

Comparative evaluation of non-fiscal incentives to promote electric vehicles across Indian states and union territories

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Introduction and background

The Government of India is promoting electric vehicles (EVs) through national programs such as the Faster Adoption and Manufacturing of Electric Vehicles (FAME) and Production Linked Incentive (PLI) schemes. To support this push for electric mobility, many Indian states and union territories have also established or are developing their own EV policies. This paper reviews policy developments up to September 2022, and as of that time, Maharashtra (MH), National Capital Territory of Delhi (DE), and Telangana (TE) had finalized their EV policies. Andhra Pradesh (AP), Assam (AS), Bihar (BR), Chandigarh (CH), Goa (GA), Gujarat (GJ), Haryana (HY), Karnataka (KA), Kerala (KR), Ladakh (LD), Madhya Pradesh (MP), Meghalaya (ME), Orissa (OR), Punjab (PJ), Rajasthan (RJ), Tamil Nadu (TN), Uttar Pradesh (UP), Uttarakhand (UK), and West Bengal (WB) had issued draft EV policies.¹

The EV incentives established by state governments are broadly aimed at reducing petroleum use, greenhouse gas (GHG) emissions, and local air pollutant emissions. The policies focus on either boosting demand for EVs or promoting EV manufacturing in their respective states. State governments can play a key role in EV market development by complementing national promotion efforts and by serving as a bridge between national and city governments. Many state EV policies incorporate plans to offer non-fiscal incentives to promote electric mobility, but additional states can also take up this approach.

A 2019 ICCT report identified effective strategies and policy approaches that state governments in India could apply to design well-rounded EV policies.² While measures

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1 "India: State Level EV Policies," TransportPolicy.net, accessed April 21, 2023, <https://www.transportpolicy.net/standard/india-state-level-ev-policies/>.

2 Aparna Menon, Zifei Yang, and Anup Bandivadekar, "Electric Vehicle Guidebook for Indian States," (ICCT: Washington, D.C., 2019), https://theicct.org/wp-content/uploads/2021/06/India_EV_State_Guidebook.20191118.pdf.

like zero-emission vehicle (ZEV) mandates and carbon dioxide (CO₂) regulations can reduce emissions and incentivize electrification, non-fiscal incentives also have the potential to boost EV demand. Examples of incentives that do not involve helping pay for an EV include designated parking spaces for electric cars, low- or zero-emission zones, registration and license benefits, lane access, and exemption from road-access restrictions. These benefits offer EV drivers time savings and convenience beyond the communal benefits of reduced noise pollution, better air quality, and improved public health that are inherent in reducing the number of internal combustion engine (ICE) vehicles on the road. Policymakers will miss an opportunity to promote EVs if their policies fail to emphasize both non-fiscal and fiscal incentives.

This briefing reviews the non-fiscal incentives proposed and adopted within Indian states' EV policies. It is focused on consumers, and we review incentives for EV consumers while they are driving their vehicles and support for charging infrastructure installation.

Overview of state-level EV incentives

Indian state governments have incorporated both demand- and supply-side incentives in their EV policies.³ The incentives can be broadly classified as fiscal and non-fiscal. Fiscal incentives provide consumers with direct monetary benefit to buy and operate an EV, and these include purchase subsidies, tax exemptions, interest-free loans, subsidies on the electricity tariff for charging EVs, and toll and parking fee waivers. Non-fiscal incentives do not have an easily quantified monetary benefit.⁴ They include preferential treatment for EVs on the road, charging infrastructure, and policy support for manufacturers (the latter indirectly benefits consumers).

Table 1 provides examples of fiscal and non-fiscal incentives in state EV policies in three areas: those focused on consumers, those focused on charging, and complementary policies for EV adoption and manufacturing. This paper is focused on the first two areas.

Table 1. Categories of incentives in state EV policies in India

Fiscal incentives		Non-fiscal incentives		
Consumer incentives		Consumer incentives	Charging infrastructure incentives	Complementary policies for EV adoption and support for manufacturers
One-time	Recurring	Preferential treatment on-road use	Efficient charging infrastructure rollout	
<ul style="list-style-type: none"> • Purchase subsidies • Exemption from registration and road taxes • Interest-free loans • Property tax rebate for installing charging station 	<ul style="list-style-type: none"> • Subsidy on electricity tariff for charging • Toll fee waiver • Parking fee waiver 	<ul style="list-style-type: none"> • Green zone • Reserved parking • Exemption from odd-even number license plate rule 	<ul style="list-style-type: none"> • Modification of building code • No-objection certificate for charging installation in parking spaces • Cloud features for using smart mobility card • Facility of using of existing electricity connection. • Land allocation for charging points 	<ul style="list-style-type: none"> • Single-window clearance for EV manufacturers • Preferential market access for EV manufacturers • Public procurement preference for EVs • Consumer outreach and education • Research and development (R&D) support for manufacturers • ZEV credits for manufacturers

Fiscal incentives are primarily intended to reduce the EV purchase cost. However, purchase price is rarely the sole factor affecting whether a consumer buys an EV.

3 Shikha Rokadiya "Electrifying India's Two-Wheelers: Supply-Side Incentives and Beyond," ICCT (blog), October 19, 2021, <https://theicct.org/electrifying-indias-two-wheelers-supply-side-incentives-and-beyond/>.

4 Lingzhi Jin, Stephanie Searle, and Nic Lutsey, "Evaluation of State-Level U.S. Electric Vehicle Incentives," (ICCT: Washington, D.C., 2014), https://theicct.org/sites/default/files/publications/ICCT_state-EV-incentives_20141030.pdf.

Many countries have attempted to encourage EV adoption by offering both fiscal and non-fiscal incentives.⁵ Non-fiscal incentives are meant to increase the convenience and flexibility of owning an EV. They facilitate EV uptake by enhancing the perceived value of owning green vehicles; when ICE vehicle drivers see the priority given to EVs, they might consider switching.

Table 2 compares the incentives in various state EV policies in India. Most states have prioritized fiscal incentives over non-fiscal measures. However, green zones and preferential parking for EVs are common non-fiscal consumer incentives proposed by some state governments. Commonly considered non-fiscal incentives to promote installation of charging infrastructure include land allocation for charging points and modification of building bylaws.

Only the state of Gujarat's EV policy contains a specific no-objection certificate provision for installing a charging station in a parking space.⁶ States and union territories such as Chandigarh, Delhi, Maharashtra, and West Bengal have offered online facility of transaction for charging infrastructure usage to assist EV users.⁷

Some of the complementary policies considered in state EV policies are single-window clearance for EV original equipment manufacturers (OEMs), R&D support, preferential market access for EV OEMs, and preference for EVs in government vehicle procurement.

Table 2. Comparison of fiscal and non-fiscal incentives in state and union territory policies in India. Yellow columns indicate finalized EV policies.

Type	Category	Incentive	AP	AS	BR	CH	GA	GJ	HY	KA	KR	LD	MH	MP	ME	DE	OR	PJ	RJ	TN	TE	UP	UK	WB	
Fiscal	Consumer incentives	Purchase subsidies	●			●						●		●	●	●	●		●						
		Waivers for road and registration taxes			●	●	●		●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	
		Special electricity tariff for charging		●	●			●		●	●	●		●		●	●	●	●	●	●				●
Non-fiscal	Consumer incentives for preferential on-road use	Green zone	●						●		●		●	●					●					●	
		Exemption from odd-even license plate number rule													●										
		Reserved parking										●	●	●		●		●	●			●			
	Incentives for efficient charging infrastructure rollout	Modification in building code	●			●					●						●		●		●				●
		No-objection certificate for installing charging station in parking space						●																	
		Cloud features for digital transactions using smart mobility card				●								●			●								●
		Provision of allowing earlier sanctioned electricity load connection for charging unit		●	●			●		●	●										●				
		Land allocation for charging points	●		●	●					●	●		●		●					●				●
	Complementary policies for EV adoption	Preferential market access for EV manufacturer																		●	●	●			
		ZEV credit mechanism for EVs												●											
		Single-window clearance for OEM					●							●	●								●		
		R&D support				●				●															

5 Scott Hardman, "Understanding the Impact of Reoccurring and Non-financial Incentives on Plug-in Electric Vehicle Adoption—A Review," *Transportation Research Part A: Policy and Practice* 119, (2019): 1-14. <https://doi.org/10.1016/j.tra.2018.11.002>

6 The certificate of no-objection grants permission for installing an EV charging station in the parking lot.

7 Online facility of transaction enables ease of bill payment when using an EV charging station.

Uptake of non-fiscal incentives varies significantly among the states. Maharashtra and West Bengal have the most, four each, while states like Goa, Uttar Pradesh, and Uttarakhand do not have any non-fiscal incentives.

How non-fiscal incentives work

Non-fiscal incentives can be received repeatedly during vehicle ownership and include incentives that are not directly financial in nature. Table 2 lists three non-fiscal incentives for consumers. This section describes their influence using examples from regions outside of India. Following that, we provide a high-level overview of the benefits of incentives in the charging infrastructure and complementary policies categories.

Green zones

Green zones, which are conceptually similar to low- or zero-emission zones, are geographic areas in which entry by high-emitting ICE vehicles is restricted or prohibited.

There are several examples globally of effective low-emission zones, and a few municipalities have piloted zero-emission zones. Both low- and zero-emission zones are typically used to manage air pollution from passenger and freight vehicles in a particular area. These can be combined with financial and policy incentives that encourage deployment of zero-emission commercial vehicles.

Leading cities have commonly started with a pilot program for a green zone, and it usually covers a small geographic area or only applies to certain vehicle categories that are easier to electrify. A green-zone program can be expanded in stages after the pilot, and that allows policymakers to employ lessons learned to inform further implementation. Resources can be added where needed as the program advances and the green zone expands.

Feasibility analyses help cities determine the best way to design a low-emission zone based on local conditions such as geographic features, spatial distribution of the population, and traffic volume.⁸ Implementation begins with planning the geographic aspects of the zone, for example, whether it should encompass the city center and what city or state roads should be covered. City governments also determine which vehicles to include (i.e., light-duty and/or medium- and heavy-duty vehicles) to ensure maximum benefit from the policy.

Seven states in India have proposed establishing green zones as components of their EV policies. In general, state EV policies define green zones as areas designated for entry by only non-fossil-fuel or electricity-powered vehicles. However, the details of the planned green zone policies vary between states. Table 3 shows the variation in these descriptions. For example, the vehicle technologies that are allowed to enter the green zone are different. While the EV policies of Andhra Pradesh, Haryana, and Madhya Pradesh allow entry to all non-fossil-fuel vehicles, Kerala, Maharashtra, Punjab, and West Bengal allow entry only to EVs. None of the states have clarified the exact locations or size of a proposed green zone, though Kerala and Madhya Pradesh have mentioned focusing the zones in high-tourism areas. Not all states have considered charging infrastructure support inside the green zone, but West Bengal includes the area as a part of project to integrate renewable energy and electric mobility.

⁸ Hongyang Cui, Pramoda Gode, and Sandra Wappelhorst, "A Global Overview of Zero-emission Zones in Cities and Their Development Progress," (ICCT: Washington, D.C., 2021), <https://theicct.org/wp-content/uploads/2021/12/global-cities-zez-dev-EN-aug21.pdf>.

Table 3. Green zone descriptions in state EV policies

State	Details	Charging infrastructure support in the zone?	Hydrogen fueling support?	Is tourism a focus?	Pilot project(s)?	Special name for the green zone
AP	Entry only to non-fossil-fuel vehicles	Yes	Yes	No	No	N/A
HY	Entry only to non-fossil-fuel vehicles	Yes	Yes	No	No	N/A
KR	Entry only to EVs	No	No	Yes	Yes	E-mobility zone
MH	Low-emission zone for zero-tailpipe-emission vehicles	Yes	No	No	No	Low-emission zone
MP	Entry only to non-fossil-fuel vehicles	Yes	No	Yes	No	E-zones
PJ	Entry only to EVs	Yes	No	No	No	Green corridor
WB	Project of integration of renewable energy and EVs	Yes	No	No	Yes	Zero-emission vehicle zones

Reserved parking for EVs

Designated parking spots for EVs in municipally owned parking lots and at train stations, airports, and commercial parking areas in urban centers offer preferential status for EV users. The primary benefits are time savings and confidence that parking will be available, even in high-use areas. Dedicated EV parking spots can also help in planning for charging stations, and where chargers are installed, drivers are offered the convenience of charging the vehicles while they are parked. All of this can help to promote adoption of EVs.

The city of Sacramento, California, provides designated parking for EVs in municipal garages. Two Chinese cities, Xi'an and Yichun, have adopted similar measures. Xi'an requires that all public parking lots, short-term parking lots, shopping centers, and tourist attractions dedicate parking spaces for EVs. Existing major parking lots must reserve at least 5% of spaces for EVs, while smaller parking lots must set aside 10%. All new parking lots must dedicate 30% of their spaces for EVs. Yichun, meanwhile, required dedicated parking for EVs in sightseeing areas.⁹

Some cities also require installation of electric vehicle supply equipment (EVSE) in a select number of public parking spaces. For example, Boston directs that 25% of parking spaces in new lots constructed after 2020 be equipped with EV charging stations. Similarly, the European Parliament in 2018 directed that European Union Member States have at least one EV charging point for every 10 parking spaces at new or renovated non-residential buildings.

The Indian Ministry of Housing and Urban Affairs, in amendments to the Model Building Bye-Laws (MBBL), recommended that 20% of all new parking spots be equipped with EV charging.¹⁰ The Delhi Development Authority's Unified Building Bye-Laws mandate that 20% of all parking capacity of new construction must have charging infrastructure for EVs; existing buildings with parking spaces for more than 100 vehicles are directed to set aside 5% of the capacity for spaces for EVs that have slow charging stations. Similarly, in March 2021, the Delhi city government directed that all commercial

9 Hui He, Lingzhi Jin, Hongyang Cui, and Huan Zhou, "Assessment of Electric Car Promotion Policies in Chinese Cities," (ICCT: Washington, D.C., 2018), https://theicct.org/sites/default/files/publications/China_city_NEV_assessment_20181018.pdf.

10 Lijee Philip, "EV Customers Face Charging Roadblocks at Residences, NITI Aayog Assures Changes," *ETAuto*, September 19, 2021, <https://auto.economicstimes.indiatimes.com/news/industry/ev-customers-face-charging-roadblocks-at-residences-niti-aayog-assures-changes/86336185>.

establishments and institutions with parking capacity for at least 100 vehicles must reserve 5% of their spaces for EVs.¹¹

Seven Indian states and union territories have proposed reserved parking for EVs. The union territory Ladakh proposes to reserve 10% of notified parking spaces for EVs. Only Maharashtra state policy provides for EV preferential parking for residential buildings, while Meghalaya, Orissa, Punjab, and Telangana have proposed EV preferential parking in government-owned spaces. Kerala's draft EV policy does not specify locations for reserved EV parking.

Exemption from odd-even rule for EV users

The odd-even rule, also known as “road space rationing,” is aimed at curbing air pollution by limiting the number of days a vehicle can be on the road, based on its license plate number.

Beijing was among the pioneers in employing this policy on private vehicles. Drivers caught violating the rule by automated monitoring systems were fined up to 200 yuan (-INR 2,000). The program successfully curtailed the number of private vehicles on the roads at any given time and EVs were exempt from the rule.¹²

Paris introduced road-space rationing of private vehicles using the odd-even rule on multiple occasions. Exemptions were given to electric, hybrid, and natural gas vehicles, and to carpools with three or more passengers. The program improved air quality levels in the city. Especially during rush hours, air pollution fell by 20% in 2014 and 30% nitrogen oxides reductions were recorded along major roads.¹³ The policy in Paris was complemented by free use of public vehicles on days when the odd-even rule applied and by a fine of up to twenty-two euros (INR 17,000) for violators. Mexico City, Bogota, and Rome have also reported improvements in air quality during peak driving hours by employing odd-even rules for private vehicles.¹⁴

To date, no Indian state has established such a program, though Delhi conducted a short-term initiative. For 10 days in November 2019, the Delhi government introduced traffic rationing in which private vehicles—specifically four-wheeled non-transport vehicles—with registration numbers ending with an odd digit were allowed on roads on odd dates and those with even digits on even dates. EVs were exempted from the rule, with the Delhi government explaining that the vehicles were not likely to cause any congestion or pollution.

Of the state EV policies, only Meghalaya has proposed an odd-even rule exemption for EVs in the event that the state establishes road-space rationing.

As the EV market expands, additional efforts might be needed to manage the congestion and increased use of these vehicles on the road. For example, the city of Oslo previously allowed EVs to use bus lanes, but in 2015 restricted the exemption to high-occupancy EVs in response to congestion and slower bus speeds. In 2022, the Shanghai city government extended a free license plate benefit to EV buyers that will last until December 2023, and in January 2023, it cut off the benefit for plug-in hybrid electric vehicles (PHEVs). These examples point to the importance of tracking

11 Dialogue and Development Commission of Delhi and WRI India, “Workplace Charging Guidebook,” (2021), https://ddc.delhi.gov.in/sites/default/files/reports/workplace_ev_charging_guidebook.pdf.

12 Zolzaya Erdenebileg, “Shifting Gears: Investing in China’s Electric Vehicles Market,” *China Briefing*, May 11, 2016, <https://www.china-briefing.com/news/china-shifts-gears-electric-vehicles/>.

13 Gopi Karella, “Here’s How Some Cities Around the World Have Executed the Odd-Even Scheme to Check Pollution,” *NDTV*, November 14, 2017, <https://swachhindia.ndtv.com/heres-cities-around-world-executed-odd-even-scheme-check-pollution-14625/>.

14 Ibid.

the EV market to balance incentives to promote electric mobilization with other transportation goals.¹⁵

Support for home and workplace charging infrastructure

To achieve continued EV growth, charging infrastructure will have to keep expanding and evolving to meet needs of vehicle operators. Toward this goal, government agencies can plan their infrastructure activities to match vehicle electrification goals. Cities are essential actors for successful charging infrastructure installation.

In many leading EV markets, city planning has provided a dense, reliable, and interoperable charging network. Although each plan must be tailored to the unique local circumstances, there are generally applicable steps and these are shown in Figure 1, which is adapted from the template prepared for a city charging infrastructure plan in an earlier ICCT study.¹⁶

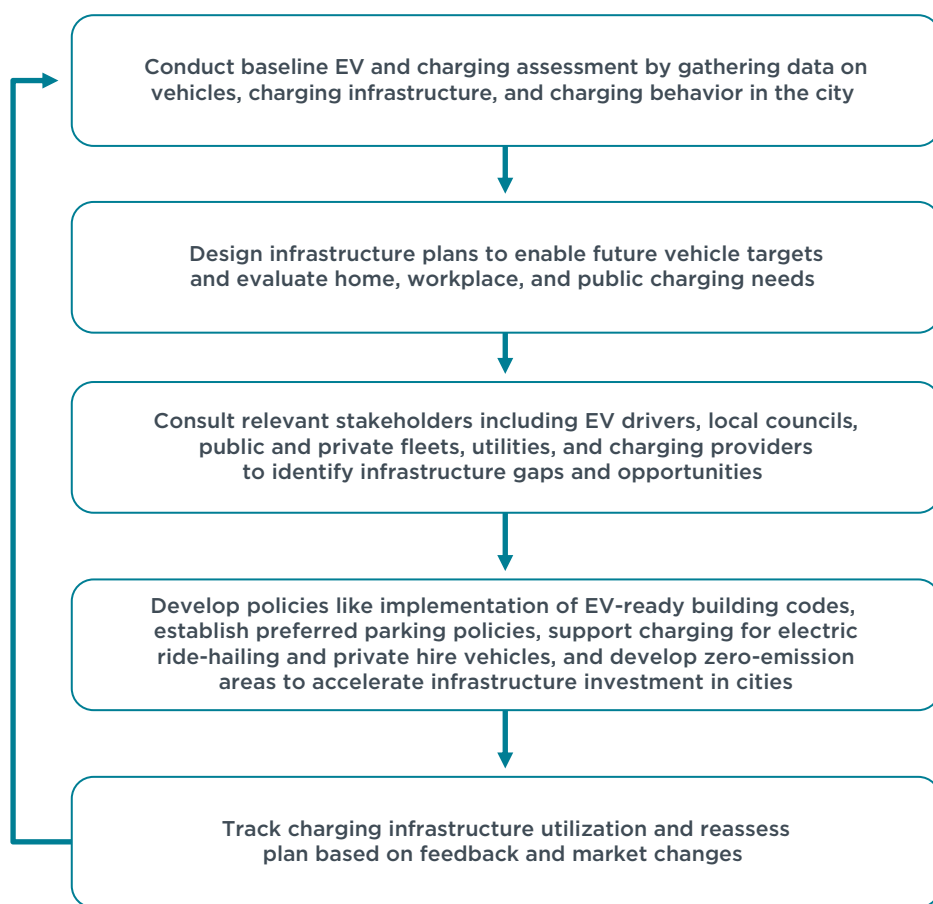


Figure 1. City-level planning template for efficient charging infrastructure rollout.

The Seoul Metropolitan Government announced a target to install 200,000 fast chargers by 2025 and included interim targets for earlier years. The city also announced a target to deploy 500,000 slow chargers by 2025, 10 times the number available at the end of 2020. To help the city find optimal locations, Seoul residents call or fill out a form to request an EV charging station near their home. Similarly, in many

15 Marie Rajon Bernard et al., “Electric Vehicle Capitals: Accelerating Electric Mobility in a Year of Disruption,” (ICCT: Washington, D.C., 2021), <https://theicct.org/wp-content/uploads/2021/12/EV-Capitals-briefing-v3-dec21.pdf>.

16 Dale Hall and Nic Lutsey, “Electric Vehicle Charging Guide for Cities,” (ICCT: Washington, D.C., 2020), https://theicct.org/wp-content/uploads/2021/06/EV_charging_guide_03162020.pdf.

European cities, including Amsterdam and London, EV owners without access to off-street parking can file a request online for expansion of the public charging network.¹⁷

The availability of adequate charging infrastructure has been a key impediment for accelerating adoption of EVs in India.¹⁸ The Ministry of Power of the Government of India’s “Charging Infrastructure for Electric Vehicles—Guidelines and Standards 2019” described the roles and responsibilities of various stakeholders at the central and state levels for expeditious nationwide deployment of public EV charging infrastructure. The guidelines were revised in 2022 after careful consideration of progress to date and suggestions from various stakeholders.¹⁹

Under the revised guidelines, public charging stations must enable users to prepay service charges with time-of-day rates and discounts for solar charging. A proposed Central Electricity Authority (CEA) committee would recommend to state governments the stations’ maximum service charges.

The Ministry of Power guidelines recommend building public charging stations every 25 km on both sides of highways. The guidelines call for state governments to prioritize installation of a power distribution network to meet the needs of this new infrastructure, including transformers and feeders.

Most state governments have set targets in their EV policies for the density of charging stations, as shown in Table 4.

Table 4. Targets on public charging density in state EV policies

State/Territory	Target for charging network
Andhra Pradesh	100,000 chargers by 2024
Bihar	Every 50 km on highways
Delhi	Every 3 km
Karnataka	Every 50 km on highways
Kerala	Every 25 km on national highways
Madhya Pradesh	Every 50 km on significant routes
Maharashtra	Every 3 km x 3 km grid/at least 50 charging stations per 1 million population. Every 25 km on highways
Tamil Nadu	Every 25 km on national and state highways
Telangana	Every 50 km on major state routes
Uttar Pradesh	200,000 chargers by 2024

Public charging infrastructure is important for drivers who do not have access to home charging and for long-distance trips. Housing patterns are a main determinant for the location of public chargers. For instance, an area with more apartment buildings will need more public chargers.²⁰ A July 2018 national survey found that 89% of Indian households in rural areas and about 56.4% of households in urban areas live in

17 Marie Rajon Bernard and Dale Hall, “Efficient Planning and Implementation of Public Chargers: Lessons Learned from European Cities,” (ICCT: Washington, D.C., 2021), <https://theicct.org/wp-content/uploads/2021/06/European-cities-charging-infra-feb2021.pdf>.

18 Ministry of Power, “Government of India to Expand Public Electric Vehicle Charging Infrastructure Across the Nation,” news release, February 19, 2022, <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1799464>.

19 Ministry of Power, “Charging Infrastructure for Electric Vehicles (EV) – The Revised Consolidated Guidelines & Standards-reg,” (2022), https://powermin.gov.in/sites/default/files/webform/notices/Final_Consolidated_EVCI_Guidelines_January_2022_with_ANNEXURES.pdf.

20 Dale Hall and Nic Lutsey, “Emerging Best Practices for Electric Vehicle Charging Infrastructure,” (ICCT: Washington, D.C., 2017), https://theicct.org/sites/default/files/publications/EV-charging-best-practices_ICCT-white-paper_04102017_vF.pdf.

independent houses.²¹ That leaves another 11% of rural households and 43.4% of urban households that do not have independent housing for installation of private EV charging.

The Ministry of Power has appointed nodal agencies in each state to manage charging infrastructure installation and plan procurement.²² Their responsibilities include maintaining the database for public charging stations and battery-swapping facilities in consultation with the Bureau of Energy Efficiency.²³ The agencies can also support the timely release of electricity connections for the charging stations by power distribution companies. The nodal agencies are different government bodies already operating in various states and union territories, and these include the state electricity board, state transport department, and state power corporation. State nodal agencies can, in cooperation with relevant stakeholders like private and semi-public charging installations to establish publicly accessible charging points at public places such as municipal parking lots and transit stations, and in semi-public locations such as gated communities, high-rise residential complexes, and office buildings.

Complementary incentives

In addition, state EV policies consider incorporating incentives like preferential market access for EV manufacturers, single-window clearances for EV OEMs, R&D support, and ZEV credit programs.

Preferential market access provides companies with support for establishing manufacturing units in the state. The prime benefit of single-window clearance for EV manufacturers is one point of contact for all clearances to get hassle-free services in a time-bound manner. By establishing centers of excellence, or R&D centers, states offer conducive platforms for innovations in EV manufacturing including battery technology and human capacity building. To stimulate EV manufacturing and adoption, a ZEV credit program for manufacturers is being explored in Maharashtra.

The review of the policies in this study does not account for additional, positive externalities that EVs provide to society as a whole, including public health benefits and environmental benefits. This study is primarily focused only on the incentives for EV owners; any other incentives for automakers and infrastructure providers is out of scope.

Summary

Having reviewed non-fiscal incentives incorporated into state- and territory-level EV policies in India, we see that these are opportunities to promote electric mobility and that states can play a key role in implementation.

Of the 22 Indian states and union territories that have EV policies, Andhra Pradesh, Haryana, Kerala, Maharashtra, Madhya Pradesh, Punjab, and West Bengal have adopted green zones in their programs. A green zone can be implemented in stages to allow the state government to assess the needs and add resources as needed. Among those seven Indian states, Kerala and West Bengal have proposed launching green zone pilot programs in their state EV policies. With appropriate planning on matters such as determining the geography covered by the zone, identifying the key actors for implementation, and determining the vehicle segments to include in the policy, the green zone can benefit EV consumers. Andhra Pradesh, Haryana, Maharashtra, Madhya

21 Ministry of Statistics and Programme Implementation, "NSS Report No. 584: Drinking Water, Sanitation, Hygiene and Housing condition in India," news release, November 23, 2019, <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1593252>.

22 Ministry of Power, "State Nodal Agencies under the Provisions of 'Charging Infrastructure for Electric Vehicles-Revised Guidelines and Standards' Issued by Ministry of Power on 01.10.2019," (2021), https://powermin.gov.in/sites/default/files/uploads/SNA_JAN_21.pdf.

23 Amitabh Kant et al., "Handbook of Electric Vehicle Charging Infrastructure Implementation-Version 1," (2021), <https://www.niti.gov.in/sites/default/files/2021-08/HandbookforEVChargingInfrastructureImplementation081221.pdf>.

Pradesh, Punjab and West Bengal offer charging infrastructure support in the green zone. States can also formulate the legal basis for effective implementation of green zones in a municipality or metropolitan area.

Parking availability can make drivers more likely to adopt EVs, and local authorities can use measures like reserved parking spots to promote EV purchases. Kerala, Ladakh, Maharashtra, Meghalaya, Orissa, Punjab, and Telangana have adopted reserved EV parking in their policies. Charging stations can also be planned in dedicated EV parking spots, and this makes it easy for drivers to charge their vehicles while parked. Requiring EVSE installation in parking spaces can further promote EV adoption in cities. The Government of Delhi directed all commercial establishments and institutions with parking capacity for 100 vehicles or more to reserve 5% of their parking spaces for EVs, and 20% of all parking capacity for new construction parking lots in Delhi must provide charging infrastructure for EVs. Priority parking programs are flexible and can use existing infrastructure with little to no additional costs for local government.

State EV policies also provide a variety of incentives for installing private EV chargers and establish targets for installing public chargers in densely populated areas and at regular intervals on high-traffic roads. In the first stages of EV uptake, mass rollout of charging infrastructure is key to building a comprehensive network of stations and to spurring drivers' confidence in EVs. As markets leave the early adopter phase, a demand-driven approach in which current or future EV users can request or suggest charging station locations can complement a city planning-oriented approach. State nodal agencies and relevant stakeholders like private and semi-public charging installations can coordinate to provide charging points at public places such as municipal parking lots and transit stations and semi-public accessible locations like gated societies, high-rise residential complexes, and office complexes. States and union territories like Andhra Pradesh, Chandigarh, Karnataka, Delhi, Punjab, Tamil Nadu, and West Bengal have proposed modification of building bylaws to promote charging infrastructure installation. Gujarat is the only state that offers no-objection certificates to all housing and commercial establishments that wish to install charging stations with designated parking spaces.