challenges and opportunities faced by DISCOMs. Implementing these actions will establish momentum and lay the groundwork for longer-term strategies.

vi Smart EV chargers allow operators to manage, monitor, and adjust energy consumption based on grid load. They optimise energy consumption based on grid constraints, energy pricing, renewable energy availability, and locally stored energy, and allow for load shifting to deliver electricity without overloading the power grid.

Exhibit 4 **Priority actions for DISCOMs to support EV infrastructure development**

PRIORITY ACTION	KEY STEPS
DO FIRST	
Conduct long-term EV load forecasting and planning	• Conduct regional, long-term EV load forecasting to assess grid readiness, areas requiring upgrades, and the need for load management; ensure analysis incorporates market conditions such as EV adoption and anticipated economic growth.
Implement single-window processes to streamline interconnection	• Establish a fast-track process to grant interconnection requests for EV chargers.
Increase cost transparency of interconnection and requisite grid infrastructure upgrades	• Publish standardised interconnection rates, variable costs for operation, and costs for required grid infrastructure upgrade by site. Specific information to publish includes available power capacity by distribution substation, location of high-tension lines and expected line extension costs, and a curated list of optimal EV infrastructure sites given power capacity and upgrade cost considerations.
Invest in smart meter upgrades and smart chargers	• Invest in smart meters for increased visibility into load, as well as future demand response programmes, especially for sites likely to implement EV infrastructure. • Expand smart chargers by connecting consumers with verified suppliers and offering purchase incentives for specific use cases (e.g., residential or community chargers). Smart chargers offer opportunities for future demand response and load management.
DO NEXT	
Implement time-of-day (ToD) tariffs for EV charging	• Work with SERCs to implement EV ToD tariffs to incentivise charging during off-peak hours for demand management and gradually increase the peak/non-peak differential based on systematic rate setting. EV ToD tariffs promote managed charging and minimise the need for distribution grid infrastructure upgrades.
Develop managed charging pilots and demand response programmes	• Identify which vehicle charging use cases require further data for a DISCOM to make informed load management and grid infrastructure decisions. • Design managed charging pilots that assess charging patterns and site-specific grid reliability given available power capacity.

RMI Graphic. Source: RMI analysis

Challenges and solutions for DISCOMs operating as CPOs

This section details the challenges faced by DISCOMs implementing EV infrastructure as CPOs. **Exhibit 5** outlines challenges and solutions, whereas **Exhibit 6** details priority actions.

Exhibit 5

EV infrastructure market challenges and solutions for DISCOMs implementing infrastructure

CHALLENGE	DESCRIPTION	TARGETED SOLUTIONS
Land constraints for setting up EV infrastructure	EV adoption is growing fastest in densely populated cities, where limited land availability makes infrastructure development costly and challenging. Installing EV chargers can reduce parking space, causing reluctance among landowners and property managers.	• **Priority Action** – DISCOMs can partner with land providers for concessional rates or longer leases to set up EV infrastructure. • **Priority Action** – Urban local bodies (ULB) can establish regulations to ease land transfer or leasing for EV infrastructure use, and mandate that parking spots are set aside for EV infrastructure installation (i.e., EV-ready building codes). • State transportation planning/urban planning/ municipal corporations can strategically identify public EV charging locations and ease the land leasing/acquisition process.
Unclear business model viability due to low utilisation	Business models relying solely on charging revenue are often unviable due to low utilisation rates. Additionally, a lack of proven DISCOM-led CPO models reduces their willingness to engage.	• **Priority Action** – DISCOMs can explore EV infrastructure business models used by global electric utilities to understand options and innovation opportunities. • Incorporate additional revenue streams (e.g., advertisement revenue) and government subsidies (e.g., PM E-DRIVE) into business models.
Limited ability to invest in infrastructure outside of core business operations	Many DISCOMs face financial limitations that restrict investment and access to financing. As regulated entities, DISCOMs must navigate complex processes to establish infrastructure, limiting their ability to develop EV infrastructure as a revenue stream.	• DISCOMs could establish a separate business entity to pursue EV infrastructure as a CPO. This reduces risk to ratepayers and allows the non-regulated affiliate to profit through charging service fees, hardware sales, and other value-added services and partnerships. Private DISCOMs and DISCOMs in good financial standing may be better suited for this endeavour, as it requires significant investment and high up-front capital expenditures.

Exhibit 5 **EV infrastructure market challenges and solutions for DISCOMs implementing infrastructure (continued)**

CHALLENGE	DESCRIPTION	TARGETED SOLUTIONS
Lack of charging standards increases investment risk	The absence of charging connector standardisation leads to incompatible technologies. This increases the risk of stranded assets for DISCOMs and complicates access to affordable financing for EV infrastructure.	• Work with the Ministry of Power to update EV charging guidelines to specify plug, communication, and interoperability standards for chargers for all vehicle segments. • Build stakeholder alignment to guide investments and regulations towards standardised charging protocols. Working groups and industry partnerships can implement national guidelines and harmonise them with global standards.

RMI Graphic. Source: RMI analysis

Exhibit 6 **Priority recommendations for DISCOMs aiming to become CPOs**

PRIORITY ACTION	KEY STEPS
	DO FIRST
Assess and select business models	• Determine business models that optimise for DISCOM-specific priorities (e.g., ownership vs. operation of infrastructure) and regional context (e.g., land availability). Consider PPP and concessional public land revenue-sharing models. • For more details on these business models, refer to the section on *Business models for implementing EV infrastructure: Global examples of electric utilities operating as CPOs* (**page 17**). • As needed and permissible by regulatory entities, incorporate additional revenue streams into business models (e.g., advertisement revenue, ancillary grid services). • For DISCOMs that face regulatory restrictions on non-tariff revenue, consider establishing a separate CPO business to function as a non-regulated entity.
	DO NEXT
Partner with ULBs and private land providers	• To overcome land constraint issues, explore revenue sharing and other partnership models with real estate owners.
Identify optimal site locations	• Conduct detailed analysis to identify high-priority sites for EV infrastructure implementation jointly with state or municipal departments. Consider expected utilisation, requisite grid upgrades, and land ownership/leasing models.

RMI Graphic. Source: RMI analysis

Business models for implementing EV infrastructure: Global examples of electric utilities operating as CPOs

DISCOMs, when establishing EV infrastructure, should evaluate business models deployed nationally and globally to identify the best fit for their needs. **Exhibit 7** offers business model examples for DISCOMs operating as CPOs. The examples are not exhaustive but present options for DISCOMs. These business models:

- Integrate slow charging, fast charging, and battery swapping.
- Promote collaboration among DISCOMs, sub-national governments, private stakeholders, and financing institutions.
- Monetise additional revenue streams and/or reduce costs.
- Follow PPP models that are commonly used in India and require low up-front investment, such as build-own-operate-transfer (BOOT) and operation and maintenance (O&M).[vii] More details on these models can be found in RMI's *Financing Charging and Grid Infrastructure* report.[12]

vii Under the BOOT model, a public authority grants a private entity the right to construct, own, and operate its infrastructure asset for a set period, at the end of which it is transferred back. Under O&M (also called a management contract), the private entity is engaged to manage the asset, without transferring ownership.

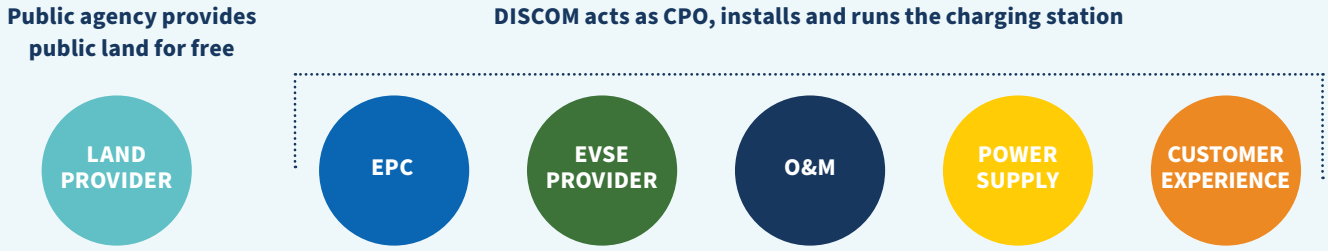
Each business model presented includes the following six components:

●	**Land provider**	Provide land for free or at concessional or commercial rates.
●	**EPC**[viii]	Engineer, procure, and construct (EPC) charging sites.
●	**EVSE provider**	Install EVSE.
●	**O&M**	Operate and maintain charging stations.
●	**Power supply**	Supply power (from the grid or off-grid) to the charging station.
●	**Customer experience**	Maintain customer-facing software and collect payments.

Exhibit 7 **EV infrastructure business models for DISCOMs acting as CPOs**

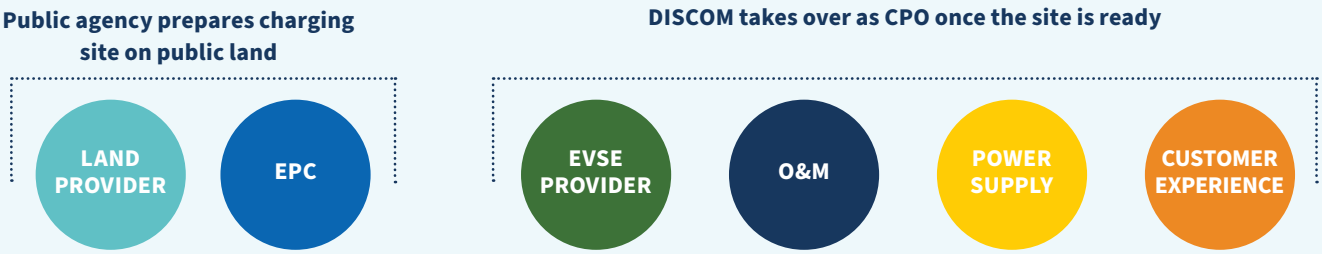
PARTNERSHIPS WITH URBAN LOCAL BODIES AND OTHER PUBLIC AGENCIES

DISCOM as a CPO on public land: Ideal for DISCOMs with capabilities to act as end-to-end CPOs and access to free or concessional public land.



Notable example: Bangkok, Thailand.[13]

DISCOM as a CPO on a pre-prepared site: Suitable in settings where public agencies act as active partners to DISCOMs and are invested in preparing charging sites.



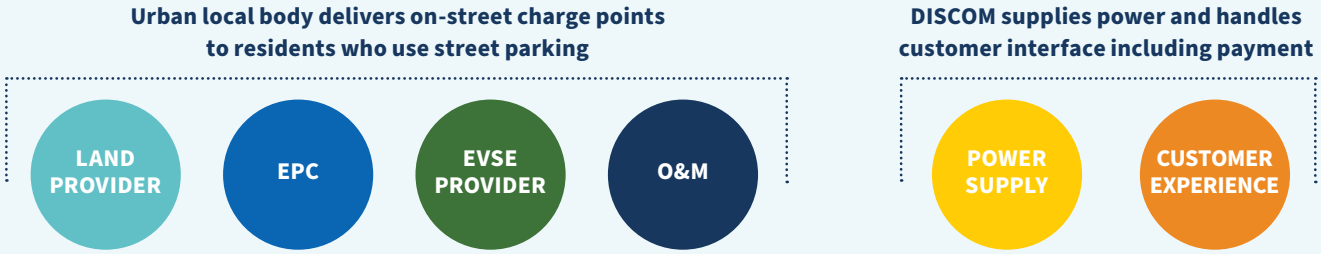
Notable example: London, UK.[14]

viii In all models, DISCOMs provide grid interconnection and distribution grid infrastructure upgrades, regardless of their involvement in the charging business. Transmission grid upgrades are not considered in this report.

Exhibit 7 **EV infrastructure business models for DISCOMs acting as CPOs (continued)**

PARTNERSHIPS WITH URBAN LOCAL BODIES AND OTHER PUBLIC AGENCIES

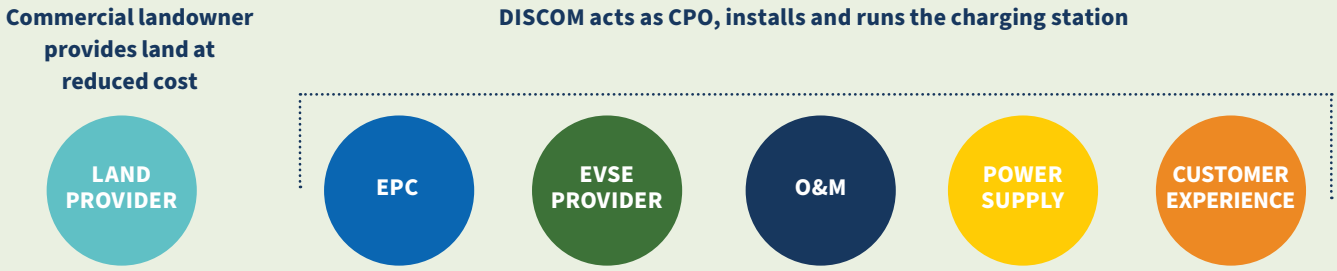
On-street residential chargers with an integrated utility bill: Applicable to dense urban residential settings where DISCOMs can support the ULB as a CPO by upgrading the grid and making payments seamless.



Notable example: London, UK.[15]

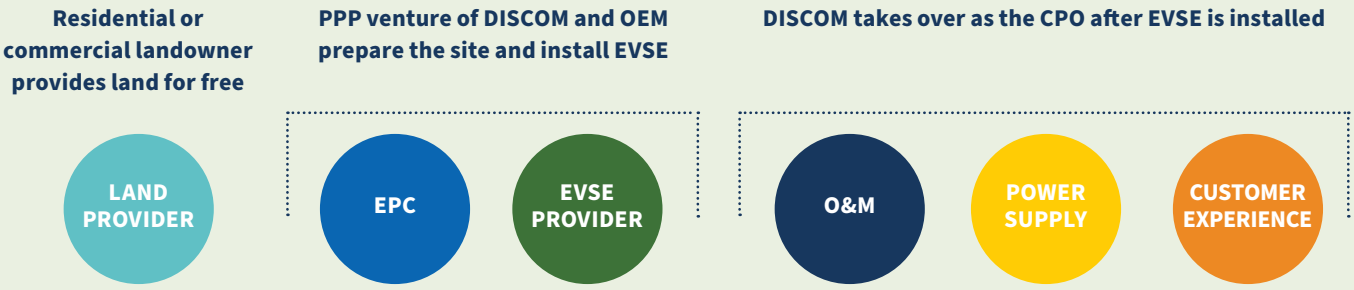
PUBLIC-PRIVATE PARTNERSHIPS

DISCOM as a CPO on commercial land: Ideal for DISCOMs with capabilities to act as end-to-end CPOs and to build partnerships with commercial landowners.



Notable example: Quebec and Ontario, Canada.[16]

DISCOM partnership with an OEM to install chargers: Suitable for urban or industrial areas where landowners have an appetite for private or semi-public chargers.

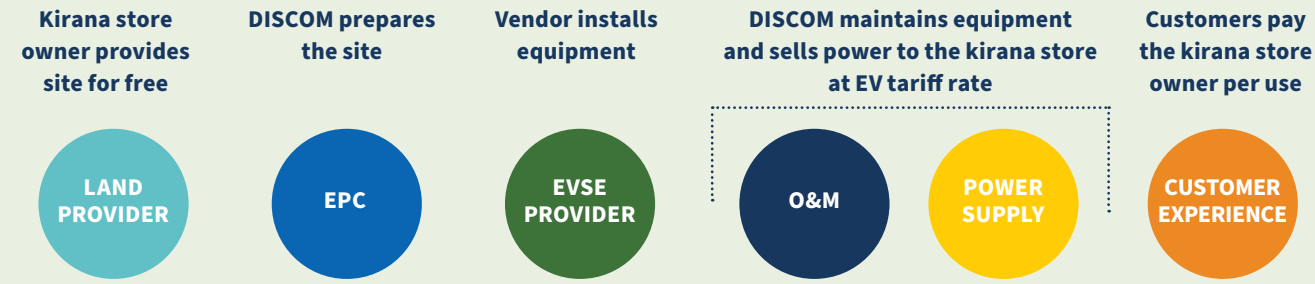


Notable example: Bangkok, Thailand.[16]

Exhibit 7 **EV infrastructure business models for DISCOMs acting as CPOs (continued)**

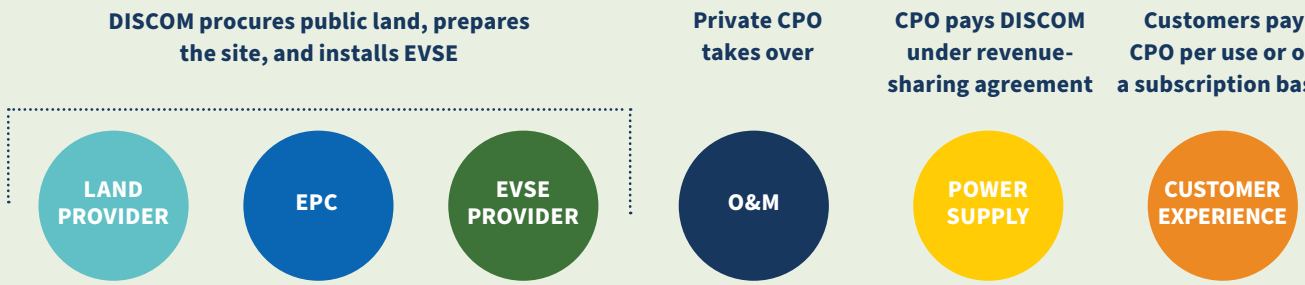
PUBLIC-PRIVATE PARTNERSHIPS

Revenue sharing with kirana stores:[ix] Suitable for dense urban areas with two- and three-wheelers and limited space for public charging. DISCOMs act as aggregators, connecting small kirana stores and EVSE vendors.



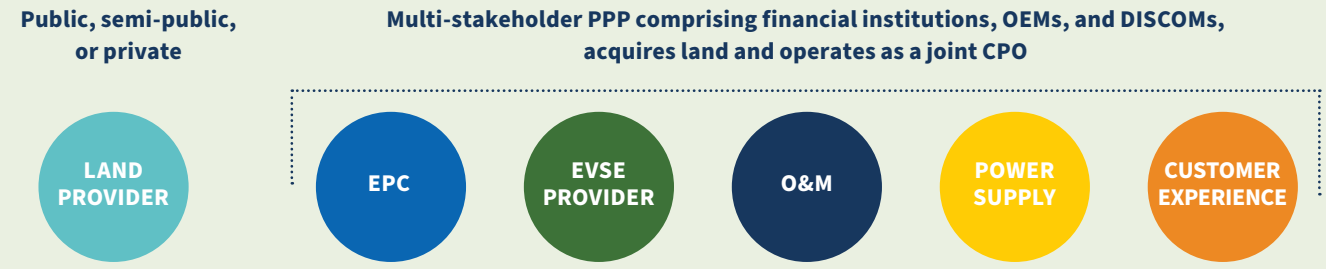
Notable example: Delhi, India.[17]

Revenue sharing for public charging stations: Suitable for DISCOMs looking to transfer EV infrastructure to private CPOs. The CPO may guarantee the DISCOM a minimum monthly payment or pay per unit of power.



Notable example: "Refresh & Recharge" lounges in Kerala, India.[19]

Multi-stakeholder PPPs with financiers and OEMs: Leverage diverse strengths of multiple stakeholders and are thus broadly applicable in a variety of settings.



Notable example: Several locations across Japan.[20]

RMI Graphic. Source: RMI analysis

ix Kirana stores are small, family-run neighbourhood grocery shops commonly found throughout India.

Conclusion: DISCOMs as Impactful EV Infrastructure Leaders

India's EV transition offers DISCOMs a strategic opportunity to take a leading role in the future of mobility and the power sector. As EV adoption accelerates, DISCOMs will be central to ensuring that infrastructure keeps pace with demand in a variety of roles.

To respond to this challenge, DISCOMs should focus on four priority actions:

- **Streamline operational processes** to reduce barriers for private CPOs and improve cost transparency.
- **Strategically plan for EV load growth** through long-term forecasting and infrastructure upgrade strategies.
- **Support demand-side management** by piloting smart charging technologies and investing in load-mitigation tools like smart meters and demand response programmes.
- **Explore innovative business models for EV infrastructure buildout** including PPPs and models that leverage concessional land and revenue sharing.

Equally important is fostering more coordinated stakeholder discussions around EV infrastructure planning. Stakeholders involved in developing and implementing EV policies often work in silos, fragmenting the market. DISCOMs should actively participate in policy development to align priorities, avoid duplication, and accelerate infrastructure rollout.

Despite challenges such as grid infrastructure upgrades, limited load growth visibility, and uncertain business model viability, international examples showcase that DISCOM leadership during early infrastructure development can catalyse the market, leading to the deployment of necessary energy infrastructure. With focussed action and stronger cross-sector coordination, DISCOMs can help build a robust, scalable, and inclusive EV infrastructure ecosystem — one that supports national goals while strengthening the grid for the future.

Appendix

Additional EV Infrastructure Business Models

Landowning public agencies — such as ULBs, road transport, and highway authorities — as well as residential communities and OEMs, can also explore models including but not limited to the models listed in **Exhibit 8**:

Exhibit 8 **Additional EV infrastructure business models**

BUSINESS MODEL	DESCRIPTION
Public agency acts as CPO	A public agency installs and runs charging stations on its land. This model is found in several cities in Norway, the UK, and Barcelona, Spain.[21]
Car-plus-charger model	An OEM acts as the CPO. The OEM rents public or semi-public land, installs and operates charging stations, and collects payments (e.g., across the United States).[22]
Privatised residential charger model	A homeowner or residential community purchases, installs, and operates a charger on their premises (e.g., Oslo, Norway).[23]
Revenue sharing between a public agency and private partner(s)	A public agency prepares and maintains a charging site on its land. A private CPO rents the site, supplies equipment and software, and collects payments. This model is common in Los Angeles, United States.[24]
	A public agency runs charging stations on public land, manages customer experience, and collects payments, while outsourcing site engineering and supply and maintenance of EVSE to a private partner. Several cities and highways in China, France, and Oslo, Norway, have implemented this model.[25]
	A PPP venture is created between a public agency and a private player. The public agency provides land at concessional rates, and the PPP installs and runs charging stations and collects payments (e.g., Amsterdam, the Netherlands).[26]
	A public agency provides land under a revenue-sharing agreement at concessional or commercial rates. A private CPO installs and runs the charging station and collects payments. This model is seen in Delhi, India.[27]

RMI Graphic. Source: RMI analysis

Endnotes

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