Concept Note

Report Launch on

Mapping the EV Ecosystem of Pakistan: From Policy to Market Adoption

SECTION – I : INTRODUCTION

Pakistan stands at a pivotal moment in its clean mobility journey. The country's transport sector consumes over 79.3% of its total petroleum products and contributes approximately 24% of national greenhouse gas (GHG) emissions, making it one of the most energy- and carbon-intensive segments of the economy. This reliance on fossil fuel-powered internal combustion engine (ICE) vehicles not only exacerbates climate vulnerability and urban air pollution but also imposes a heavy fiscal burden due to volatile oil imports. As cities grow and motorization accelerates, the urgency to shift toward electric mobility becomes increasingly clear—not only as a climate commitment, but as a strategic imperative for energy security, industrial modernization, and public health.

To address these imperatives, Pakistan introduced the National Electric Vehicle Policy (NEVP) 2019, which set an ambitious target of 30% new EV sales by 2030. The launch of the New Energy Vehicle (NEV) Policy 2025 has further expanded this vision by including battery electric vehicles (BEVs), hybrid electric vehicles (HEVs and PHEVs), and hydrogen fuel cell vehicles (FCEVs). It promotes fiscal incentives, regulatory reforms, and localized manufacturing to accelerate adoption across multiple vehicle segments. However, despite a progressive policy environment, EV adoption in Pakistan remains limited. Vehicles remain 30–64% more expensive upfront than their ICE counterparts due to dependency on imported batteries and components, weak industrial capacity, and lack of economies of scale.

A major bottleneck is the absence of affordable and accessible financing for both consumers and manufacturers. Commercial banks remain risk-averse, offering few EV-specific financial products. Green lending frameworks are underdeveloped, and concessional capital remains largely untapped. At the same time, infrastructure investors and startups face capital access constraints that limit charging network development and technology localization. Without bold financial innovation through battery leasing, concessional loans, blended finance, and carbon credit mechanisms, Pakistan's EV market risks remaining out of reach for most citizens and entrepreneurs.

Another most immediate and visible barrier to scale is the lack of accessible and reliable EV charging infrastructure. Charging remains fragmented, unstandardized, and largely unsupported by grid-integrated planning or public-private investment models. For consumers, this translates into range anxiety, long wait times, and poor service reliability—factors that further deter EV purchases. Battery-swapping and home-charging models, while emerging, remain limited in availability and regulation. Without an aggressive rollout of charging infrastructure that is affordable, interoperable, and grid-aligned, EV adoption will remain urban-centric and inaccessible to the broader population.

Yet, there is a clear pathway for scalable progress: the rapid electrification of two- and three-wheelers, which make up more than 90% of Pakistan's total vehicle fleet. These vehicles, often used for short distance commuting and commercial deliveries, are technically simpler to electrify

and can be charged using existing residential electricity connections. They represent a low-cost, high-volume segment with strong domestic production potential—already supported by over 60 local manufacturers. Targeted interventions in this segment such as concessional financing, retrofitting programs, and battery leasing, can deliver fast, visible wins on emissions reduction, fuel savings, and urban air quality improvement.

To support this national transition, the **Sustainable Development Policy Institute (SDPI)** has undertaken a study titled *"Mapping the EV Ecosystem in Pakistan: From Policy to Market Adoption."* This report offers the country's first integrated assessment of its electric vehicle landscape—covering policy gaps, consumer trends, charging infrastructure, manufacturing readiness, and financing barriers. It provides a clear, actionable roadmap for implementing the NEV Policy 2025 and advancing Pakistan's **climate targets under its Nationally Determined Contributions (NDCs)**.

The launch of this report is not just a platform to present findings—it is a national call to action. By convening policymakers, financiers, industry leaders, and development partners, the event seeks to transform fragmented efforts into a unified national vision for electric mobility that is data-driven, equity-focused, and implementation-ready.

SECTION – II : SCOPE & OBJECTIVES

The launch of *"Mapping the EV Ecosystem in Pakistan: From Policy to Market Adoption"* aims to translate the ambitions of the **NEV Policy 2025** into actionable steps by engaging key stakeholders across government, industry, finance, and development sectors. The event will provide a platform to align priorities, address gaps, and catalyze investment for Pakistan's electric mobility transition.

The specific objectives are to:

1. **Share Key Insights** from Pakistan's first comprehensive EV ecosystem mapping, including policy gaps, market readiness, infrastructure bottlenecks, and financing barriers.
2. **Address the Urgent Need for Charging Infrastructure** by highlighting investment opportunities, grid integration models, and scalable solutions such as home charging and battery swapping.
3. **Accelerate Two- and Three-Wheeler Electrification** as a high-impact, low-cost pathway to mass adoption, especially in urban and peri-urban areas.
4. **Promote Green Financing and Local Manufacturing** through discussions on concessional loans, battery leasing, and technology localization to lower upfront costs and build domestic capacity.
5. **Set a Coordinated Way Forward** by defining short- to medium-term priorities, fostering institutional alignment, and positioning the report as a reference roadmap for NEV Policy implementation.