

Pimpri Chinchwad City Electric Vehicle Readiness Plan 2023

Report / July 2023





About Pimpri Chinchwad Municipal Corporation

The Pimpri Chinchwad Municipal Corporation (PCMC) is the civic body that governs the neighbourhoods of Pimpri, Chinchwad, Nigdi, Akurdi and the remainder of the north-western city limits of Pune. Established in 1982, the PCMC governs an area of 181 sq. km with a population of 2 million.

Acknowledgement

The PCMC and the Pimpri Chinchwad Electric Vehicle (EV) Cell would like to thank the Government of Maharashtra, more than 100 stakeholders who participated in consultations, Palladium and RMI for their technical support in developing and preparing this plan.

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1 Executive Summary



Cities are set to play a vital role in India’s clean mobility transition, with electric vehicles (EVs) at the forefront. Maharashtra’s State EV Policy also shapes the EV transition story by emphasising on six urban agglomerations across the state. Pimpri Chinchwad is one of these identified agglomerations as it comes under the Pune Urban Agglomeration.

Pimpri Chinchwad has taken path-breaking local initiatives to foster electric mobility innovation and support the ground-level implementation of national and state government EV policies. The PCMC constituted a city EV cell — a centralised and structured governance body notified by the PCMC to facilitate EV ecosystem-related developments in the city and coordinate across government departments, industry and citizens.

The Pimpri Chinchwad EV cell with technical support of RMI hosted city EV accelerator workshop on 15 February 2023 to work with the government; industry representatives from sectors, including original equipment manufacturers (OEMs), charging infrastructure manufacturers and providers, fleet aggregators and start-ups; nongovernmental

organisations (NGOs); academia; and civil society to design e-mobility solutions for Pimpri Chinchwad collaboratively.

“ The PCMC EV targets translate into 1,80,000 EVs in the city by 2026, which could avoid 0.8 million tonnes of CO₂ over their lifetime. ”

The EV readiness plan is designed based on the reflection of more than 100 stakeholders and their shared experiences during the city EV accelerator workshop. It aims to share key insights and valuable lessons learned from the workshop to create a strong foundation for an all-electric future for Pimpri Chinchwad. The EV readiness plan for the city is aimed at achieving 30% EV penetration in new vehicle registrations by 2026. This will help Pimpri Chinchwad deploy almost 1,80,000 EVs in the city by 2026, which could potentially avoid 0.8 million tons of CO₂. The PCMC's proactive approach sets an example for other towns in building a robust EV ecosystem at the local level and translating national and subnational policies into actions.



2 Introduction



Pimpri Chinchwad City – An Overview

The industrial twin towns of Pimpri and Chinchwad are renowned across the globe for their automobile manufacturing and assembly operations. This area is also popularly known as the Detroit of the East due to the presence of numerous domestic and international auto manufacturers. Some of the world's biggest automobile manufacturers, such as Mercedes Benz, Audi, Tata Motors, Mahindra and Mahindra and Volkswagen Group, have their manufacturing and assembly plants in these twin towns.

The city covers 181 sq. km with 1.7 million residents as per the 2011 census and an estimated 2 million currently¹. Led by rapid industrial and economic growth over the past two decades, Pimpri Chinchwad has emerged as the third fastest developing city in India². The PCMC's focus on infrastructure development has been the biggest growth driver in this area. The well-planned infrastructure and other civic amenities, land availability, skilled and unskilled workforce availability, and optimum rail/road/air

connectivity have made it an attractive destination for both industries and residents. The city has over 4,000 large, medium, and small-scale industries, including some top Indian and international multinational companies (MNCs).

Pimpri Chinchwad has the second-highest share of EVs (in terms of % share in new vehicle sales) in Maharashtra after Pune³. As per RTO-Pimpri Chinchwad, the total share of EVs in new vehicle registrations between June 2022 and April 2023 is approximately 11%.



The Maharashtra State EV Policy 2021: A Catalyst for EV Adoption in Cities

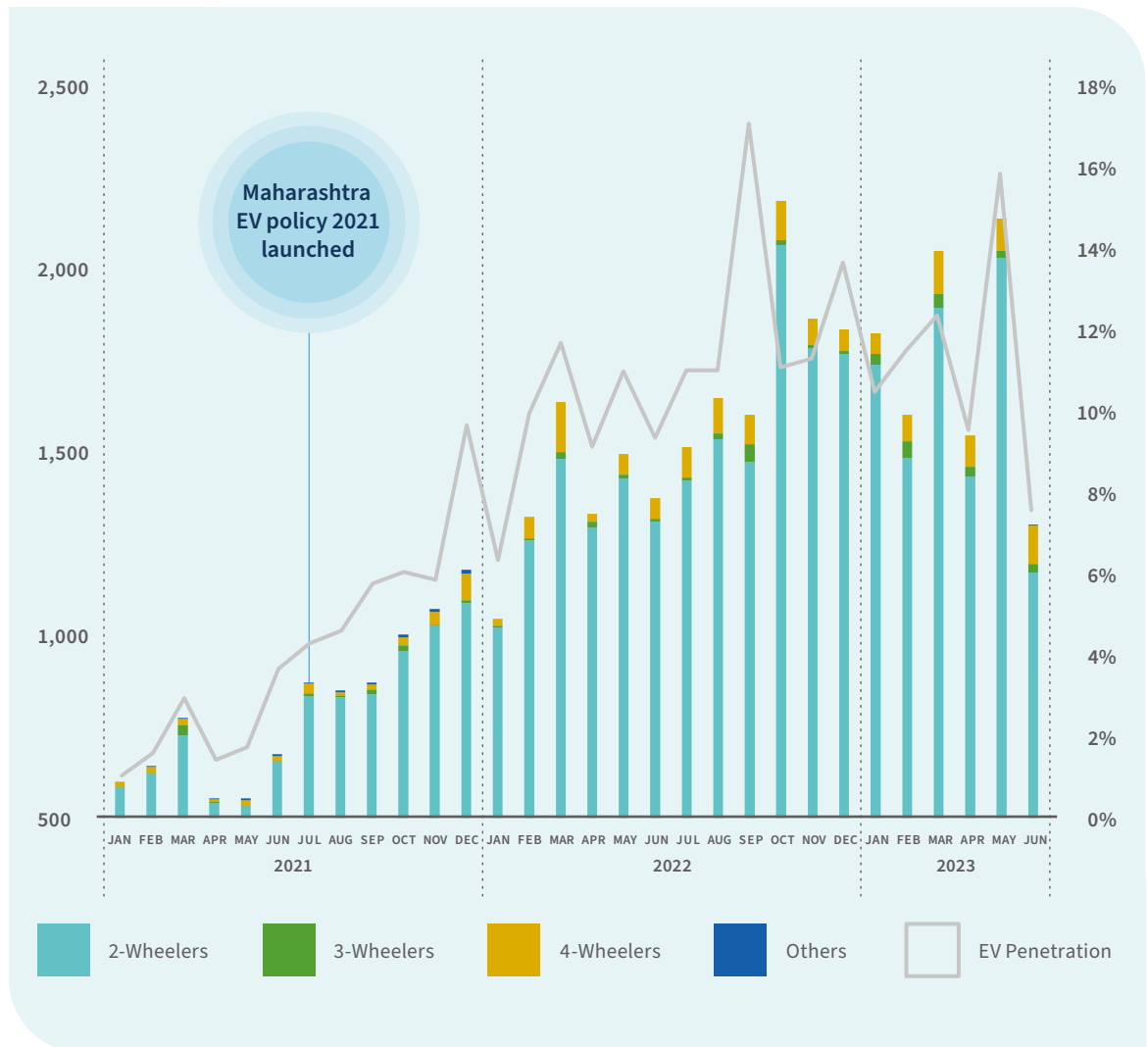
Maharashtra unveiled its new EV policy in July 2021. With an ambition to electrify 10% of the state's new vehicle registrations by 2025, the policy holds significance, given the state's leading position in India's automotive manufacturing landscape and vehicle market. It identifies Pimpri Chinchwad as one of the six targeted urban agglomerations in the state to achieve a high share of EVs over the next three years. The policy has set ambitious targets to electrify 25% of the city's public transport, shared modes, and urban deliveries, and install 500 public and semi-public charging stations in the Pune Urban Agglomeration by 2025⁴.



Pimpri Chinchwad: EV Growth Trends

The share of EVs in new vehicle registrations in Pimpri Chinchwad is steadily increasing. The city registers approximately 1,50,000 new vehicles every year⁵. Before 2021, the share of EVs in new vehicle registrations in Pimpri Chinchwad was about 1%. The EV penetration has been more pronounced since the notification of the Maharashtra State EV Policy in 2021. Of the 1,08,409 vehicles registered in the city in 2021, 4% were electric. In terms of monthly sales, EVs represented over 11% of the new vehicle registrations in February 2022. Of the 4,397 EVs registered in 2021, approximately 90% were two-wheelers, and 7% were four-wheelers. Exhibit 1 is a snapshot of the monthly EV registrations in Pimpri Chinchwad and the level of electrification achieved.

Exhibit 1 New EV Registrations in MH 14



Source: Vahan Dashboard (Data until 30 June 2023)



EV Initiatives by City Agencies

The local city administration — PCMC and Pimpri Chinchwad Mahanagar Parivahan Mahamandal Ltd (PMPML) — focuses on creating a robust EV ecosystem in Pimpri Chinchwad. To date, city agencies have taken various steps to support vehicle electrification and make PCMC an EV-ready city. **Exhibit 2** details some of the key EV mobility initiatives undertaken by various government departments in the city.

Exhibit 2

EV Initiatives by the City Agencies

Initiative	Description	Government Department
Sustainability cell	The PCMC has established a sustainability cell that integrates sustainable practices in all the projects executed by the urban local body. As sustainable mobility is one of the priorities for PCMC, the EV cell is an integral part of the sustainability cell. The main objective of this cell is to promote sustainability and resilience within different departments and residents of the city.	PCMC
Electrification of public transport	Pimpri Chinchwad has one of the largest Municipal electric bus (e-bus) fleet in the country. PMPML is the public transport bus service provider for the twin cities of Pune and Pimpri Chinchwad in the Pune Metropolitan Region. PMPML currently operates a bus fleet of 2,241 buses, of which 458 are e-buses procured by PMPML on the Gross Cost Contract (GCC) model. In the next few months, 192 additional electric buses are expected to join the fleet.	PMPML
Deployment of EV charging stations	<p>PCMC has also issued a tender to install public charging stations in the city at 22 different locations on a PPP basis in the first phase. PCMC will provide spaces at government-owned lands such as municipal gardens, parking spaces, major roads, and government buildings.</p> <p>PCMC also provides space to install charging stations at roadside parking spaces. This will improve the accessibility to charging stations.</p> <p>PCMC is also installing battery swapping stations in the city. Battery swapping technology can accelerate EV adoption in the city as it significantly reduces downtime and increases vehicle utilisation for industrial fleet and businesses.</p>	PCMC
Government fleet electrification	PCMC currently operates 22 EVs in its fleet. This is in line with the Maharashtra State EV Policy’s recommendation to procure only EVs in the government fleet from 1 April 2022. These leased vehicles are used to transport government officials and politicians in the city. The total existing fleet size of PCMC used to transport government officials is 75.	Workshop Department, PCMC

Initiative	Description	Government Department
Property tax rebate	The PCMC provides 2% to property owners setting up charging stations for EVs and 5% to housing societies.	PCMC
EV cell website	The PCMC has developed an EV cell website that acts as a knowledge repository and citizen grievance redressal system. The EV cell website sensitises citizens about growing air pollution and encourages them to switch to e-mobility by stating the benefits of using EVs.	EV Cell
E-auto incentive scheme	The PCMC organised an e-auto convening to accelerate the adoption of e-three-wheelers in the city. The convening informed auto unions of the technical, economic, and financial implications of shifting from a CNG autos to e-autos.	PCMC, EV Cell



City EV Cell

The city administration of Pimpri Chinchwad constituted a centralised and structured governance — the city EV cell — to facilitate initiatives concerning the city’s EV ecosystem and coordinate with government departments, industry, and citizens.



Vision

The EV cell carries out functions and tasks that will help establish Pimpri Chinchwad as an EV-ready city by 2026.



Mission

The EV cell works towards achieving the EV targets the Government of Maharashtra set for Pimpri Chinchwad in the Maharashtra EV Policy 2021.



Structure

Designation and organisation

Responsibilities

Municipal Commissioner

- Chairperson of the EV cell
-

Additional Municipal Commissioner 1

- Co-chair of the EV cell
-

Additional Municipal Commissioner 2

- Co-chair of the EV cell
-

Additional Municipal Commissioner 3

- Co-chair of the EV cell
-

City Engineer

- Oversee the execution and implementation of EV projects in the city
-

Chief Engineer (Projects)

- Oversee and support the execution and implementation of EV projects in the city
-

Joint City Engineer (Environment Dept)

- Play a crucial role in evaluating, planning, and implementing EV infrastructure and pilot projects in the city
 - Implement the projects under 15th Finance Commission
-

Chief Engineer (PMPML)

- Focus on the operations of existing e-buses and identification of new depots and routes for increased deployment
 - Prepare strategies to achieve 100% electrification of the public transport fleet
 - Play a crucial role in the deployment of first- and last-mile connectivity projects in the EV ecosystem
-

Chief Engineer, Electrical (PCMC)

- Design, plan and execute the major EV charging and battery swapping projects in the city
 - Support the development and implementation of the charging infrastructure plan in the city
-



Structure

Designation and organisation

Responsibilities

**Chief Engineer
Maharashtra State
Electricity Distribution
Company Limited
(MSEDCL)**

- Assist in siting of charging infrastructure and assessing new connected loads and approvals needed for connection requests
- Establish a separate interconnection queue for EV charging and implementation of the EV charging tariff
- Support the development and implementation of the charging infrastructure plan in the city

**Deputy General Manager
(Maha-Metro)**

- Assist in setting up the operations of last-mile services to/from metro stations
- Assist in providing space to develop charging infrastructure for EVs in metro parking premises

**Superintending Engineer
–Ganeshkhind Circle
(MSEDCL)**

- Assist in identifying locations to set up EV chargers and provide new connections as per requests
- Support the implementation of subsidised EV charging tariffs as notified by the State Government of Maharashtra
- Support the development and implementation of the city's charging infrastructure plan

**Representatives
(Workshop Department)**

- Assist in transitioning the existing PCMC official fleet to EV fleet

Representatives (RTO)

- Assist in streamlining the process of registrations and operation of EVs in the city
- Share EV sales data with PCMC periodically
- Assist in implementing pilot projects in the city (e.g., low-emission zones, e-auto incentivisation)

Representatives (CTO)

- Support the facilitation, design, and execution of the city's EV readiness plan
-

The EV cell identifies fund sources to support e-mobility initiatives and projects and provides Pimpri Chinchwad's citizens with a helpdesk for e-mobility-related information and grievances.



Pimpri Chinchwad City EV Accelerator Workshop

With technical support of RMI, the PCMC hosted the City Electric Vehicle (EV) Accelerator Workshop to fast-track EV adoption in Pimpri Chinchwad. Over 100 stakeholders from the civic administration attended the workshop; industry participation included representatives from original equipment manufacturers (OEMs), charging infrastructure manufacturers and providers, fleet aggregators, start-ups; NGOs; academia; and civil society⁶.

During the workshop, the city government showcased ongoing e-mobility initiatives and encouraged vital industry stakeholders to share their recommendations. Discussions covered EV charging and battery swapping infrastructure, public transport electrification, EV operations in the city, and EV and EV component manufacturing.

The workshop catalysed the development of the EV readiness plan for Pimpri Chinchwad. Delegates were encouraged to share their suggestions and feedback on the city's e-mobility initiatives and map solutions to make it EV-ready.



EV Readiness Plan for Pimpri Chinchwad

An EV-ready city creates a favourable ecosystem for the seamless and mass adoption of EVs by all kinds of consumers in the city, i.e., private individuals, institutions, and businesses. A city's EV readiness plan is a combination of several city-level initiatives by the public and private sectors that support its transition to an EV-ready city. The plan identifies short- and long-term actions such as infrastructure projects, policy and regulatory reforms, institutional and governance structures, and awareness and skill-building programmes that help the city accelerate its EV adoption.

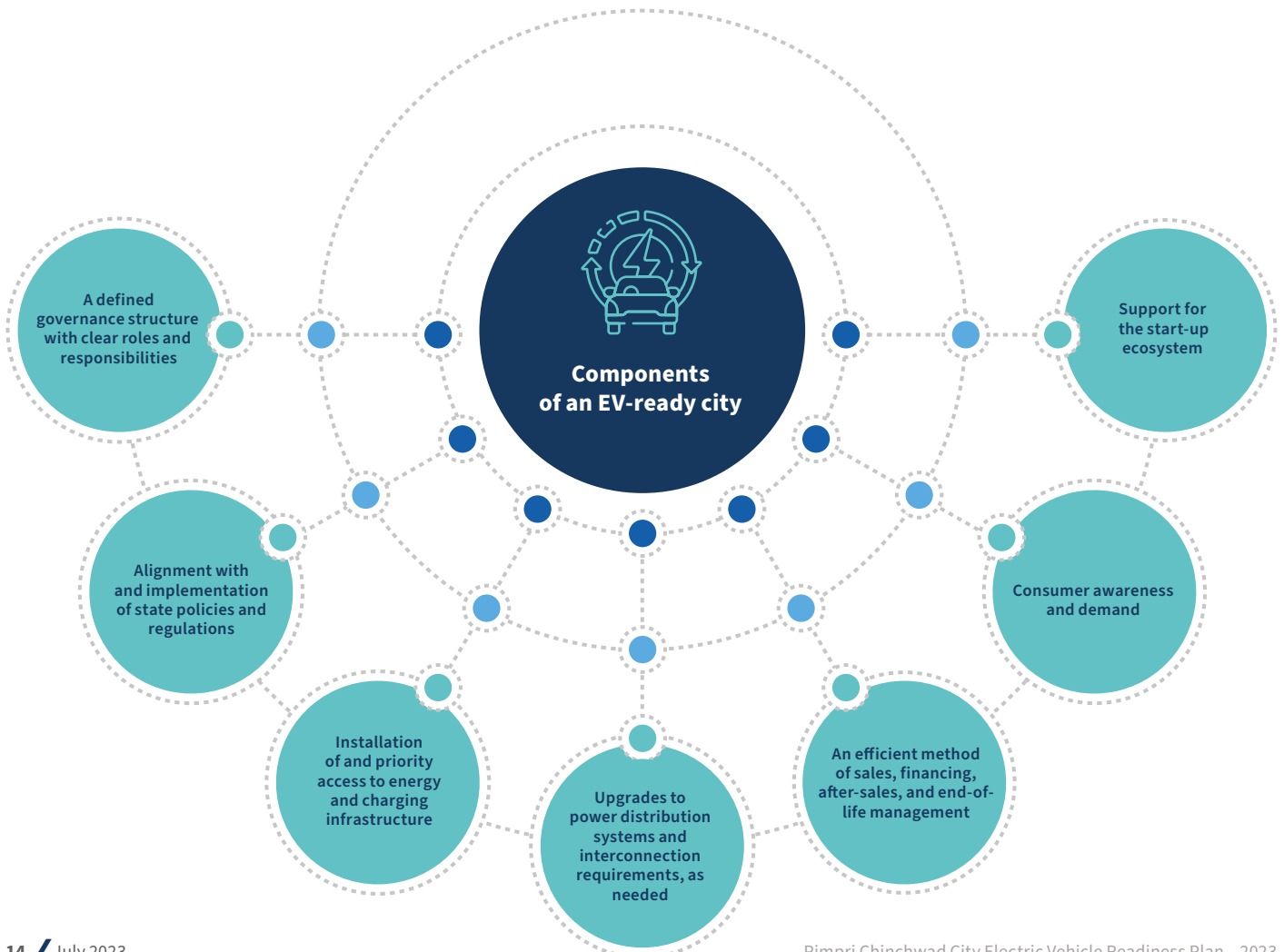
An EV readiness plan also includes a monitoring framework to track the city's progress on the EV adoption targets.



Components of an EV-ready City

- A defined governance structure with clear roles and responsibilities
- Alignment with and implementation of state policies and regulations
- Installation of and priority access to energy and charging infrastructure
- Upgrades to power distribution systems and interconnection requirements, as needed
- An efficient method of sales, financing, after-sales, and end-of-life management
- Consumer awareness and demand
- Support for the start-up ecosystem

Exhibit 4 Components of an EV-ready City





City EV Targets

Pimpri Chinchwad's EV cell has developed a set of EV adoption targets for the city to achieve by 2026. These include EVs making up 30% of all new vehicle registrations across vehicle segments by 2026. In terms of individual vehicle segments, the city aims to achieve EV penetration ranging from 50% in three-wheelers to 10% in four-wheelers (see Exhibit 5 for the complete list of targets). This translates into 1,80,000 EVs in the city by 2026, which could avoid 0.8 million tons of CO₂ over their lifetime⁷.

Exhibit 5 Segment-wise EV Penetration Targets

Vehicle Segment	EV Penetration Targets				
	2022	2023	2024	2025	2026
Two-wheeler	16%	23%	28%	34%	40%
Three-wheeler auto	0%	14%	25%	36%	50%
Three-wheeler goods carrier	15%	24%	31%	39%	48%
Car	2%	6%	8%	11%	15%
Four-wheeler goods carrier	0%	5%	10%	15%	20%
Others	0%	3%	5%	7%	10%
Total new EV registrations in city	11%	16%	20%	25%	30%



“ The city targets installing at least 100 public/semi-public charging/swapping points by 2023 and increasing this number to a minimum of 500 by 2025. ”

The Pimpri Chinchwad EV cell identifies the following additional targets:

- Assisting fleet aggregators (i.e., e-commerce companies, last-mile delivery/logistics players, mobility aggregators) in the city in converting at least 15% of their total fleet to EVs by 2023 and 25% by 2025.
- Procuring at least 650 e-buses in Pune Urban Agglomeration by 2023 and at least 1,000 by 2025.
- Installing at least 100 public/semi-public charging points in the city by 2023 and increasing this number to at least 500 by 2025.
- Establishing at least 100 public/semi-public battery swapping points across the city by 2025.
- Achieving 50% electrification in all the first- and last-mile connectivity modes to metro stations by 2025⁸.
- Electrifying the government fleet of the PCMC as per the Maharashtra State EV Policy guideline.
- Making at least 50% of the city government office parking spaces EV-ready by 2024.
- Integrating e-mobility planning in the city development plan.

3 EV Readiness Plan: Proposed Interventions

The EV readiness plan for Pimpri Chinchwad is designed based on multiple stakeholder consultations, including those at the city EV accelerator workshop organised by the PCMC with the support of RMI. The plan identifies nine actions that government stakeholders, with support from industry, should undertake over the next one to two years to transition Pimpri Chinchwad to an EV-ready city.

Exhibit 6 Proposed Interventions

Solution Domain	Interventions	Timeframe
EV charging and battery swapping infrastructure	1 Upstream infrastructure development using renewable energy power	Long-term
	2 Single window clearance for private charging and battery swapping stations	Short-term
EV operations in the city	3 Policy provisions to increase EV use	Short-term
	4 Charging Infrastructure plan for the city	Short-term
	5 Fiscal and non-fiscal support to EV-related projects in the city	Short-term
Public transport electrification	6 Optimisation of business models for e-bus procurement	Long-term
	7 Skill development of existing PMPML employees	Short-term
EV and EV component manufacturing	8 Development of EV and EV component manufacturing hub in the city	Short-term
	9 Ramping up low-cost testing facilities for EV and EV components	Long-term

Note: Short-term solutions can be designed and implemented in the city in less than six months from inception, while long-term solutions may require more than six months.

A. EV Charging and Battery Swapping Infrastructure

Two critical solutions have been identified to accelerate the deployment of charging and battery-swapping infrastructure in Pimpri Chinchwad.

Exhibit 7 Solutions for EV Charging and Battery Swapping Infrastructure



Upstream infrastructure development using renewable energy power



Single window clearance for private charging and battery swapping stations

1. Upstream Infrastructure Development Using Renewable Energy Power

Description: Rising EV adoption will cause grid-connected electricity load to increase, especially in areas with high adoption levels and those adopting vehicles with high loads (e.g., e-buses). To cope with this, the PCMC, in partnership with MSEDCL, should develop a map of areas that may require upgrading transformers, distribution lines and other infrastructure, and create a time-bound plan for making such investments.

Also, the city should work towards supplying renewable energy to power EV charging and battery swapping stations. For example, the energy generated using solar panels can power EV charging and battery swapping stations, which can help EVs realise their full potential as an emission-free mode of transportation.

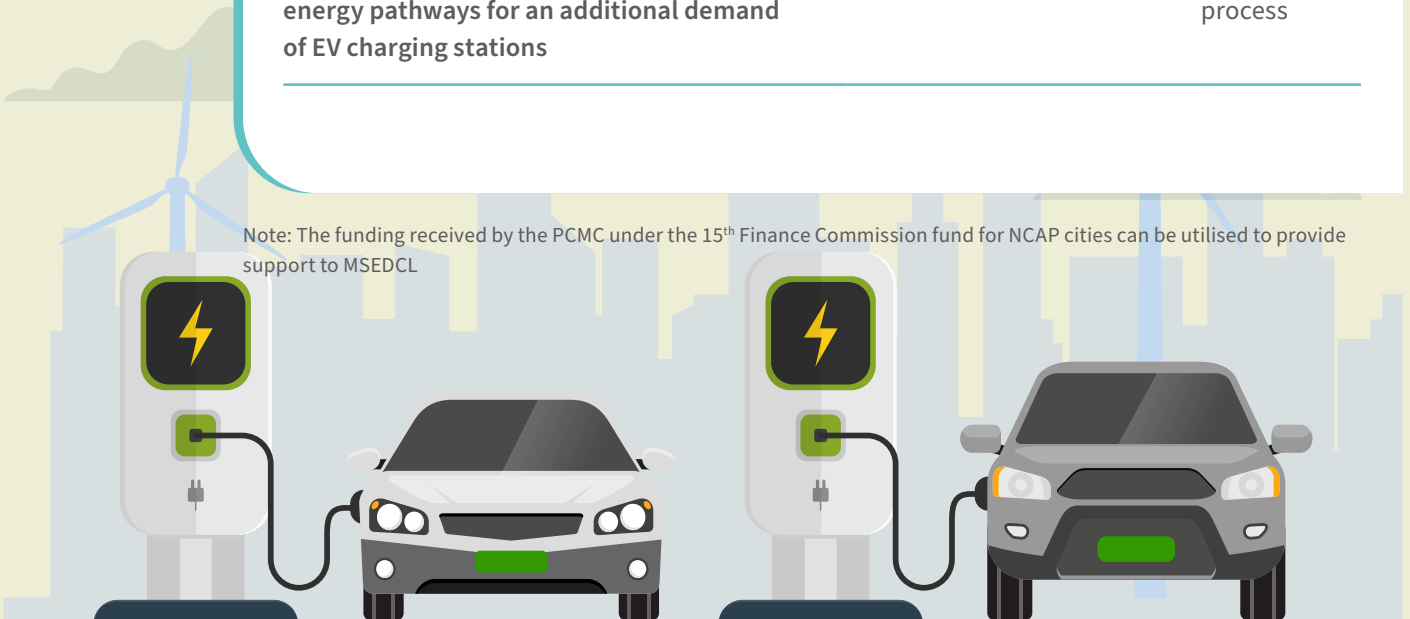
Benefits: The primary benefit of upgrading the upstream infrastructure is easing the deployment of charging infrastructure as per requirement in the priority hubs of Pimpri Chinchwad. The timely infrastructure upgrade will ensure a reliable power supply in these city areas.

Powering the upcoming demand for these charging stations with renewable energy can reduce the load on the already strained electricity grid of the city and lower emissions on account of EV deployment.

Detailed Steps: Upstream Infrastructure Upgrade in the City

Step	Stakeholders	Timeline
Baseline study of the city’s existing upstream infrastructure	EV cell—MSEDCL	T + 2 weeks
Identifying hubs/locations where the energy demand is growing/expected to grow	EV cell—MSEDCL, electrical department, PCMC, industry players	T + 5 weeks
Estimating increase in peak load in these hubs	EV cell—MSEDCL	T + 7 weeks
Allocating land to set up substation/switching centres	EV cell—land and estate department, PCMC, MSEDCL	T + 21 weeks
Assessing solar power energy generation capacity in feasible locations in PCMC jurisdiction	EV cell—MSEDCL	T + 25 weeks
Installing solar panels at identified locations to power EV charging stations	EV cell—MSEDCL	T + 35 weeks
Setting up switching centres	EV cell—MSEDCL	T + 42 weeks
Setting up high tension lines	EV cell—MSEDCL	T + 52 weeks
Identifying potential for offsite renewable energy pathways for an additional demand of EV charging stations	EV cell—MSEDCL	Continuous process

Note: The funding received by the PCMC under the 15th Finance Commission fund for NCAP cities can be utilised to provide support to MSEDCL



2. Single Window Clearance for Private Charging and Battery Swapping Stations

Description: Single window clearance is a unified system that collects all required information and coordinates approvals for fast deployment of private and captive charging and battery swapping infrastructure. MSEDCL, the nodal agency for charging and battery swapping infrastructure, would identify and empanel EV infrastructure providers, list all approved charging and battery swapping models, and standardise and centralise all required documents and information. It will also establish and post timelines for interconnection requests.

Benefits: The single window clearance shall accelerate the EV charging and swapping station deployment in the city. The visibility of all charger models approved by the Ministry of Power on the MSEDCL webpage and the provision to place an order from the same website shall ease setting up private and captive charging stations for citizens and industry players. The process will provide MSEDCL visibility of the development of charging and swapping networks over time and thus help them plan the upgrade required in the upstream charging infrastructure across the city. The process shall also help the EV cell track the number of charging and swapping stations deployed in the city.

Exhibit 9 Detailed Steps: Single Window Clearance

Step	Stakeholders	Timeline
Convening meeting with MSEDCL	EV cell—MSEDCL	T + 2 weeks
Designing a single window portal on MSEDCL/PCMC website	EV cell—MSEDCL, IT department	T + 5 weeks
Creating a demo video for operational know-how of the single window clearance process for citizens and other business entities	EV cell—MSEDCL, IT department	T + 7 weeks
Launching the portal	EV cell—MSEDCL, IT department	T + 21 weeks
Refining the portal based on user feedback	EV cell—MSEDCL, electrical department	T + 25 weeks

B. Promoting EV Use in the City

Three critical solutions have been identified to streamline and promote the use of EVs in Pimpri Chinchwad.

Exhibit 10 Solutions for Promoting EV Use



Policy provisions to increase EV use



Charging infrastructure plan for the city



Fiscal and non-fiscal support to EV-related projects in the city

1. Policy Provisions to Increase EV Use

Description: The policy provisions at the city level shall focus on preferential parking spaces for EVs, mandating EV-ready parking spaces in existing and upcoming residential and commercial establishments, directing fleet aggregators to transition to EVs in a phased manner, updating building bylaws to be inclusive of EV charging, etc. The city administration shall facilitate meetings with private organisations, such as housing societies, builder’s associations, corporate parks, and IT hubs to explore strict regulatory measures mandating EV-ready infrastructure that accelerates EV adoption in the city.

The EV cell shall also support the development of battery disposal centres and vehicle scrappage centres at the city level by collaborating with industry players and academia. The city shall explore the opportunity to accelerate fast EV adoption across dedicated vehicle segments such as three-wheeler autos. The urban local body shall also run EV awareness campaigns in the city to sensitise citizens about increasing air pollution and inform them about the benefits of using EVs from time to time.

Benefits: The policy provisions shall lead to a few fiscal and non-fiscal benefits of using EVs in the city. Successful implementation of policies related to preferential parking and mandating EV-ready parking spaces shall encourage citizens to switch to

EVs as it eliminates issues related to adequate parking and the widespread presence of EV-ready infrastructure. Furthermore, by making necessary amendments to building bylaws, the city administration can ensure that EV charging infrastructure is included in new residential and commercial constructions. Furthermore, a consumer focused EV awareness campaign led by the city administration shall help build awareness of EVs among citizens.

Exhibit 11 Detailed Steps: Policy Provisions to Increase EV Use

Step	Stakeholders	Timeline
Updating building bylaws for residential and commercial buildings in the city to be inclusive of charging infrastructure	EV cell—building department	T + 3 weeks
Updating the property tax norms for providing rebates for private charging infrastructure development	EV cell—property tax department	T + 3 weeks
Identifying land parcel for battery disposal centres and old vehicle scrappage	EV cell	T + 9 weeks
Setting up battery disposal and vehicle scrappage centres in the city	Industry players	T + 36 weeks
Designing and implementing citizen awareness campaign for EVs	EV cell	T + 5 weeks

2. Charging Infrastructure Plan for the City

Description: The Maharashtra State EV Policy mandates urban local bodies to prepare a charging infrastructure plan to determine the number and type of charging and battery swapping stations required for the city and their siting and deployment plan to achieve the EV penetration target for 2025. The Maharashtra State EV policy includes the development of 500 charging stations in the Pune Urban Agglomeration. The

charging infrastructure plan for the city of Pimpri Chinchwad shall strategically provide a detailed assessment of the charging infrastructure required in the city and propose a roadmap to deploy these charging stations in a phased manner.

Benefits: The charging infrastructure and battery swapping plan will provide a structured approach to identify the numbers, types and locations of the public charging and battery swapping infrastructure that aligns with EV growth trends and encourages EV adoption in the city. Thus, the plan shall indirectly address users’ range anxiety. The plan shall also act as a guiding document for the city administration to plan their resources and funds in a structured manner.

Exhibit 12 Detailed Steps: Charging Infrastructure Plan for the City

Step	Stakeholders	Timeline
Developing city-level EV penetration targets across vehicle segments	EV cell	T + 4 weeks
Preliminary assessment of the required charging infrastructure in the city	EV cell, MSEDCL	T + 8 weeks
Identifying the available technologies and industry players to support the infrastructure	EV cell	T + 16 weeks
Launching the city charging infrastructure plan	EV cell	T + 24 weeks
Phase-wise deployment of the charging infrastructure plan for the city	EV cell, MSEDCL	Continuous process

3. Fiscal and Non-fiscal Support to EV-related Projects in the City

Description: Urban local bodies receive funds under different programmes to reduce emissions and encourage the uptake of sustainable transportation in the city. For instance, the PCMC received funds from the 15th Finance Commission under the National Clean Air Program to reduce air pollution in the city. The funds received under such programmes can fund EVs and EV-related projects.

PCMC will also explore the opportunity to facilitate financing for EV buyers by engaging and collaborating with financial institutions. Additionally, the PCMC EV cell will consider the possibility of providing financial support to first- and last-mile connectivity service providers by collaborating with Maha-Metro and PMPML.

Benefits: EVs are a capital-intensive investment. Support from the municipal corporation can help EVs become more affordable. A green and sustainable borrowing mechanism can also reduce the cost of borrowing for EV purchases.

Exhibit 13 Detailed Steps: Facilitating Financing for EV and EV-related Projects

Step	Stakeholders	Timeline
Preliminary assessment of the EV financing requirements in the city	EV cell	T + 5 weeks
Convening the major industry stakeholders to understand financing barriers	EV cell, auto unions, industry players	T + 7 weeks
Convening of banks and financial institutions to explore opportunities	EV cell, banks, financial institutions	T + 12 weeks
Identifying prospective opportunities and schemes	EV cell	T + 14 weeks
On-ground deployment of financing schemes	EV cell	Continuous process

C. Public Transport Electrification

Two critical solutions have been identified to accelerate public transport electrification in Pimpri Chinchwad and Pune Metropolitan Region.

Exhibit 14 Solutions for Public Transport Electrification



Optimisation of business models for e-bus procurement



Skill development of existing employees

1. Optimisation of Business Models for E-bus Procurement

Description: PMPML uses the GCC model to procure e-buses. In this case, PMPML pays a per-km fee; sets service standards; and handles scheduling, route planning and fare collection. The operator procures the buses and infrastructure and operates and maintains the buses as a service, including providing drivers and crew.

However, operators highlighted specific challenges in operationalising the GCC business model in the past few months of operations. To optimise the business experience of operators, PMPML plans to explore and brainstorm the procurement model with the relevant stakeholders and public transport experts. Opportunities to fine-tune GCC contracts, such as a dry lease model for e-buses to promote sustainable public transportation, shall be discussed, piloted, and implemented in the city.

Benefits: An optimised version of GCC will reduce the potential risk and operating cost for PMPML, easing the significant financial strain on the existing public transportation in the city. Opportunities such as dry leases for drivers and conductors can also help relieve the pressure on operators and help PMPML conduct intensive skill training for drivers and conductors on e-bus technology.

Detailed Steps: Optimising Business Models for E-bus Procurement

Step	Stakeholders	Timeline
Preliminary assessment of the challenges in the GCC model	EV cell	T + 4 weeks
Convening of operators, OEMs, PMPML and EV cell	EV cell, PMPML, industry players	T + 8 weeks
Piloting the outcomes from the convenings	PMPML	T + 20 weeks
Phase-wise deployment of the successful pilots	PMPML, EV cell	T + 52 weeks
Full-scale deployment of the optimised business model	EV cell, PMPML, MSRTC	T + 78 weeks

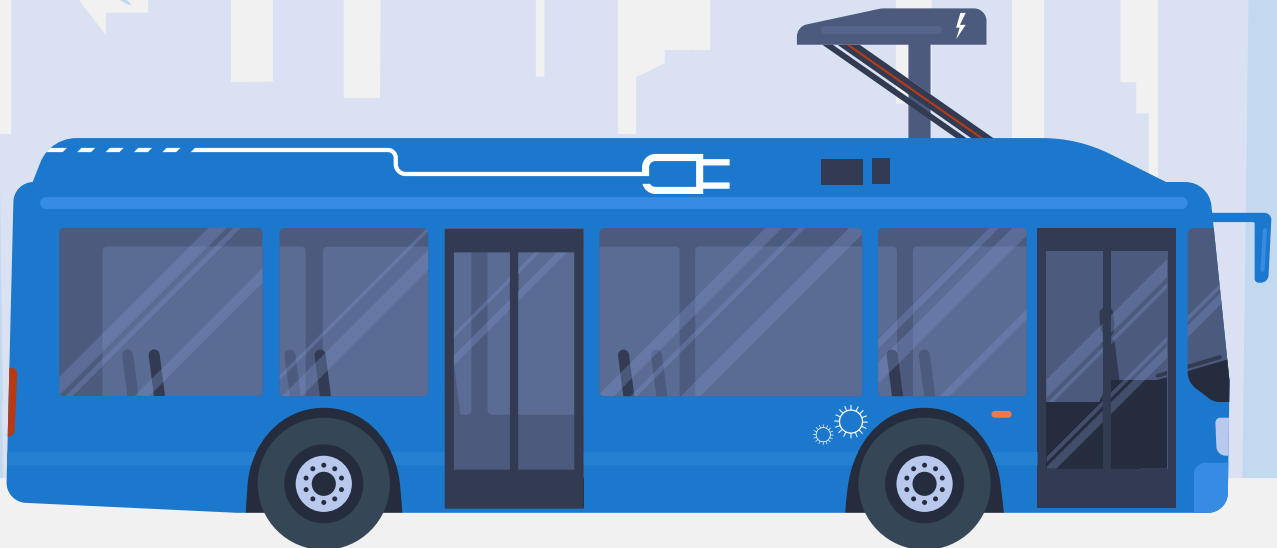
2. Skill Development of Existing PMPML Employees

Description: The transition from existing fossil fuel buses to e-buses is identified as one of the challenges by drivers and support staff. Unlike traditional fossil fuel buses, the performance of an e-bus depends on optimised driving and effective loading. The range achieved by an e-bus, its battery life and its vehicle life depend on its optimised operation on the ground. It, therefore, becomes critical to ensure that the employees operating e-buses undergo specific training and skill upgrade courses.

Benefits: Well-trained staff equipped with the required skill set to operate e-buses shall help optimise the performance of e-buses and ensure a long life. This will also boost more OEMs to participate in tenders effectively, attracting competitive market pricing.

Detailed Steps: Skill Development of Existing PMPML Employees

Step	Stakeholders	Timeline
Designing a training module for optimised operating performance of e-buses	OEMs, EV cell—MCCIA, PMPML	T + 18 weeks
Feedback convening with e-bus operators	EV cell, operators	T + 24 weeks
Phase-wise training sessions	PMPML, MCCIA	T + 52 weeks
Mandating training courses for new employees	PMPML	T + 56 weeks



D. EV and EV Component Manufacturing

Two critical solutions have been identified to develop Pimpri Chinchwad as an EV and EV component manufacturing hub.

Exhibit 17 Solutions for EV and EV Component Manufacturing



Development of EV and EV component manufacturing hub in the city



Ramping up low-cost testing facilities for EV and EV components

1. Development of EV and EV Component Manufacturing Hub in the City

Description: Pimpri Chinchwad is a renowned automobile hub with all major OEMs in its industrial areas. With more than 750 automobile manufacturing units in the city, it has tremendous potential to lead the EV revolution in the country.

PCMC shall explore accelerating EV and EV component manufacturing by providing various fiscal and non-fiscal incentives, especially for upcoming start-ups and MSMEs in the market. The initiatives shall include but will not be limited to providing land parcels at subsidised rates, discounts on electricity and water usage, exemption on the property tax for the first few years, etc. PCMC shall also consider organising regular investment summits for attractive investments in EV and EV component manufacturing.

Benefits: Pimpri Chinchwad can become a pioneer in EV and EV component manufacturing. The city can attract large-scale investment, generate jobs in the manufacturing sector and maintain its position as an automotive hub in the state by providing the necessary support and push to startups and MSMEs.

Detailed Steps: Development of EV and EV Component Manufacturing Hub in the City

Step	Stakeholders	Timeline
Preliminary assessment of the major bottlenecks faced by start-ups and MSMEs	EV, and EV component start-ups, EV cell	T + 18 weeks
Industry convening to prioritise prominent bottlenecks	Industry players, EV cell	T + 24 weeks
Designing a city-level EV and EV component manufacturing incentive policy	EV cell	T + 24 weeks
Identifying land parcels to deploy the policy	EV cell	T + 52 weeks
Phase-wise deployment of the policy	Industry players, EV cell	T + 56 weeks

2. Ramping Up Low-cost Testing Facilities for EV and EV Components

Description: PCMC has a vast land cluster at MIDC and the auto cluster. These land parcels could be utilised to ramp up low-cost testing facilities, especially for start-ups and MSMEs. The existing testing facilities at ARAI and academic labs are highlighted as expensive and time-consuming. To promote innovation and local manufacturers, the EV cell shall explore the possibility of having an in-house low-cost testing facility in the city.

Benefits: Providing low-cost testing facilities will enable start-ups and MSMEs to test and develop their product and meet the expectations of OEMs at a relatively low cost and fast pace. This will enhance competitiveness by encouraging innovation, supporting local businesses, and reducing timelines.

Exhibit 19

Detailed Steps: Setting Up Low-cost Testing Facilities for EV and EV Components

Step	Stakeholders	Timeline
Preliminary study of the necessary tests conducted on the EV and EV components in the market	ARAI, industry players	T + 12 weeks
Feasibility, reliability, and financial assessment of setting up equipment and vehicle testing facilities	EV cell, ARAI, academic labs	T + 24 weeks
Tendering for testing lab setup	EV cell, auto cluster, MIDC, ARAI	T + 42 weeks
Testing lab setup	Auto cluster, MIDC	T + 104 weeks
Pilot testing	ARAI, industry players	T + 120 weeks
Full-scale testing	Industry players, auto cluster, MIDC	Continuous process



4 Implementation and Path Forward



The PCMC EV cell will focus on implementing these nine solutions. The PCMC City EV Readiness Plan outlines the interventions that can help the city move towards developing a sustainable EV ecosystem for residents, institutions, and industry. The PCMC EV cell will focus on implementing these nine solutions over the next one to two years.

Key next steps for the EV cell

1. Developing an EV readiness tracking framework to assess the state of implementation of these solutions in the short and long terms.
2. Benchmarking PCMC's EV readiness with other Indian and international cities to learn about and develop other innovative measures to further accelerate EV adoption in Pimpri Chinchwad.
3. Identifying and allocating funding from the annual budget and other sources to form a city EV fund under the PCMC to financially support the implementation of local projects and activities, including potential viability gap funding.
4. Updating the set of solutions in the plan on an annual basis.

With a robust framework, solution set and concrete steps to help make Pimpri Chinchwad EV-ready, the city expects the PCMC City Electric Vehicle Readiness Plan to serve as inspiration to other cities in India and around the world — and thereby accelerate EV adoption and transport decarbonisation in city and beyond.

5 Endnotes

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6. “PCMC hosts workshop to plan city’s electric vehicle transition”, Indian Express News, February 16, 2023, <https://indianexpress.com/article/cities/pune/pcmc-hosts-workshop-to-plan-citys-electric-vehicle-transition-8447785/>.
7. PCMC and RMI analysis
8. “50% existing autos to run on battery in 3 years”, Times of India News, April 12, 2023, <https://timesofindia.indiatimes.com/city/pune/50-existing-autos-to-run-on-battery-in-3-years-pimpri-chinchwad-municipal-corporation/articleshow/99420372.cms>.



About Pimpri Chinchwad Municipal Corporation

The Pimpri Chinchwad Municipal Corporation (PCMC) is the civic body that governs the neighbourhoods of Pimpri, Chinchwad, Nigdi, Akurdi and the remainder of the north-western city limits of Pune. Established in 1982, the PCMC governs an area of 181 sq. km with a population of 2 million.

Contact

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