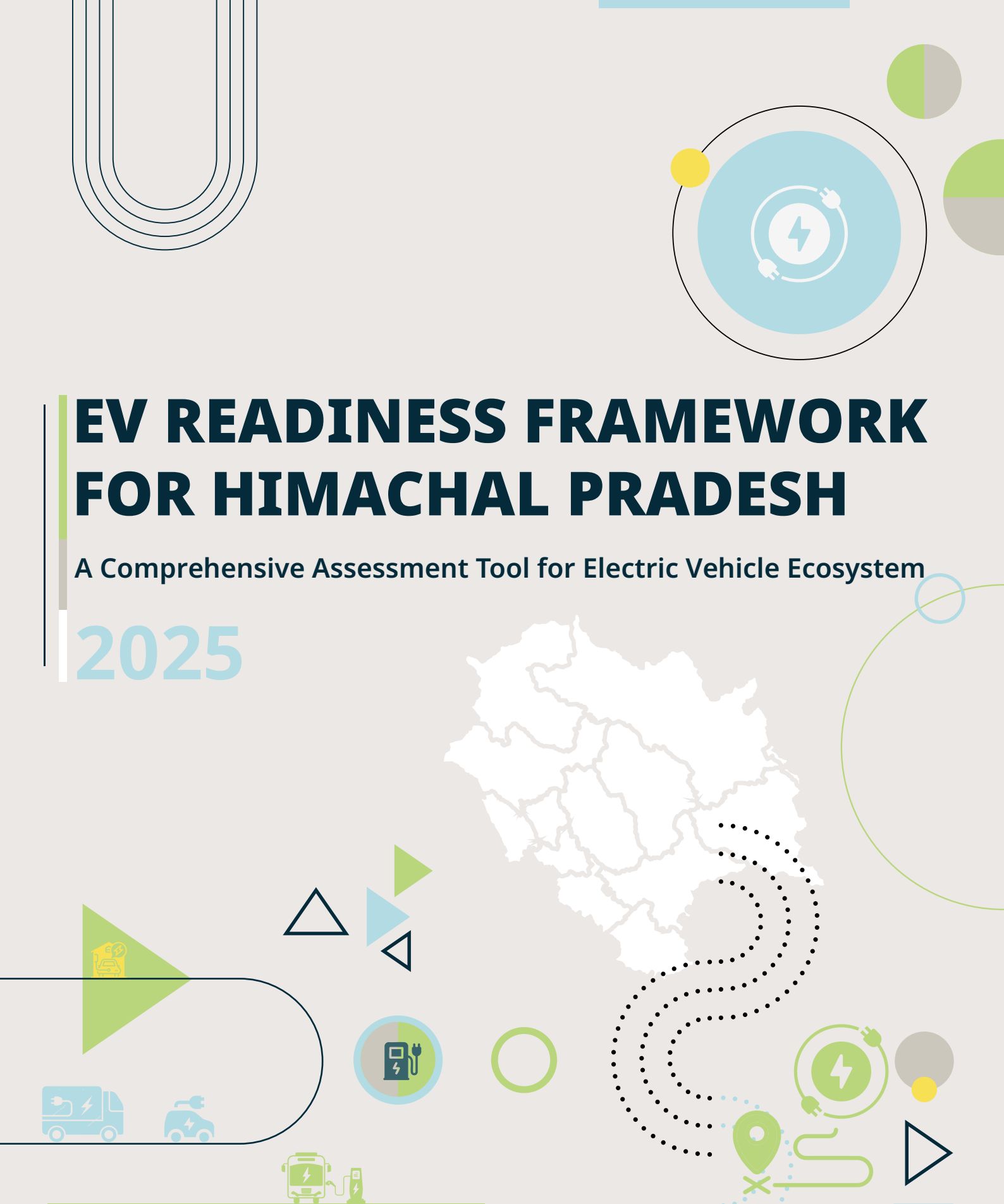


EV READINESS FRAMEWORK FOR HIMACHAL PRADESH

A Comprehensive Assessment Tool for Electric Vehicle Ecosystem

2025



Acknowledgements

We gratefully acknowledge the support of the Government of Himachal Pradesh, particularly the Department of Transport for their guidance and inputs during the preparation of this report. We also thank all government departments, city corporations, industry partners, civil society representatives, and local stakeholders whose insights and feedback have enriched the framework. Their collaboration has been invaluable in shaping a comprehensive and context-sensitive approach to advancing electric mobility in the state.

Disclaimer

This report has been prepared to support understanding and advancing electric mobility in Himachal Pradesh. The analysis, scoring, and recommendations are based on available data, stakeholder consultations, and secondary research at the time of preparation. Every effort has been made to ensure accuracy, the framework is intended as a decision-support and learning tool, not as a substitute for formal government notifications, regulatory documents, or investment due diligence. The authors and partners accept no liability for any direct or indirect consequences arising from the use of this report.



EV Readiness Framework for Himachal Pradesh

A Comprehensive Assessment Tool for Electric Vehicle Ecosystem

2025





Foreword



Emani Kumar

Deputy Secretary-General | ICLEI Global

Executive Director | ICLEI South Asia

It gives me great pleasure to present the EV Readiness Framework for Himachal Pradesh, a pioneering step towards shaping a clean, resilient, and future-ready mobility ecosystem in the state. Himachal Pradesh, with its unique geography, tourism-driven economy, and fragile mountain ecosystem, faces both challenges and opportunities in transitioning to sustainable transport. This report highlights the state's progress in recent years and provides a structured approach to assessing policy, infrastructure, institutional coordination, market preparedness, incentives, and public awareness.

The findings underscore that while the journey began modestly, Himachal Pradesh has made rapid advances and is steadily moving from policy intent to implementation. The growth of charging corridors, stronger institutional coordination, and expanding market opportunities show that the state is on the right path. At the same time, the framework draws attention to the areas that require continued focus, such as awareness-building, inclusivity, and affordability, to ensure that the transition benefits all sections of society.

This framework is not only a tool for measuring readiness but also a call to action for government, industry, civil society, and local communities to work together in building a greener transport future. I sincerely hope this report serves as both a guide and an inspiration for to other states towards becoming a Green Energy State.





Shri Neeraj Kumar, IAS

Director | Directorate of Transport, Government of Himachal Pradesh

Himachal Pradesh has always been at the forefront of championing sustainable development, balancing the needs of its people with the preservation of its fragile mountain ecosystems. As the state embarks on its journey to become a Green Energy State by 2026, the transition to electric mobility is a critical pillar of our vision. Electric vehicles hold immense potential to reduce air pollution, lower dependence on fossil fuels, and enhance the quality of life for both residents and the millions of tourists who visit our state every year.

This EV Readiness Framework for Himachal Pradesh provides an important tool to assess where we stand today and to chart a clear roadmap for the future. It highlights our progress in strengthening policies, expanding charging infrastructure, and building institutional coordination, while also identifying areas where continued focus is needed.

The Government of Himachal Pradesh is committed to enabling this transition by fostering collaboration between departments, industry partners, utilities, civil society, and local communities. Together, we can ensure that the state not only achieves its green mobility goals but also sets an example for other hill states in India and beyond.

We hope this report inspires collective action and serves as a guide for accelerating the adoption of clean, efficient, and equitable electric mobility in Himachal Pradesh.



EV Readiness Framework for Himachal Pradesh
A Comprehensive Assessment Tool for Electric Vehicle Ecosystem

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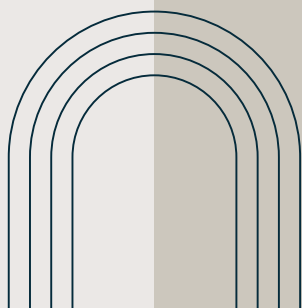
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1

Introduction



“

Position Himachal Pradesh as a living laboratory for e-mobility in mountainous, fragile ecosystems where global best practices remain limited.

”

Himachal Pradesh stands at a pivotal juncture in India's electric vehicle (EV) journey. With its ecologically sensitive terrain, low population density, and dispersed transport demand, the state's readiness for EV adoption requires a contextual approach. While national policies and schemes are pivotal, contextual relevance of hilly region and the specific context of the Himalayas is limited.

The state, a mountainous region with a fragile ecosystem, relies heavily on tourism and economic growth, presenting a unique opportunity to benefit from electrifying its mobility systems. Yet, its challenging geography, extreme cold winters, and scattered urban areas, with over 90 percent of the rural population, hinder conventional electric vehicle adoption.

Therefore, conducting a state-specific readiness assessment is essential to developing a practical and inclusive e-mobility strategy.

The objective is twofold, to enable Himachal Pradesh's transition toward sustainable e-mobility by supporting stakeholders across the ecosystem in planning, infrastructure development, capacity building, and policy innovation; and second, to create a replicable framework that can guide other sub-national governments worldwide in advancing electric vehicle adoption within fragile and mountainous contexts.

It methodically assesses key factors, providing stakeholders with a clear overview of current EV readiness and highlighting areas that require targeted efforts. Recognizing that successful EV adoption depends on a broad, strategic approach beyond simply having vehicles available, the framework also addresses policy support, infrastructure growth, market preparedness, institutional collaboration, financial incentives, and public awareness campaigns.





2 Objective



The objective of the EV Readiness Framework is to:

The EV Readiness Framework enables the government to clearly understand where the state stands today highlighting what is working well and identifying areas that need further attention in planning, technology, and skills development. The assessment pinpoints critical gaps in infrastructure, institutional capacity, and governance that could otherwise slow down EV adoption.

The insights generated through this framework provide stakeholders with a solid evidence base to make informed decisions and guide resources toward the areas of highest impact, ensuring that Himachal Pradesh's transition to electric mobility is both efficient and inclusive.

Systematically evaluate the current EV preparedness in Himachal Pradesh across various domains - policy and regulations, infrastructure, incentives, market readiness, institutional coordination, awareness and outreach.

Identification of high-impact areas with a strong focus on increasing passenger kilometers travelled through electric vehicle adoption, rather than merely increasing the number of electric vehicles in the state.

Identify gaps in implementation, policy shortcomings, and key areas for intervention.

Assist government departments, private stakeholders, and civil society in aligning and working together towards a common e-mobility roadmap.





3 Strategic Focus Areas

The EV Readiness Framework's strategic focus areas serve as the primary analytical foundation for assessing a region's readiness to adopt sustainable electric mobility. These areas are not only thematically broad but also tailored to the specific implementation contexts of sub-national governments. They are designed to capture the multifaceted aspects of EV ecosystem development, covering policy creation, infrastructure development, subsidies and incentives, institutional coordination, market dynamics, stakeholder awareness, outreach and social inclusion.

By examining each area through a set of clear, weighted parameters, the framework offers a structured and actionable evaluation of EV preparedness that is sensitive to local context and useful for both government and private stakeholders. Importantly, each focus area is linked to a global benchmark, drawing from examples (EU policies, California CARB standards, and China's NEV plan), enhancing comparability and global relevance.

Furthermore, Himachal Pradesh's focus on passenger-kilometer electrification, emphasizes on high impact segment reflecting advanced international practice and strengthens the framework's alignment with cutting-edge approaches to sustainable mobility.



Policy and Regulations



Infrastructure Development



Subsidies and Incentives



Institutional Coordination



Market Readiness



Awareness and Outreach





Policy and Regulations:

This forms the policy foundation of the EV ecosystem. A robust and transparent regulatory framework is crucial for enabling long-term planning, ensuring coordination across departments, and fostering investment confidence. It assesses whether a formal EV policy exists, its scope, and the clarity of its objectives and implementation plan. It also reviews supportive tools such as EV-specific electricity tariffs, mandates for electrifying government operations, public transport, municipal services, and commercial fleets.

The policy aims to target the high-impact electrification of passenger-kilometer travel and not just the increase in the number of electric vehicles. This approach ensures that electrification efforts contribute meaningfully to reducing emissions and enhancing public transport efficiency. Additionally, it considers urban planning integration, such as including EV requirements in building bylaws, and the existence of regulatory mechanisms for end-of-life battery and vehicle disposal.

These elements are crucial for establishing a sustainable, legally sound ecosystem that fosters early adoption and future growth.



Infrastructure Development:

Infrastructure is the backbone of EV adoption, covering the physical readiness of the state to support widespread electric mobility. It emphasizes the planning and expansion of charging stations, especially along green corridors and connecting urban and rural areas. The progress in deploying fast-charging stations and developing publicly accessible databases for locating charging points is also evaluated.

A well-structured strategy for infrastructure development is actively being undertaken, focusing not merely on increasing the number of facilities but on their strategic deployment to ensure the implementation of low-cost, efficient models. Additionally, conducting assessment for upstream infrastructure such as grid capacity, transmission networks, and substations remains the most critical component of EV charging systems. However, it also poses geographical and financial challenges. This considers the integration of renewable energy into the EV grid, the capacity and resilience of the electrical infrastructure, smart grid implementation, and emergency response preparedness.

For regions like Himachal Pradesh, which are geographically complex and prone to disasters, this aspect is vital for ensuring reliability and fostering trust in EV adoption.





Subsidies and Incentives:

Affordability remains a key challenge to EV adoption. This section examines policies and financial tools designed to overcome this obstacle. It reviews the availability and structure of purchase subsidies from central and state governments, ongoing operational incentives like toll exemptions and parking benefits, and support for charging infrastructure investments. Non-financial incentives such as green zones, preferential lanes, and low-emission areas are also considered, as they influence user behaviour and mobility patterns.

The subsidies were strategically allocated to promote the adoption of electric vehicles within the government fleet in the state. Furthermore, it looks into whether disincentives for internal combustion engine (ICE) vehicles have been introduced and how much Corporate Social Responsibility (CSR) funding is used to promote EVs in the state.

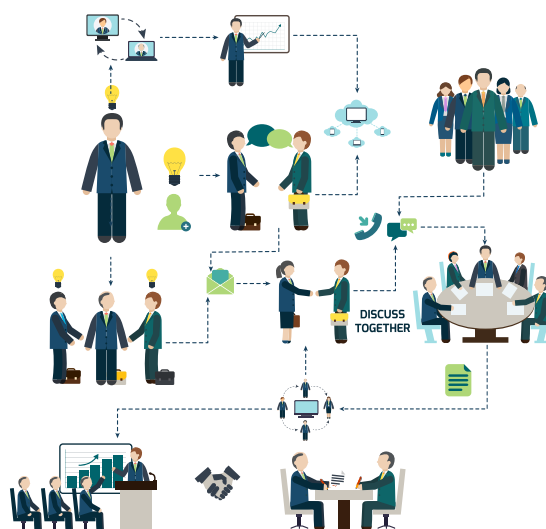
A combination of financial incentives and behavioural changes is essential to encourage adoption among diverse user groups.



Institutional Coordination:

The EV transition involves various stakeholders, including government departments, utilities, private companies, and civil society organizations. This area assesses how well institutional mechanisms promote smooth coordination and implementation. It examines whether a dedicated EV cell or nodal agency exists and if active facilitation exists for inter-departmental and inter-sectoral collaboration.

The evaluation also considers efforts to train and sensitize government officials. Strong institutional coordination is essential to prevent fragmented efforts and to ensure plans are effectively translated into timely and efficient actions on the ground.





Market Readiness:

A thriving EV market requires more than just policy; it needs access to products, services, and a business environment conducive to growth.

This focus area evaluates whether a diverse range of EV models is available in the state, covering different price points and vehicle types suited to local conditions. It also looks at the presence of a strong dealership and sales infrastructure, as well as the availability of local service and maintenance facilities, which are crucial for post-sale support and long-term usability. The presence or absence of buy-back schemes and resale support mechanisms is also assessed, as they influence consumer confidence and residual value perceptions.

Ultimately, market readiness reflects how well supply-side conditions are aligned with consumer demand and usage needs. Availability of after-sales services and trained mechanics also plays an essential role in boosting market readiness.



Awareness and Outreach:

Public perception, trust, and awareness greatly influence EV adoption, especially in rural areas or among first-time users.

This focus area assesses how widespread and effective awareness campaigns are in educating consumers about EV benefits, government incentives, and infrastructure. It also looks at whether local service providers are knowledgeable and trained to handle EV-specific issues, and if pilot demonstration projects have been carried out to boost public confidence, particularly in hilly and remote regions. Another critical aspect is inclusivity, focusing on whether gender-sensitive and disability-friendly programs exist to ensure fair access to the EV ecosystem.

Awareness and outreach serve as soft power that accelerates adoption by building community trust and familiarizing people with electric mobility.





4 Framework Development Methodology

The EV Readiness Framework is created through ***in-depth stakeholder consultations, a review of international best practices, a review of government documents, EV policy, allied policies, visual observations, spatial analysis and data analysis*** from verified sources and inputs from industry experts. The framework uses a comprehensive approach that assesses both policy development and the progress of its implementation.

Along with this, the framework explicitly addresses Himachal Pradesh's unique characteristics, which include:

Climate and Geographical Constraints:

- The framework considers the unique challenges posed by Himachal Pradesh's topography, including the higher cost of ensuring grid resilience in mountainous regions compared to plains, limited road connectivity, and the technical difficulties of deploying charging infrastructure in hilly terrains and extreme cold weather conditions. It also accounts for the state's preparedness in emergency response and disaster-resilient infrastructure planning.

Tourism Integration:

- With over 1.8 crore tourists visiting Himachal Pradesh in 2024, the state's renowned natural beauty offers immense potential for integrating EVs into the tourism sector. The framework recognizes the need to align EV adoption with eco-tourism goals, promoting sustainable mobility in key tourist circuits.

High Rural Population:

- Given that nearly ***90% of the population resides in rural areas***, the framework emphasizes the importance of an expansive and inclusive charging network. This includes ensuring last-mile coverage, local service availability, and support infrastructure to foster equitable EV adoption across remote and underserved areas.





5 Scoring and Evaluation Methodology

The framework is prepared using a dual-assessment approach:

- **Development Assessment:** Reviews the policy framework, planning, and preparatory phases of EV initiatives, assigning scores based on the level of development of the policies.
- **Implementation Assessment:** Evaluates the real-world progress and execution of policies and programs, with scores indicating how effectively and operationally measures are being carried out.

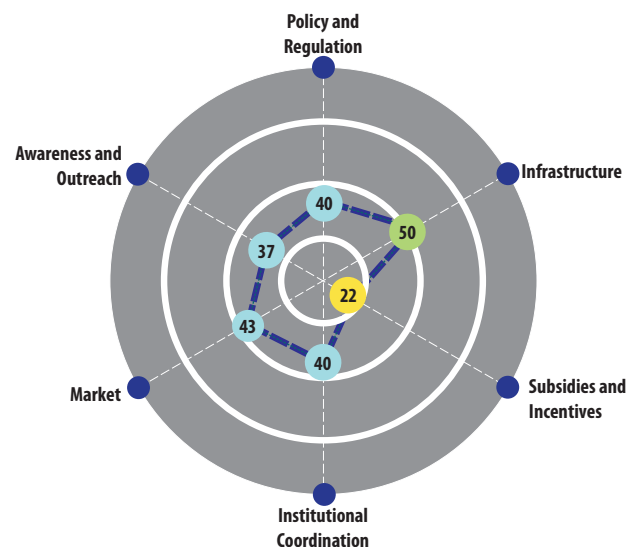
The **EV Readiness Framework uses a 0-10 scale** for each indicator to capture both the existence of enabling policies, planning and their depth of implementation. The scoring is progressive, meaning higher scores reflect not only policy formulation but also enforcement, financial support, stakeholder coordination, and measurable on-ground results. The 0-10 scale is a globally transferable, transparent assessment tool that can be replicated across regions.

The results will allow benchmarking of Himachal Pradesh's progress against international peers in small states and mountain regions as a case example for resource constrained regions to progress with EV adoption.

Along with quantitative indicators, the methodology also incorporates qualitative factors to enable a more comprehensive and context-sensitive assessment.

These qualitative aspects include institutional commitment, inter-agency coordination, stakeholder engagement, public awareness initiatives, and the adaptability of policies to local conditions.

Each parameter is assigned a maximum score based on its relative importance to the current EV adoption landscape, with critical elements such as EV policy, charging infrastructure, and market presence.



EV Readiness Scoring and Evaluation Across Strategic Focus Areas



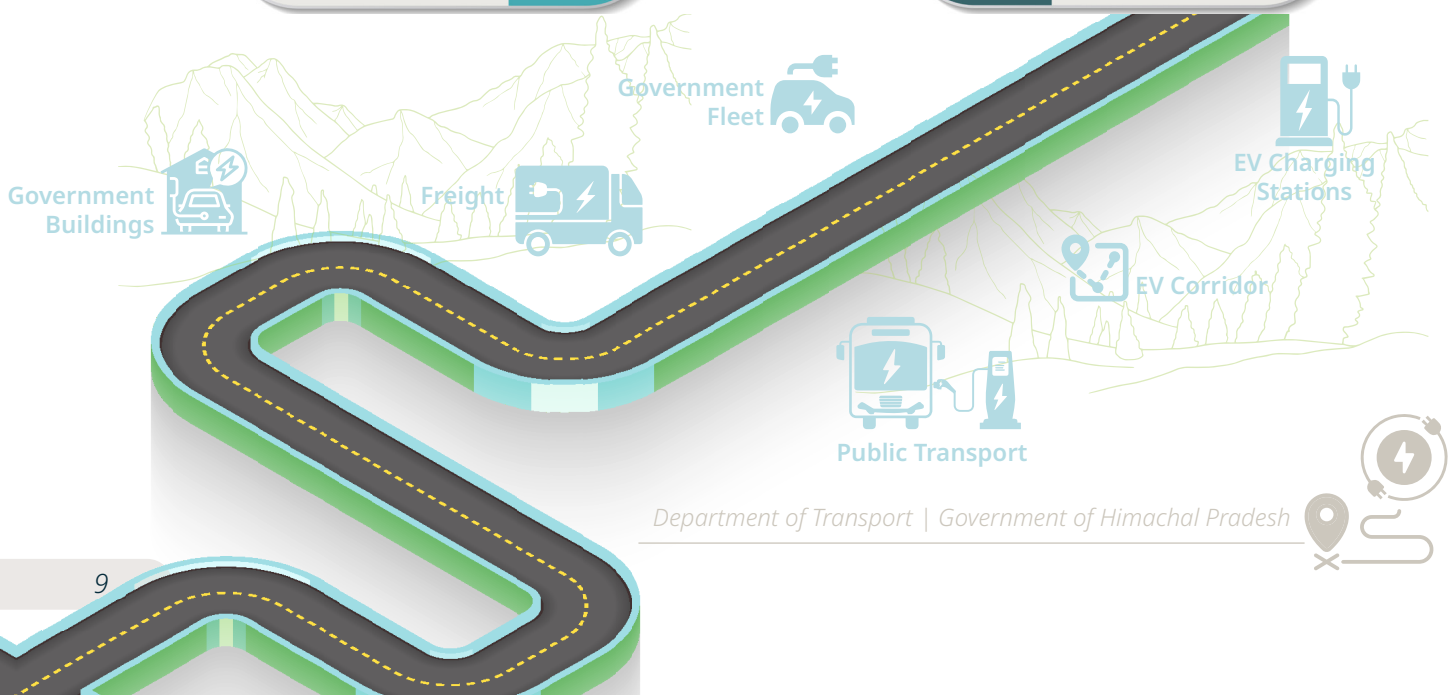


6

Assessment Indicators

The EV Readiness Framework deploys a structured approach based on **38 assessment indicators**, distributed across **six key strategic areas** and one cross-cutting domain. Each indicator is carefully chosen to reflect the main enablers of electric mobility and assigned a weight according to its importance in promoting EV adoption.

These indicators cover both policy-level readiness and ground-level implementation capacity, providing a comprehensive ecosystem evaluation.





I Policy and Regulations

The **Policy and Regulations** domain includes **six core indicators** that assess the existence of an EV policy, mandates for electrifying public and government fleets, integration of EV charging provisions within building bylaws, adoption of EV-specific electricity tariffs, and policies for both battery recycling and end-of-life management as well as the scrappage of old ICE vehicles.

Indicators

- 1 EV Policy Existence
- 2 Mandates for fleet electrification
- 3 EV Charging Integration in Building bylaws
- 4 EV Tariff
- 5 Battery Recycling Policy
- 6 Scrappage of old ICE Vehicles Policy

II Infrastructure

Infrastructure Development comprises **eight indicators** examining the availability, distribution, and accessibility of charging facilities. It considers the number of public charging stations (PCS) and their density, such as PCS per 50 km, while also focusing on strategic deployment in tourist circuits. The framework assesses smart charging and metering technologies, use of public land for charging installations, and the extent of inter-city charger coverage to ensure seamless connectivity across the state. It also looks at charger infrastructure planning to align with future demand and evaluates user accessibility which are vital for accessibility and reliability.

Indicators

- 1 No. of Public Charging Stations (PCS)
- 2 PCS per 50 km
- 3 PCS in Tourist Circuits
- 4 Smart Charging/Metering
- 5 Public Land for Charging
- 6 Inter-city charger coverage
- 7 Charger Infra Planning
- 8 PCS Accessibility (UI, payment, signage)





III Subsidies and Incentives

The **Subsidies and Incentives** category involves six indicators that analyze financial and non-financial mechanisms influencing consumers and industry. It covers direct purchase subsidies and recurring incentives such as toll tax exemptions. Non-financial benefits include access to green zones and low-emission areas (LEZ), disincentives for internal combustion engine (ICE) vehicles, incentives for developing supporting infrastructure and explores the role of Corporate Social Responsibility (CSR) and private sector contributions alongside state and central government funding.

Indicators

- 1 Purchase subsidy/incentive
- 2 Recurring incentive- Toll tax
- 3 Non financial incentives - green zone, LEZ
- 4 Disincentives for ICE
- 5 Incentive for development of supporting infrastructure
- 6 Funds from CSR apart from State and Central Govt. funds

IV Institutional Coordination

Institutional Coordination is evaluated through six indicators, which examine how effectively different actors work together to enable EV adoption in the state, focusing on governance, stakeholder collaboration, and government capacity-building. It examines interdepartmental coordination across government agencies, the role of urban local bodies, and engagement with utilities like HPSEBL to ensure reliable power supply and charging integration. It also evaluates the extent of capacity building for government officials and private stakeholders to strengthen technical and managerial skills for EV implementation. Another dimension is the staffing of the State EV Cell to ensure dedicated oversight, along with the role of technical support agencies that provide expertise and guidance.

Indicators

- 1 Interdepartmental coordination
- 2 Urban Local Body Engagement
- 3 Engagement With HPSEBL
- 4 Capacity Building For Govt. Officials & Private Stakeholders
- 5 State EV Cell Staffing
- 6 Technical Support Agency Engaged



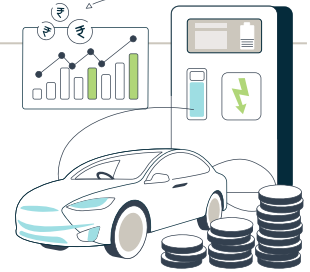


V Market Readiness

Market Readiness includes three indicators related to product availability, economic opportunities and service infrastructure. It considers the range of EV models available to meet diverse consumer needs, as well as the presence of local repair and maintenance facilities that ensure reliable after-sales support. In addition, it examines how EV adoption can stimulate tourism and economic development by creating opportunities for local businesses such as EV rental services, charging-enabled hospitality facilities, and sustainable tourism packages.

Indicators

- 1 EV product offering- vehicle model available
- 2 Availability of local repair and maintenance facility
- 3 Tourism and Economic Development: Opportunities for local businesses, including EV rental services and tourism packages



VI Awareness and Outreach

The **Awareness and Outreach** segment is measured with six indicators that assess how effectively information, training, and inclusivity measures are being promoted to build public confidence in EV adoption. It covers consumer awareness initiatives along with efforts to improve market knowledge on buying, maintenance, and resale. Demonstration projects such as test drives play a critical role in familiarizing citizens with EV technology. Additionally, skill development and upskilling programs for maintenance, operations, and manufacturing help create a supportive workforce gender sensitisation and inclusivity measures ensure that women and marginalized groups are actively engaged and benefit from the EV transition.

Indicators

- 1 Consumer Awareness
- 2 Market Knowledge (Buying, Maintenance, Resale)
- 3 Demonstration Projects (Test Drives)
- 4 Driver/Operator/Maintenance Training
- 5 Skill Development & Upskilling (Maintenance, Operations, Manufacturing)
- 6 Gender Sensitisation and Inclusivity

Collectively, these indicators form a comprehensive, weighted, and multi-dimensional tool for assessing regions' preparedness to expand EV adoption in a targeted, measurable, and practical manner.





7 EV Readiness Growth Assessment in Himachal Pradesh (2 years)

The EV Readiness Growth Assessment for Himachal Pradesh provides a comprehensive snapshot of progress across six strategic focus areas: Policy and Regulation, Infrastructure, Subsidies and Incentives, Institutional Coordination, Market Readiness, and Awareness and Outreach.

In 2023, Himachal Pradesh's EV ecosystem was at an early stage, guided by the 2022 EV Policy. Public charging options were limited, with users relying primarily on home charging, and corridor-based networks for inter-city or tourism-linked travel were yet to be established. Coordination across departments was just beginning, and private sector participation remained low as the market was still taking shape. Awareness of EV technology was limited among both government stakeholders and citizens, with common myths about range, hilly terrain performance, and charging safety affecting user confidence. Engagement with the hospitality sector had not yet started, and destination charging at hotels and rest houses was still absent.

Nonetheless, these challenges marked the baseline from which Himachal Pradesh has since made significant progress, setting the stage for rapid growth in subsequent years.

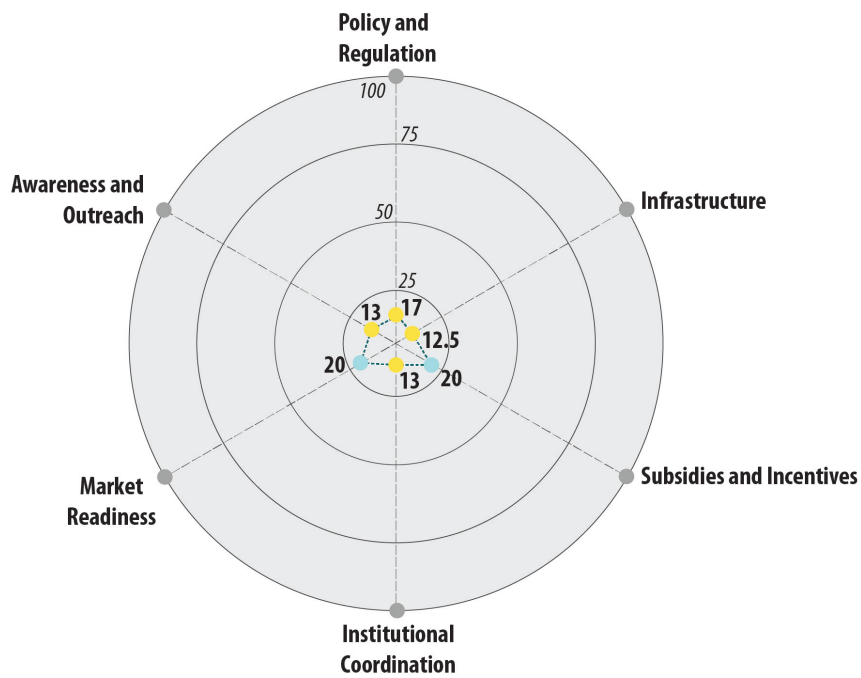
However, after constant engagement for two years, in 2025 the progress trends observed in Himachal Pradesh mirror global EV transition pathways, where early infrastructure-led gains, such as charging corridor development and policy formalization, are typically achieved ahead of widespread consumer incentives and market transformation. The transport department changed the ICE fleet to an EV fleet to gain user confidence. This sequencing is seen in many countries where governments prioritize visible infrastructure and regulatory clarity before scaling affordability mechanisms.

The EV Readiness Growth Assessment for 2025 highlights progress in Himachal Pradesh's e-mobility landscape compared to the 2023 baseline assessment. By 2025, all six focus areas show a clear upward trajectory, moving from early-stage policy intent and pilot projects in 2023 to broader implementation, stronger institutional coordination, and expanding infrastructure coverage. A detailed breakdown of each strategic focus area, comparing 2023 and 2025, is presented in the sections below.





2023



2025

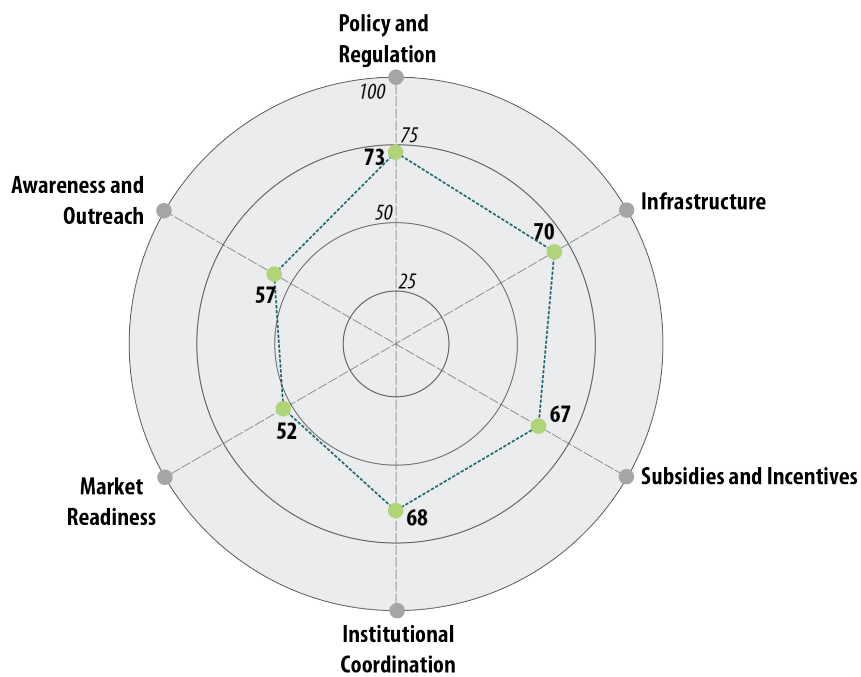


Figure: EV Readiness Assessment for Himachal Pradesh (2023 vs 2025)

The detailed assessment scoring evaluation list for each indicator is provided in the Annexure.





Policy and Regulation

In 2023, policy and regulations scored modestly (16.66) as Himachal Pradesh was still at the foundation stage. The EV Policy 2022 had been notified, setting the state's intent for clean mobility and laying down the first building blocks. While mandates and detailed regulations were yet to take shape, this early framework marked the beginning of a structured transition.

By 2025, the score rose sharply to 73, reflecting clear targets and greater institutional clarity. Himachal Pradesh has advanced from policy intent to implementation, laying the foundations of a full-fledged EV ecosystem. While the EV Policy 2022 set the groundwork, the 2023–24 Budget translated it into action, announcing -

- **Green Energy State** target for **2026**,
- **Six Green EV Corridors**, and
- Finalized charging sites.

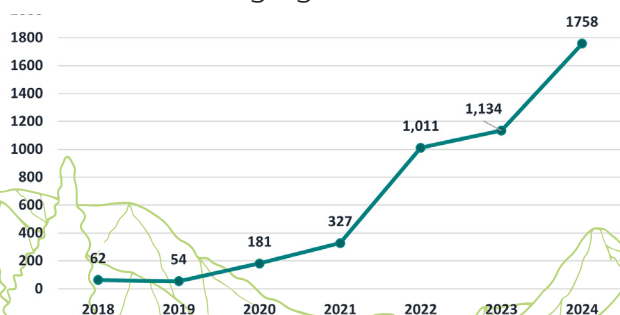


Figure: Growth of EVs in Himachal Pradesh

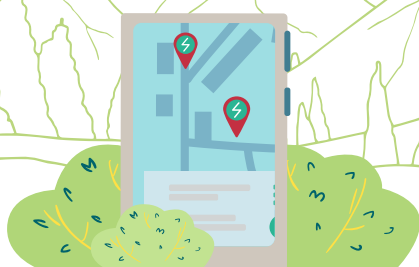


Infrastructure development

In 2023, infrastructure development scored modestly (15), with only a handful of charging stations in place and most Green Corridor sites at the planning stage. However, key groundwork had begun through active discussions with oil companies and utilities, and the identification of priority sites signaled the start of Himachal Pradesh's charging network expansion.

By 2025, the infrastructure development score rose to 70, demonstrating strong momentum, as charging corridors expand and coordination mechanisms between government, utilities, and private players become more structured. Over the past two years, Himachal Pradesh has rapidly expanded charging infrastructure along six Green Corridors. By late 2025,

- **35 fast-charging stations** were operational
- **45** more under installation at **petrol pumps**,
- Additional **41 PPP sites** under development for completion **by 2026**,
- Oil companies have also set targets for 100+ stations statewide and,
- Charging stations at hotels





Institutional Coordination

In 2023, institutional coordination scored 20, reflecting an early stage where departments had begun identifying roles and engaging stakeholders. Initial discussions with HPTDC and other agencies marked the first steps toward aligning responsibilities and planning sites for chargers, laying the groundwork for structured collaboration.

In 2025, institutional coordination(68) has seen an uptake, reflecting structured multi-stakeholder engagement.

- An EV Committee with HPSEB, DoT, UD, RD, and Energy Departments has streamlined decision-making,
- ULBs actively collaborate with the state and initiate their own EV projects.
- HPSEBL is providing proactive support for charging rollout in coordination with oil companies and PPP operators.
- Capacity-building programs for government officials, hoteliers, and technical institutes have begun, and
- A dedicated EV Cell is under formation.

Since 2023, ICLEI South Asia has offered technical support, ensuring policy alignment and effective on-ground implementation. Regular meetings between different departments and private stakeholders are carried out to track the progress and further actions.



Subsidies and Incentives

In 2023, subsidies and incentives scored 13, reflecting early steps to support adoption. Purchase subsidies had been introduced under the EV Policy, toll tax exemptions were announced, and discussions on LEZs and CSR contributions had begun. These measures marked the start of a framework to make EVs more affordable and attractive for consumers.

By 2025, it rose to 67, reflecting a balanced mix of financial and non-financial support. Under the Rajiv Gandhi Rozgar Yojna (2023), a 50% subsidy was launched for e-taxis, followed by a 2024 plan for 10,000 e-taxis with 40% subsidy; 59 have been allocated so far, linking EVs to jobs and mobility.

- Himachal Pradesh operates **110 e-buses** and has committed to **327 more**, with 297 due by 2025 end and chargers at 53 sites.
- The Rural Development Department is introducing **e-rickshaws for waste collection** across panchayats, expanding beyond passenger transport.
- **Toll tax exemptions** are finalized, while Low Emission and Green Zones are being planned, supported by surveys at tourist hubs.
- **Green Corridors** have been **notified**, land is being leased to charge point operators through PPPs, and SJVN has supported EV-based waste vehicles in Shimla through CSR.

Together, these steps align consumer incentives, infrastructure rollout, and early policy measures.



Awareness & Outreach and Market Readiness

In 2023, awareness (13) and market readiness (20) were at an early stage, with EV use concentrated in select urban centres. Initial outreach campaigns were being designed, and the groundwork for engaging rural households, businesses, and tourism operators had begun. While EV-friendly tourism branding was yet to emerge, these early efforts laid the foundation for wider adoption and stronger market confidence in the years ahead.

As of now, in 2025, the Awareness and Outreach (57) and Market Readiness (52) have witnessed improvement, requiring continued focus to ensure that the benefits of EV adoption reach rural households, small businesses, and informal transport operators.

The government has prioritized awareness through EV workshops with hotel associations and tourism stakeholders across major districts. These sessions highlighted business and environmental benefits, supported by private charging companies. As a result, 50+ hotels in Shimla, Solan, Kullu-Manali, Dharamshala, Dalhousie, Mandi, and Una have installed destination chargers, strengthening public-private options and positioning Himachal Pradesh as an EV-friendly tourist hub.



Himachal Pradesh's trajectory demonstrates that even in a resource-constrained, geographically complex region, measurable advancements can be achieved with targeted policy actions, institutional leadership, and integration with existing sectors like tourism and public transport. This positions the state as a valuable case study for hilly and low-resource geographies worldwide, showing that context-specific innovation and phased approaches can overcome structural barriers and set the foundation for inclusive EV adoption.

EV adoption is now visibly rising in Himachal Pradesh, with government fleets, buses, and e-taxis entering service, and private uptake of e-two-wheelers and e-cars growing in urban and tourism hubs. Since 2023, the state has strengthened its EV ecosystem through expanded charging networks, awareness workshops, subsidies, and departmental fleet conversions. The next step lies in consolidating these gains while addressing gaps in inclusivity, outreach, and market depth.

Himachal Pradesh is positioned as one of India's most advanced hilly states for EV adoption, reinforcing its vision as a **Green Energy State** and a **Green Tourism Hub**.





8 Conclusion

The distinct context ***positions Himachal Pradesh as a replicable global model for climate-sensitive and socially inclusive EV adoption in hilly geographies.*** Himachal Pradesh's EV journey differs markedly from that of states and cities in the plains, shaped by its mountainous terrain, extreme weather, dispersed settlements, and strong dependence on tourism and public transport.

Since 2023, Himachal Pradesh has reinforced its EV ecosystem through a comprehensive approach: expanding charging stations across public, PPP, and private networks; holding awareness workshops to build confidence; backing adoption with subsidies and incentives; and ensuring direct implementation through departmental fleet conversion and bus procurement. Together, these measures have made the state one of the most advanced hilly regions in India for EV adoption, while also strengthening its identity as a Green Energy State and a tourism hub rooted in green mobility.

The EV Readiness Growth Assessment highlights that the state has established a promising foundation, particularly in infrastructure, but faces ongoing challenges in incentives, awareness, and market readiness. To move towards an inclusive e-mobility future, Himachal Pradesh must focus on context-specific solutions such as low-cost decentralized charging, integration of renewable energy, targeted subsidies for rural populations and tourist corridors, and stronger institutional mechanisms to align multiple stakeholders.

By ***leveraging its unique geography and aligning EV adoption with eco-tourism and sustainable development goals,*** Himachal Pradesh can become a ***pioneer among Himalayan states.***

The readiness framework highlights that, with sustained investments, policy refinement, and active community engagement, the state has the potential not only to close its existing gaps but also to establish a replicable model of climate-sensitive and socially inclusive EV adoption for other ecologically fragile regions.





9

Annexure

POLICY AND REGULATIONS

INDICATORS

DESCRIPTION

EV Policy Existence

Whether a state-level EV policy exists, is updated, and is enforced.

Mandates for fleet electrification

Mandates to electrify Government, public and IPT fleet

EV Charging Integration in Building bylaws

Mandating EV charging infrastructure readiness in residential, commercial, and public parking spaces through building regulations

EV Tariff

Development, approval, and awareness of a special electricity tariff for EV charging infrastructure (public and private)

Battery Recycling Policy

Development and enforcement of policy mechanisms for end-of-life EV vehicles and battery disposal, aligned with circular economy and environmental regulations

Scrappage of old ICE Vehicles Policy

Development and enforcement of policy mechanisms for providing incentives for scrapping old ICE vehicles to motivate EV adoption in the state.

SCORING EVALUATORS

- 0 – No EV policy
 - 2 – Draft policy exists, not notified
 - 4 – EV Policy notified; lacks timeline and clarity
 - 6 – Policy has targets, but lacks financial backing or roadmap
 - 8 – Policy notified with clear targets and basic implementation underway
 - 10 – Comprehensive Policy, funding secured and active implementation
-
- 0 – No mandate or reference to fleet electrification in policy.
 - 2 – Voluntary electrification targets for public, government, and IPT fleets only; no enforcement.
 - 4 – EV policy includes a mandate covering government fleets and public buses (STUs).
 - 6 – Government fleet electrification started and the coverage extends to Informal Public Transport (IPT).
 - 8 – Implementation underway with clear timelines, stakeholder agreements, and partial fleet conversion achieved.
 - 10 – Mandates are enforced, with secured funding and linked with financial incentives and penalties.
-
- 0 – No mention of EV-related building bylaws
 - 2 – Discussion initiated by the Transport Department
 - 4 – Draft bylaws prepared and sent it for approval
 - 6 – Bylaws approved at the government level for commercial projects only
 - 8 – Approved extended to residential projects, includes parking provisions
 - 10 – Fully implemented and enforced across all projects with parking provisions
-
- 0 - No discussion underway on EV-specific tariff
 - 2 - Discussions initiated by the regulatory body
 - 4 - Draft EV tariff submitted for approval
 - 6 - EV tariff officially notified but awareness remains low
 - 8 - Targeted outreach boosts awareness among DISCOMs, fleet operators, and charging providers
 - 10 - Tariff implemented, widely adopted, broad awareness and ToD structure in place
-
- 0 – No mention of battery recycling in EV policy
 - 2 – Initial discussions on battery recycling and end-of-life management
 - 4 – Inclusion of battery recycling into EV policy
 - 6 – Policy notified; no studies or site identification actions initiated
 - 8 – Institutional coordination, SOPs prepared, and stakeholder identification begun
 - 10 – Policy implemented; active recycling centres and real-time monitoring with industry involvement
-
- 0 – No scrappage policy or related framework in place.
 - 2 – Draft scrappage policy prepared; identifies broad criteria for phasing out old ICE vehicles.
 - 4 – Policy notified with age/fitness criteria, incentives, and compliance timelines.
 - 6 – Scrappage centres authorised; incentive schemes operational for voluntary vehicle surrender.
 - 8 – Widespread adoption of scrappage programme with monitoring, enforcement, and integration into state EV adoption goals.
 - 10 – Fully enforced scrappage policy with periodic updates, high compliance rates, and measurable reductions in older ICE vehicle fleet.
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INFRASTRUCTURE DEVELOPMENT

INDICATORS	DESCRIPTION
No. of Public Charging Stations (PCS)	Availability across key urban/rural areas
PCS per 50 km	As per the EV Policy, at least one charging station or charging point must be installed every 50 km on State or National Highways
PCS in Tourist Circuits	Coverage in high traffic scenic routes
Smart Charging/Metering	Availability of demand-response and smart billing
Public Land for Charging	Land identified for PCS
Inter-city charger coverage	Coverage along major corridors
Charger Infrastructure Planning	Charger location based on data
PCS Accessibility (UI, payment, signage)	The govt is working towards improving user experience regarding accessibility to PCS. All CPOs have their own mobile apps for accessing the charging stations. Govt. is aiming to create a single platform for them as well as in the process of creating charging maps for tourists.

SCORING EVALUATORS

0 - No public charging infrastructure or plans in place.
2 - EV Policy prepared outlining provisions for installing chargers in urban areas.
4 - PCS locations identified for the first phase and feasibility studies conducted.
6 - Funding mechanisms and partnerships with private players secured for rollout.
8 - Strategic network of chargers deployed in priority zones like tourism hubs, highways, cities etc.
10 - State wide, fully integrated charging network operational with maintenance and real-time monitoring.

0 - No PCS available.
2 - Policy exists but without targets.
4 - Clear targets set (1 PCS/50 km on highways), priority corridors mapped and locations identified.
6 - Collaboration with CPOs, Implementation started and target met on major highways.
8 - Expanded network with higher density and coverage in key urban areas.
10 - State wide network including highways, cities, rural roads, with monitoring in place.

0 - No planning or tourist circuit identified
2 - Draft policy specifies to identifying tourist circuits but with no targeted goals
4 - Policy exists with targeted tourist destinations
6 - Major urban tourist destinations covered under the tourist circuits
8 - Circuits extended to cover rural tourist destinations.
10 - All major tourist destinations covered under the tourist circuit.

0 - No state policy on smart charging or metering.
2 - Draft notification issued without a concrete implementation plan.
4 - Implementation plan approved to develop a unified smart charging/metering portal.
6 - Common portal launched with all chargers mapped.
8 - Portal upgraded to display live charger status and availability.
10 - Integrated smart charging with dynamic route planning operational.

0 - No Public Land leased out for Charging
2 - Under EV Policy, an EV scheme developed to lease out public land for charging stations
4 - Locations identified, implementation plan or strategy developed and CPOs identified
6 - Provided subsidised public land for installation of chargers and other amenities
8 - Agreement with between government and CPOs to install chargers and other amenities on PPP mode
10 - Implementation process started with support from transport and other relevant department

0 - No plan for intercity charger coverage.
2 - Draft plan exists for intercity coverage but not notified
4 - Plan notified with time lines for targeted cities.
6 - Major cities and key corridors identified for charger installation.
8 - Chargers operational along major city corridors.
10 - Chargers installed within major cities and along all key corridors.

0 - No charger infrastructure planning.
2 - Notified policy with clear targets for infrastructure planning.
4 - Vehicle data collected, surveys conducted and major corridors identified.
6 - Workshops with CPOs held at key tourist destinations across the state
8 - Chargers installed at major tourist destinations.
10 - Chargers installed at both tourist destinations and major corridors.

0 - No accessibility planning for PCS
2 - Access to PCS available through mobile apps, information centres, or maps (fragmented, not standardised)
4 - Government announces timelines and plans to improve PCS accessibility and user-friendliness
6 - Audits or surveys conducted to assess and address accessibility gaps
8 - Standard signage, common payment interface, and consistent UI implemented across PCS
10 - Fully accessible PCS network meeting universal design standards for all EV users



SUBSIDIES & INCENTIVES

INDICATORS	DESCRIPTION
Purchase subsidy/incentive	The State Government has incorporated a subsidy provision in the EV policy, and substantial no of e-taxis have received the subsidy to date.
Recurring incentive- Toll tax	States EV policy has included exemption of Toll tax and its under process of implementation
Non financial incentives - green zone, LEZ	The State Government has incorporated creation of LEZ/ Green Zones in the EV policy and the initial discussion has begun.
Disincentives for ICE	Disincentives have been discussed at the government level
Incentive for development of supporting infrastructure	The government has notified Green Corridors under the EV Policy, leasing land to CPOs through a PPP model. Implementation is underway in collaboration with multiple stakeholders.
Funds from CSR apart from State and Central Govt. funds	SJVN has allocated CSR funding for 2 SWM EVs for Shimla Municipal Corporation. The implementation is in the final stage.

SCORING EVALUATORS

- 0 – No subsidy or incentive provision exists
 - 2 – Basic assessment conducted and key sectors for subsidy identified to be included in the draft policy
 - 4 – Subsidy formally announced in EV policy
 - 6 – SOP finalized, platform created for applications and funds allocation
 - 8 – EV Subsidy exists for priority/ high impact areas like E-Taxis, funds allocated and EV users have received subsidy benefits
 - 10 – Subsidy exists for all vehicle segments like 2Wh, 4Wh, Freight Vehicles etc.
-
- 0 – No provision for toll tax exemption on EVs
 - 2 – Toll tax included in the EV policy
 - 4 – SOP drafted to enable toll tax exemption
 - 6 – SOP approved by the government and circulated to implementing departments
 - 8 – Detailed implementation plan finalized and roles assigned
 - 10 – Toll tax exemption for EVs fully operational and enforced at all toll points
-
- 0 – No discussion or policy mandate on Green Zones/LEZs
 - 2 – Contextual studies to understand the feasibility of LEZ in Himachal Pradesh
 - 4 – LEZ/Green Zones included in the EV policy
 - 6 – Tentative survey conducted at various tourist locations
 - 8 – Pilots identified for implementing LEZ
 - 10 – Financial support identified for implementation"
-
- 0 - Absence of Disincentives for ICE or formal intent expressed
 - 2 - Initial discussions underway regarding regulatory and tax related disincentives but lack of clarity
 - 4 - Policy draft prepared; demonstrates improved clarity, scope, and potential mandate
 - 6 - Disincentive measures (regulatory/ tax etc.) formally approved by the government
 - 8 - Institutional mechanisms, operational guidelines, and enforcement frameworks are being set up, resource allocation and stakeholder coordination initiated.
 - 10 - Disincentive measures for ICE vehicles are being actively enforced on-ground through regulations, pricing, taxation, or restrictions.
-
- 0 - Absence of any incentive for development of supporting infrastructure
 - 2 - Initiation of discussion, and evaluation at government level to provide land, subsidy, tax related incentives
 - 4 - Provision of subsidized land for enabling charging infrastructure with amenities
 - 6 - Finalization of agreement between government and CPOs with time lines
 - 8 – Multi-stakeholder coordination to finalize the implementation roadmap, address potential challenges, and streamline approvals for timely rollout
 - 10 - On ground implementation process initiated with support from transport and other relevant departments
-
- 0 - No discussions or consideration for CSR fund utilisation in e-mobility
 - 2- Initial-level discussions underway to explore the use of CSR funds in e-mobility
 - 4- Corporates show limited interest in directing CSR funds towards e-mobility; no structured proposals in place
 - 6- Sectors and areas for CSR fund utilisation in e-mobility have been identified and documented, but actual fund deployment has not yet begun
 - 8 - CSR funds are being utilised for e-mobility for limited areas and components
 - 10 - CSR funds are actively being utilised for e-mobility for charging infra, R&D, public awareness, and fleet electrification
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MARKET READINESS

INDICATORS

DESCRIPTION

EV product offering- vehicle model available

Key cities and towns across the state feature a wide range of EV models from leading brands including MG, Tata, Mahindra, Hyundai, BYD, Kia, and other emerging manufacturers.

Availability of local repair and maintenance facility

The state is currently organizing EV training programs for technicians to improve the quality of repair and maintenance facilities

Tourism and Economic Development: Opportunities for local businesses, including EV rental services and tourism packages

The government has announced its intent to transition the rental vehicle fleet to electric, aiming to reduce emissions, promote sustainable mobility, and encourage wider EV adoption through increased visibility and accessibility

SCORING EVALUATORS

0 – No EV models (2W or 4W) available in the state.

2 – Limited EV models (primarily 2W and select 4W) available in existing ICE vehicle dealerships in key cities.

4 – Based on the sales, wider range of EV models introduced, but availability remains limited to major urban centers.

6 – Multiple EV models across categories available in most districts, supported by local dealerships and service centers.

8 – Comprehensive EV model portfolio offered state wide, including various price points, vehicle types, and use cases.

10 – Full market maturity with diverse EV options across all segments easily accessible throughout the state

0 – No EV-specific repair or maintenance facilities available in the state.

2 – Basic servicing for E-2W and 4W at a few dealerships in major cities; minimal EV-specific training for technicians.

4 – Improved trained technicians, basic diagnostic tools, and battery testing equipment in place.

6 – Regional EV service centres established under dealerships

8 – Specialized EV repair centers under dealerships and mobile service units in selected districts

10 – Fully developed state wide ecosystem with certified workshops, battery refurbishment and recycling facilities, on-site repair vans, and continuous skill upgradation programs for next-gen EV technologies.

0 – No discussion or efforts from the government or private sector towards integrating EVs in tourism rentals.

2 – Government-level discussions initiated on electrification of rental vehicles and their integration into the tourism sector.

4 – Government engages stakeholders to understand their requirements and ideas

6 – Government drafts an amendment to the existing act to partially mandate EV rentals and engages stakeholders for feedback

8 – Draft approved by stakeholders with modifications, and policy amended to include EV rentals

10 – Availability of EV's as rental modes for tourists.



INSTITUTIONAL COORDINATION

INDICATORS	DESCRIPTION
Interdepartmental coordination	EV Committee formed by the state with key stakeholders like HPSEB, DoT, RD, UD, Energy Department etc. for smooth implementation.
Urban Local Body Engagement	Urban Local Bodies are actively coordinating with the State Government for EV implementation, while also independently initiating charging infrastructure and EV procurement.
Engagement With HPSEBL	HPSEB, as the nodal agency, plays a key role in developing upstream EV infrastructure, coordinating closely with oil companies, PPP site operators, and the Department of Transport.
Capacity Building For Govt. Officials & Private Stakeholders	Awareness training conducted for officials from Tourism, Transport, TCPO, HPSEB, & Private leading Hoteliers etc., along with technical training for instructors of technical institutes.
State EV Cell Staffing	The state currently has EV committees comprising key government stakeholders however, a dedicated EV Cell with specialized technical personnel is in the process of formation
Technical Support Agency Engaged	Since July 2023, ICLEI South Asia has been working with the Directorate of Transport to support the State Government in accelerating electric mobility. The engagement focuses on providing technical and policy-level assistance, enabling the state to design and implement effective initiatives that promote EV adoption and strengthen charging infrastructure.

SCORING EVALUATORS

- 0 – No multi-stakeholder committee exists for EV governance.
- 2 – Government initiates discussions to establish a multi-stakeholder committee for integrated EV governance.
- 4 – Committee members identified and formal notification issued to constitute the Committee.
- 6 – Committee convenes regular meetings to review progress, address issues, and align actions.
- 8 – Active coordination and stakeholder engagement ensures timely decisions and actions.
- 10 – Smooth EV implementation through effective committee oversight

- 0 - No coordination or initiatives by ULBs.
- 2 - ULBs initiate EV efforts but face gaps in clarity, guidance, and resources.
- 4 - Initial consultations begin between state authorities and ULBs on EV planning.
- 6 - Key actors are mapped, and structured coordination channels are set up.
- 8 - Actively collaboration with shared responsibilities to setup EV infra
- 10 - ULBs independently plan, execute, and monitor local EV initiatives.

- 0 – No formal engagement by HPSEB on EV-related responsibilities.
- 2 – Preliminary discussions held, but with limited clarity and no structured roadmap.
- 4 – HPSEBL officially designated as the nodal agency to implement EV policy
- 6 – HPSEBL begins carrying out technical assessment in coordination with stakeholders
- 8 – Proactive support from HPSEBL for EV infrastructure rollout.
- 10 – EV responsibilities executed efficiently with continuous oversight and measurable on-ground results.

- 0 – No efforts made toward EV-related training or awareness.
- 2 – Assessment carried out to map existing skills and identify capacity gaps
- 4 – Priority training topics finalized and relevant participant groups selected
- 6 – Tailored training curriculum and modules developed
- 8 – Initial round of training sessions delivered to government and industry participants.
- 10 – Capacity-building system established with periodic evaluations and updates.

- 0 – No dedicated staff for the State EV Cell
- 2 – Staffing needs assessment conducted; roles and skill requirements identified
- 4 – Key positions identified and recruitment plan prepared
- 6 – Partial staffing in place; core team members appointed but gaps remain
- 8 – Full staffing completed; team operational with clear roles and responsibilities
- 10 – State EV Cell is fully functional with regular performance reviews

- 0 – No technical support agency identified or engaged.
- 2 – Requirement for technical support assessed and scope of work identified.
- 4 – Potential agencies short-listed and preliminary discussions initiated.
- 6 – Technical support agency formally appointed or contract signed; activities pending commencement.
- 8 – Agency actively delivering technical expertise and supporting implementation.
- 10 – Agency fully integrated into EV initiatives, consistently delivering high-quality outputs with clear performance monitoring.



AWARENESS AND OUTREACH

INDICATORS	DESCRIPTION
Consumer Awareness	Public awareness about EVs, schemes, subsidies, and how to avail them
Market Knowledge (Buying, Maintenance, Resale)	Extent of public and private understanding around EV pricing, maintenance costs, and resale options.
Demonstration Projects (Test Drives)	Public demonstrations, test drives, or real-life pilots to expose citizens to EVs.
Driver/Operator/Maintenance Training	Programs that train drivers, IPT/transport operators, and mechanics for EV operation & servicing.
Skill Development & Upskilling (Maintenance, Operations, Manufacturing)	Structured skilling and upskilling programs for mechanics, engineers, and factory workers in EVs.
Gender Sensitisation and Inclusivity	Programs or provisions that ensure gender representation, access, and inclusivity in EV adoption.

SCORING EVALUATORS

- 0 – No user-level awareness of EV policies or benefits
- 2 – Policy/schemes published online; no active consumer outreach
- 4 – Awareness via ads, workshops, and other media channels
- 6 – Some users aware of schemes, but unclear on application process
- 8 – Users know schemes and process; awareness concentrated in selected cities
- 10 – Widespread awareness (urban + rural) with active campaigns, workshops, and application support

- 0= No initiatives or content related to EV lifecycle costs and resale
- 2= Scattered info via OEMs or dealerships
- 4= State government has published basic guides or FAQs
- 6= Materials available at dealerships + portals with updated EV cost/resale info
- 8= Regular workshops and buyer education events in collaboration with OEMs and banks
- 10= EV market knowledge integrated into ULB/community outreach and websites with real time data

- 0= No demonstration or test drive activities
- 2= Small-scale OEM-led pilots or limited showcase events without government support
- 4= Test drives offered only in model cities (e.g. Shimla, Mandi)
- 6= Regular demo drives/events at city festivals, fairs, and markets in all cities.
- 8= ULB or department-supported test drive campaigns + feedback collection
- 10= Integrated and recurring state-level test drive programs across rural and urban areas; results used for planning/policy

- 0 - No training programs planned or underway
- 2 - Informal discussions or pilot workshops by OEMs
- 4 - Govt or ITI-run pilot trainings in a few model cities
- 6 - Partnership with training institutions (e.g. ITI, NSDC) for structured modules
- 8 - Formal training scheme launched and rolled out to operators.
- 10 - Fully institutionalized training program with certification, job linkages, and annual upskilling.

- 0 - No curriculum or skills-based programs
- 2 - Preliminary meetings with NSDC or training partners
- 4 - Draft curriculum prepared or piloted in one institution
- 6 - Skill courses notified + launched in selected ITIs or skill centers
- 8 - Program scaled to multiple districts; covers new skills (battery management, motors)
- 10 - Continuous skilling with modular courses and government-industry partnerships (e.g. startups, OEMs)

- 0= No discussions or actions on gender or inclusivity
- 2= Acknowledgement of women in EV policy or pilot schemes
- 4= Policy includes incentives for female buyers/drivers/operators
- 6= EV programs target women in SHGs, IPT, or schools (e.g. electric school vans for girl students)
- 8= Dedicated schemes/training for women in EV supply chain, manufacturing, and operations
- 10= Institutionalized gender framework in EV policy with budget, tracking, and impact indicators



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