



# POLICY VIEWPOINT

## FUTURE ON WHEELS

### PROPOSALS FOR PAKISTAN'S NEW ELECTRIC VEHICLE POLICY



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Pakistan's Prime Minister, in September 2024, issued a directive to urgently establish a streamlined financial framework and licensing plan aimed at accelerating electric vehicle (EV) manufacturing and encouraging user adoption across the country.

As Pakistan's leading economic think tank, the Pakistan Institute of Development Economics (PIDE) has extensively explored the dynamics of Pakistan's automobile industry, including the shift towards EVs. PIDE's insights in this context are encapsulated in two pivotal publications:

- Driving Backwards: What is Wrong with Pakistan's Automobile Industry?
- Wheels of Change: Tracing Pakistan's Automotive Evolution through Political Economy and Technology Acquisition

In response to the Prime Minister's call for a robust EV policy, PIDE presents research-driven recommendations to support the development of an effective policy framework. These recommendations aim to streamline manufacturing and create a conducive environment for consumers to adopt electric vehicles, ensuring a sustainable and progressive transition for Pakistan's automotive sector.

## Why Electric Vehicles?

Global warming and climate change are escalating threats, bringing us closer to irreversible damage with each passing day. This urgency has spurred a wave of global action aimed at reversing these effects and fostering a sustainable future. Shifting behaviors, overhauling traditional practices, and embracing eco-friendly innovations are critical to preserving a livable planet for future generations.

Central to these efforts are the Sustainable Development Goals (SDGs), endorsed by all United Nations members, which aim to secure peace, prosperity, and planetary health. A major piece of this global commitment is the shift towards Electric Vehicles (EVs) as a more sustainable alternative to conventional transportation. Road transport, powered by Internal Combustion Engine Vehicles (ICEVs), is a leading contributor to air pollution, health issues, and growing dependency on petroleum - a non-renewable, environmentally damaging resource that demands high levels of extraction and refinement.

In contrast, EVs offer a cleaner solution. By reducing harmful emissions and lowering the demand for petroleum, EVs not only benefit the environment but also require fewer manufacturing parts and resources, which lessens the overall ecological footprint of vehicle production. However, the environmental impact of lithium extraction for EV batteries and the disposal of electronic waste remains concerns that need attention. Extensive research and development are essential to find sustainable solutions for EV battery waste management as their use expands.

For Pakistan, as one of the nations that is most vulnerable to climate change, this transition to EVs could be transformative. Smog and pollution plague many urban centers, leading to some of the worst air quality worldwide. Additionally, Pakistan's heavy reliance on imported oil places immense pressure on its economy. A shift towards EVs could reduce this burden, cutting down oil imports and improving the current account balance.

Ultimately, the adoption of EVs presents Pakistan with a dual opportunity: environmental protection through reduced emissions and economic resilience by curbing import costs. Embracing this shift will support Pakistan's climate goals and bolster its economic stability.

## Issues & Challenges

The transition to electric vehicles (EVs) presents Pakistan with a unique opportunity to advance both climate goals and economic growth. However, achieving this vision is not without significant hurdles. From two- and three-wheelers to larger commercial vehicles, the shift to EVs encounters complex challenges across all categories of transport. To realize an electric future, Pakistan's policy framework must address these obstacles effectively and comprehensively.

Some of these major challenges and issues that have been identified are:

### 1. Induced High Production Costs

- a. **High Total Up Front Cost:** The technology to assemble or manufacture EVs in Pakistan is in a nascent stage. As a result, the cost of production of EVs still remains high thus raising the total up front cost of EVs compared to their equivalent ICEVs.
- b. **High Costs of Production:** Vehicle cost of productions in Pakistan are significantly high. Primary reasons are significant import dependence, lack of allied industries in the country and high import tariffs.

### 2. Low Vehicle Ownership (2/3 and 4 wheelers)

Although 61% of Pakistani households own a personal vehicle, only 6% have a passenger car. Motorbikes are far more common, with 57% of households owning only a bike, and about 4.5% owning both a motorcycle and a car. Additionally, 2.7% of households own rickshaws, primarily for commercial use. This means that the market for electric vehicles, particularly in the passenger car segment, is limited, and the high upfront cost makes EVs accessible to only a small segment. Although more than half of households own two-wheelers, their high initial cost renders electric options financially impractical for the middle- and low-income groups who largely rely on them.

### 3. Range Anxiety

Adopting electric vehicles demands a behavioral shift, as recharging takes considerably more time than refueling conventional vehicles. Additionally, the limited availability of commercial charging infrastructure raises the risk of being stranded if the battery depletes mid-journey, adding another layer of challenge to EV use.

### 4. Low Production Volumes

Production volumes of vehicles and parts manufacturers both are limited as focus remains mostly on meeting local demand only, operating at the minimum efficient scale that allows sufficient profits while reducing average costs and not targeting export markets. Pakistan is now exporting motorcycles to some markets in African continent, but the numbers remain low. Consequently, parts manufacturers and OEMs both fail to achieve economies of scale to reduce per unit sale price.

## 5. Lack of Capacity of Auto Parts Manufacturers

Auto parts manufacturers lack capacity on two fronts: financial and technological. Currently, majority auto parts manufacturers are small businesses producing products requiring low technological input and low production volumes.

## 6. Disintegrated from Global Value Chain

Globally, auto parts and automobile manufacturing has shifted to a global value chain, while Pakistan continues to focus on localizing all production processes. As a result, not only have Pakistan based OEMs and auto parts manufacturers failed to build high quality production capacity but also become isolated from the global automobile industry.





## Policy Objectives

**PIDE recommends the following objectives for the new EV policy:**

- I. Increase vehicle ownership in Pakistan through easy/ready availability of EVs (2/3 wheelers and 4-wheeler passenger cars) with no booking system
- II. Increase share of EV sales in total vehicle sales in Pakistan
- III. Establish adequate charging infrastructure to support and facilitate use of EVs in the country
- IV. Promote use of EVs in commercial transport including LCVs, busses and trucks
- V. Enhance EV production capacity in Pakistan
- VI. Improve the financial capacity and technological capability of auto parts manufacturers in the country
- VII. Increase production volumes and quality while reducing costs of production
- VIII. Integrating auto parts manufacturers and EV manufacturers in global value chain through export oriented large-scale production

## Targets

- i. 10% of all new 4-wheel passenger cars sales to be EVs by 2030.
- ii. 25% of all new 2/3-wheeler sales to be EVs by 2030
- iii. 50% of all new 4-wheel passenger car sales to be EVs by 2040
- iv. At least 75% of all new 2/3-wheeler sales to be EVs by 2040
- v. 50% of all new 4-wheel passenger cars units produced locally to be EVs by 2035.
- vi. 50% of all new 2/3-wheelers units produced locally to be EVs by 2035.
- vii. Increase production capacity by 2030 through licenses to new manufacturers and expansion of existing facilities with focus on EVs:
  - a. 50% increase in 4-wheeler capacity
  - b. 50% increase in 2/3-wheeler capacity
  - c. 15% increase in busses capacity
  - d. 15% increase in trucks capacity
- viii. Export of 10% of all EVs produced by 2030
- ix. Export of 50% of all EVs produced by 2040
- x. New licenses to auto parts manufacturers and expansion of existing facilities
- xi. Export of 5% of all auto parts produced by 2030
- xii. Export of 50% of all auto parts produced by 2040.

## Recommendations for EV Policy

Given the low level of adoption and availability of EVs in Pakistan, a multi-pronged approach will be required to address the issue, focusing on four aspects; namely production, import, adoption and cross cutting measures.

### 4-wheelers/Passenger Cars

- To Promote EV adoption while local manufacturing capacity is built and to foster competitiveness while ensuring consumers are able to access EVs at affordable prices, the CBUs must be charged a minimal tax, with further concession provided for an initial period till end of 2030. Proposed rates are as follows:

Battery Power	Custom Duty	Sales Tax	Till Year End
Up to 50 Kwh	1%	0.5%	2030
	5%	2%	2040
Over 50 Kwh to 75 Kwh	3%	1%	2030
	10%	5%	2040
Over 75 Kwh to 100 Kwh	10%	5%	2030
	15%	7%	2040
Over 100 Kwh	15%	10%	2030
	20%	12%	2040

- Proposed Sales tax rates for locally manufactured EVs are as follows:

Battery Power	Sales Tax	Till Year End
Up to 75 Kwh	0.5%	2035
	1%	2040
75 Kwh to 100 Kwh	2%	2035
	5%	2040
Over 100 kwh	5%	2035
	8%	2040

- Proposed Import Tax and Sales Tax Rates on import of Parts and Components being used for local manufacturing of EVs:

Till Year End	Import Tax	Sales Tax
2030	0.5%	0%
2040	2%	1%

- No Federal Excise Duty shall be levied on Electric Vehicles.
- 50% concession on all Motorways and Highways on toll tax paid through M-Tags.
- All government departments future purchases of passenger car vehicles must be locally manufactured/assembled EVs exclusively under the following conditions:
  - At least 75% of all future purchases by government departments must be EVs.
  - At least 70% of the EVs purchased (or 52.5% of all passenger cars) by the government departments must be EVs of upto 50 Kwh Battery Capacity.
  - At max only 30% of the EVs purchased (or 22.5% of all passenger cars) by the government departments may be EVs having Battery Capacity more than 50 Kwh but not more than 75 Kwh.
  - No Vehicle of over 75 Kwh Battery Capacity must be purchased, while no vehicle of any automobile manufacturer not operating in Pakistan, or any vehicle not introduced in Pakistan market by an automobile manufacturer operating in Pakistan must be purchased.
- Proposed Excise charges of 4-wheel Electric Vehicles:

Battery Capacity	Registration Fee	Token Tax	Advance Fee	Income Tax (Annual, up-to 10 years)
Up to 50 Kwh	0.5%	10,000 (Lifetime)	Nil	Nil
Over 50 Kwh up to 75 Kwh	0.5%	12,000 (Lifetime)	Nil	Nil
Over 75 Kwh up to 100 Kwh	1%	Equivalent to 1500cc Vehicles	Nil	Nil
Over 100 Kwh	2.5%	Equivalent to 2000cc Vehicles	Nil	Nil

## 2/3-Wheelers

- Concessionary duties on CBU imports of 2/3-wheelers at 0.5% custom duty and 0.5% sales tax till 31 December 2027 to decrease the price of EVs and promote adoption. From 01 January 2028 the import duty may be increased to 3%% on CBU imports along with a 2%% sales tax.
- Import of parts and components for local manufacturing of 2/3-wheeler EVs at 0.5% duties and 0.5% sales tax till 31 December 2030.
  - From 01 January 2031 the import duty may be increased to 1% and sales tax imposed at 1%.
- No Federal Excise Duty shall be imposed on 2/3-wheeler EVs.
- All future 2/3 – wheelers purchased by government departments must be locally assembled/manufactured EVs.
- Proposed Excise charges for 2/3-wheeler EVs:

Registration Fee	Token Tax	Advance Fee	Income Tax (Annual, up to 10 years)
0.5%	500 (lifetime)	Nil	Nil

## Trucks & Buses

- CBU Import of EV Busses and trucks shall be charged 1% custom duty and 0% sales tax till 31 December 2030. From 01 January 2031 the custom duty on CBU import of EV busses and trucks to be increased to 2% while 1% sales tax will also be applicable.
- Locally Manufactured/Assembled EV busses and trucks to be charged 0.5% sales tax.
- Import of parts and components for EV busses and trucks to be charged 0.25% custom duty and 0% tax till 31 December 2030. From 01 January 2031, the custom duty to be increased to 0.5% with 0.25% sales tax applicable.
- 50% concession on all Motorways and Highways on toll tax paid through M-Tag.
- EV busses and trucks to be exempted from registration fee and annual token tax till 2030. No advance fee, income tax etc. shall be applicable on either.
- All public sector provided public transport (BRT, Metro, Feeder Routes etc.) must now include only EV busses.
- At least 75% of future government departments' purchases of busses and trucks must be EVs.

## Charging Infrastructure

- Import of charging infrastructure equipment at custom duty of 0.5% and 0% sales tax.
- Import of components and parts for local manufacturing of charging infrastructure equipment at custom duty 0.25% and sales tax 0%.
- FBR to devise a three/five-year tax incentive plan for entities installing and running charging infrastructure.
- All commercial, residential and mix-use properties with dedicated underground or over-ground parking must be mandated to install either themselves or through out-sourcing EV charging facility.
  - No new building plan shall be approved without clear dedicated EV charging facility provision.
- Encourage existing petrol stations to install EV charging stations supported with solar energy
- Regulatory Guillotine to reduce sludge in approval process for installing solar generation units and installation of green meters to provide electricity to charging infrastructure.

## Encouraging Manufacturing in Pakistan

- Facilitate Joint Ventures between existing firms in Pakistan and foreign firms to enhance EVs, parts and components manufacturing in Pakistan through Transfer of Technology (ToT) and Capital Investment
  - Engage on G2G and G2B basis to attract investment and manufacturing in Pakistan
- FBR to devise a three/five-year tax incentive plan for setting up new manufacturing units of EVs and EV parts and components, as well as for expansion in existing manufacturing units for purpose of EV and EV parts and components manufacturing.

- Tax incentives must be inter-linked with achieving export targets
- Import of machinery for setting up or expanding existing manufacturing facility for EVs and EV parts and components at 0.5% custom duty and 0% sales tax till 2035.
- Provision of land and allied facilities in Special Economic Zones to create an Electric Vehicle manufacturing cluster
- Proposed export targets for all EVs and EV parts and components manufactured in Pakistan:

Product	Export Target	Achieving Deadline
<b>Electric Vehicle</b>	10%	31 December 2030
	25%	31 December 2035
	50%	31 December 2040
<b>EV Parts and Components</b>	5%	31 December 2030
	20%	31 December 2025
	50%	31 December 2040

- Firms achieving export targets must be extended the benefits of a zero-rated sector

## Local Supply Chain Development

- Past policies have been largely silent on development of a local supply chain which is essential for localization efforts. The existing supply chain for ICE vehicles is broken and stunted in the country, causing harm to the domestic economy.
- Consequently, the policy must acknowledge the critical role played by local supply value chain and incentivize component manufacturers.
- The incentives offered to OEMs must be linked to development of a competitive supply chain or a portion thereof.

### Labor Supply and Training

- Public private partnerships must be developed in TVETs to ensure sufficient labor force is available for firms to engage in competitive production of EVs.
- Funding of technical universities must be linked to establishment of programs and courses catering to EV industry to ensure adequate supply of graduate engineers for EVs.

## Green Financing Initiative

- State Bank of Pakistan must devise a Green Financing Plan for provision of financing through commercial banks to support the growth of Electric Vehicle and EV parts and components manufacturing and adoption in the country
- Financing facility must focus on following areas:



- New manufacturing units for production of EVs
- New manufacturing units for production of EV parts and components
- Expansion of existing manufacturing units for production of EVs
- Expansion of existing manufacturing units for production of EV parts and components.
- Setting up new charging facility for EVs
- Setting up manufacturing units for manufacturing of charging infrastructure components
- Transition to solar energy of existing commercial property, particularly fuel stations, for electricity generation solely for charging facility.

## Research & Development

- Creation of a special research fund to facilitate targeted research activities on issues pertaining to Electric Vehicles manufacturing, adoption, use and disposal etc.
- Utilizing the existing forum of Research for Social Transformation and Advancement (RASTA) at Pakistan Institute of Development Economics for conducting targeted research on matters pertaining to EVs.
- Involving industry and linking with academia/researchers for joint R&D work on matters pertaining to EVs manufacturing, use etc.
- Among other issues, research must also focus on priority basis on following issues:
  - Reducing the cost of production of EVs
  - Possible reuse of batteries after completed their initial life cycle.
  - Environmentally safe disposal of batteries after completion of life cycle.

## General Recommendations

- The focus and intent of this policy, as with other policies in the past, must not be on hand-holding the industry – catering to every whim and need of the industry
- Policy must focus less on micromanaging economic activity and more on giving direction and providing space for the industry and the economy to evolve. This will discourage rent-seeking.
- Subsidizing stakeholders for everything and imposing taxes/duties on everything to either affect behavior or collect revenue is counterproductive. It is a Highly regressive approach that will kill entrepreneurial activity in this nascent industry, and therefore must be discouraged in favor of linking goals with incentives offered.

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