ENGINEERING DEVELOPMENT BOARD

Ministry of Industries and Production

Government of Pakistan

ELECTRIC VEHICLE POLICY 2020-2025 (DRAFT)

2-3 Wheelers & Heavy Commercial Vehicles

June 2020

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1.0 Executive Summary

Automobile sector in the world is in a transformation phase from hydrocarbon based fuels to more efficient and greener technologies due to increasing concerns regarding environmental degradation. Although no comprehensive scientific study have been undertaken to document the contribution of transport sector to airborne emissions in Pakistan, it can be deduced from various reports on the subject that any efforts to reduce hydrocarbon based vehicles would have a positive impact on reduction of airborne emissions. With the current growth in population and associated increase in industrial activities, it is expected that, unless active measures are undertaken, the use of Fossil Fuel Vehicles (FFVs) and associated environmental degradation is expected to increase in future. It is therefore imperative to increase the focus on environmental friendly technologies mainly including Electric Vehicle Technology.

EV Technology being non-hydrocarbon based is expected to play a major role in curtailing oil import bill which is the largest import commodity in Pakistan. Rising trade deficit is one of the major factors towards stagnant economic growth in Pakistan. Moreover, introduction of newer technologies like EVs have a potential to jumpstart a whole new industry in Pakistan, creating numerous green businesses and employment opportunities and improving the overall socio-economic situation of the country. At the same time conversion from Euro II to Euro IV for existing vehicle fleet and introduction of hybrid vehicle technology to reduce fuel consumption will lead to reduced oil bill. The vehicle technologies including hybrid, hydrogen fuel cell, electric and normal fossil fuel technology are exhibiting rapid improvement and the future of technologies will be decided in the upcoming era. However, new Automobile Development and Export Plan (AIDEP) to be implemented from July 01, 2021 onwards will be aimed to address all the technology parameters in detail. Currently, the incentives are being offered to electric vehicles.

Due to it being in the initial stages of technological development, the capital cost of EVs is much high than comparable automotive technologies due to more expensive inputs and material costs associated with batteries etc. However according to various forecasts, as we move up the technological development curve, prices of these inputs

and materials are expected to come down once production and market uptake volumes increase. According to Bloomberg New Energy Finance, the cost of EVs will be at par with FFVs by 2022[1]. Similarly McKinsey estimates the total cost of ownership of all types of EVs to be at par with their FFV counterparts by 2025[2]. International Energy Agency (IEA) forecasts around 250 million EVs on road by 2030, excluding two and three wheelers[3]. As far as Pakistan is concerned, industry experts are of the view that 2-3 wheeler segment offers the best potential for partial shift to EVs in the near future. Due to road infrastructure in Pakistan and consumer behavior, the adoption rate of EVs is expected to be slow initially however existing as well as new stakeholders/investors are assessing the market and waiting for a positive policy framework from the Government in order to incentivize their entry in this segment. Past experience has shown that the positive environment created through EDB/MoIP's Automotive Development Policy (ADP 2016-21) has provided the adequate incentives for introduction of new entrants as well as innovative technologies in the market.

The infrastructure development is one of the major prerequisites for EVs, hence the thrust of this Policy is to provide an incentive structure that is suitable and feasible for establishment of charging infrastructure vis-à-vis local manufacturing capabilities of EVs within the country. Since the transport sector in Pakistan is comprised of various sub-sectors, separate interventions are being proposed for 2-3 wheelers, 4-wheelers, trucks and buses. Incentives for electric scooty, electric motorcycles, rickshaws and loaders, buses and trucks will be considered in this policy document, whereas the proposals for car sector will be dealt with separately and become an integral part of the Automotive Development Policy (ADP-2016-21). The policy provides a framework which will bring necessary transformation in a planned and phased manner causing minimum disruptions while at the same time having a positive socio-economic impact in terms of industrial growth, employment generation and improved environment for future generations. This policy document primarily promoting EV technology as a short term

[1] https://about.bnef.com/electric-vehicle-outlook/

[2] https://www.mckinsey.com/industries/oil-and-gas/our-insights/global-energy-perspective-2019

[3] https://www.iea.org/gevo2019/

measure to introduce 2-3 wheeler EVs in Pakistan in addition to incentivizing heavy commercial vehicles.

The hybrid technology is common in new vehicles (4 wheelers and heavy vehicles) having lower consumption as compared to the normal fossil fuel vehicles. The advanced vehicles like fuel cell are expensive and also need hydrogen fuel cell stations. However, introduction of hybrid vehicles will be feasible for local manufacturers in case the market exhibits growth in upcoming years. Therefore the leading technologies will be encompassed in AIDEP.

As stated earlier, the current EV technology development stage is associated with higher costs, EV penetration in Pakistan may not be possible initially without government support. EVs costs much higher than their FFV alternative and governments around the world have extended subsidies, incentives and tax breaks for EV adoption. These initial incentives, tax breaks and benefits are expected to pay for themselves with the savings in fuel import bill, reduction in emission related expenses, usage of idle electricity capacity and income from charging revenues, although current cost-benefit analysis models advocating such savings are still theoretical at this stage. Due to the present fiscal and economic situation of the country, the Government may not be able to provide direct consumer subsidies for EVs. Hence the proposals in the policy are aimed at reduction in duties and taxes on components not being manufactured locally. The incentives have been kept in line with ADP 2016-21 with an aim to synchronize the proposals for heavy vehicles with the policy regime. As ADP 2016-21 does not encompass 2-3 wheelers but provides a tariff structure for part manufacturing, the proposals for 2-3 wheelers are also in line with the ADP 2016-21 to the extent of existing tariff structure for part manufacturing. Similarly the prevailing tariff based system for localized and non-localized parts for manufacturing of 2-3 wheelers has also been kept intact.

2.0 Background to EV Policy

The policy has been formulated after extensive stakeholder consultations after the task of policy formulation was assigned by the Government to Engineering Development Board (EDB) vide MoIP's Notification No. 2(48)/2018-LED-II dated September 05, 2019. The draft policy was discussed in 29th, 30th and 31st meetings of Auto Industry Development Committee (AIDC), which is a committee approved by Cabinet, mandated to work for promotion of auto sector. Upon recommendation of AIDC, the agreed draft was forwarded to Ministry of Industries and Production for further necessary action. The policy document recommended by AIDC included recommendations regarding promotion of hybrid vehicles (cars, sports utility vehicles, buses and trucks). However, only the recommendations related to electric vehicles have been addressed in this policy to the extent of 2-3 wheelers and HCVs.

Economic Coordination Committee (ECC) of the Cabinet in case No. ECC-95/12/2020 dated 26th March, 2020 constituted an Inter-Ministerial Committee under the Chairmanship of erstwhile Adviser to Prime Minister on Industries and Production (The same was notified vide Industries and Production Division's Notification No 2(48)/2020 dated April 1, 2020. First meeting of the committee was convened on 06.04.2020 under the chairmanship of Adviser to Prime Minister for Industries and Production to discuss the subject policy. In the said meeting, it was decided to comparatively review both the policies drafted by this Division and Ministry of Climate Change (MoCC). Moreover, policy period was decided to be five years.

After the appointment of Minister for Industries and Production, ECC of the Cabinet in case No. ECC-161/19/2020 dated 6th May, 2020 amended the composition of the Inter-Ministrial Committee by including Minister for Industries and Production as the Chair and Secretary Ministry of Commerce as a member. The second meeting of the said committee was held on 03.06.2020 under chairmanship of Minister for Industries and Production and discussion was focused on 2-3 wheelers and Heavy Commercial Vehicles (HCVs). As decided in the first meeting, the comparison of policy documents prepared by Ministry of Climate Change and Industries and Production Division was

discussed in detail. The policy recommendations to the extent of 2-3 wheelers and HCVs were finalized in the said meeting.

In Engineering Development Board's view, the targets of electric vehicle penetration set in the policy document prepared by Ministry of Climate Change seem to be unrealistic especially in the current business environment.

The Electric Vehicle Policy (2-3 wheelers and HCVs) has been approved in principle by ECC of the Cabinet in its meeting held on June 10, 2020.

3.0 Scope of EV Policy

This policy covers electric vehicles in 2/3 wheelers and Heavy Commercial category (Trucks and Buses) and related ecosystem for said electric vehicles. It proposes a phased transition to electric vehicles without having adverse impact on the existing automotive industry which provides direct and indirect employment to 3 million people and contributes revenue of approximately Rs. 100 billion annually to the government exchequer. The policy is focused on achieving objective of cleaner environment, however with a major focus on local assembly of EVs as environmental friendly technology at the initial stage.

The policy gives incentives to both new entrants and the existing players in two-three wheelers as well as HCVs, without disturbing ADP 2016-21, thus ensuring equal opportunity for all the manufacturers to invest in new technologies.

3.1 Policy Objectives

The main objectives of the EV and new technology policy include:

1. Create a pivot to industrial growth in Pakistan and encourage auto and related industry to adopt EV manufacturing
2. Mitigate negative aspects of climate change through reduction in emissions from transport sector through introduction of fuel efficient green technologies.
3. Employment generation through introduction of new investments.
4. Contribute to reduction of external deficit through reduction in overall share of oil import bill by shifting to EVs.

4.0 Synopsis of Automotive Sector in Pakistan

As per UN Food and Agriculture report of 2018, transportation contributes 43% in emissions in Punjab, Pakistan. The graph shows emission contributions by different sectors. Industry contributes 25%, agriculture 20% and power sector 12%. In the transportation, motorcycles have a greater share in number as compared to cars, light commercial or heavy vehicles. Moreover they operate within the cities and hence considered as source of pollution.

Globally, EVs are slowly and steadily capturing the automobile industry. EVs are being particularly promoted in view of the global commitments to bring down Green House Gas (GHG) emissions as vehicular emissions are one of the major contributors to GHGs. The local market is gearing up for the EVs and people especially residing in the cities have an appetite for EVs. Therefore the policy has provided incentives to modernize our automobile sector through shifting electric vehicles.

In case environmental pollution is the basic consideration in shifting to electric vehicles, the source of generation of electricity also matters. As Pakistan is generating a major chunk of electricity through fossil fuels, the environmental objectives cannot be fully achieved unless this aspect is also addressed by concerned agencies of the government. However, the policy in hand is being prepared with the objective to provide a roadmap to the investors to opt for modern EV technologies.

The proposals contained in the policy are being targeted to be business oriented rather than providing lopsided benefits to one segment at the cost of other. However, the benefits extended to the EV manufacturers are far more than the conventional vehicles in order to give them a chance for introduction in the market.

Automobile Industry of Pakistan can be categorized into Cars & Light Commercial Vehicles (LCVs), two and three wheelers, Tractors, Trucks & Buses and Vendor Industry. Detailed breakdown of manufacturing units is provided in table 1 below:

	Category	No of Units	Company Names
1	Cars	6	Suzuki, Honda, Toyota, Al Hajj Faw, United, KIA
2	Truck/Buses	7	Hino, Ghandhara (Isuzu and Dongfeng), Master, Afzal Motors, Daewoo Pak Motors, Al-Haj FAW Motors, JW Forland.
3	Jeeps/SUVs	3	Toyota Fortuner, Honda BRV, KIA Sportage
4	LCVs/Pickups/ Van	7	Suzuki, Toyota, Master Motors, Hyundai, Al-Haj FAW Motors, Regal Automobile, JW Foton.
5	Two/Three Wheelers	132	Honda, Suzuki, Yamaha and Chinese Co.

Table 1 - Automobile Manufacturing Units in Pakistan

M/s Foton JW Auto Park(Forland), and M/s Master Motors have started production have started manufacturing of HCVs under Automotive Development Policy (ADP 2016-21).

4.1 Performance of the Sector

2-3 wheelers constitute significant portion of overall vehicle manufacturing in Pakistan . A total of 2,834,195 motor vehicles were produced locally during FY 2016-17 which increased to 3,217,918 in 2017-18 with a little bit of decline in 2018-19 to 2,857,688. Out of 2.86 Million vehicles manufactured in Pakistan, more than 2.4 million motorcycles were manufactured during the same period. EVs will either take the share of existing market and partly new market will be developed for EVs. Motorcycles, rickshaws and loaders present opportunities for market penetration as their infrastructure development is easier as compared to the normal vehicles, which may require charging stations on motorways and highways. Limited quantities of normal gasoline motorcycles and rickshaws are being exported from Pakistan. The vehicle production trend is mentioned in Table 2 below:

Products	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Cars	116,605	152,524	179,944	186,936	218,490	211,365
Jeeps	1,217	1,109	773	3,530	13,364	7,525
***Pick-Up / LCV / Van**	18,597	30,154	38,231	27,507	32,564	25,306
Total	**136,419**	**183,787**	**218,948**	**217,973**	**264,418**	**244,196**
Trucks	3,431	4,738	6,648	9,097	9,350	6,130
Buses	789	973	1,394	1,339	1,056	1,139
Total	**4,220**	**5,711**	**8,042**	**10,436**	**10,326**	**7,269**
Tractors	35,253	45,862	33,982	47,799	71,894	49,902
Motorcycles	1,703,106	1,770,239	2,060,385	2,473,687	2,761,747	2,437,871
Auto Rickshaw	48,912	52,591	57,675	84,300	109,651	118,450
Grand Total	**1,927,910**	**2,063,633**	**2,189,029**	**2,834,195**	**3,217,918**	**2,857,688**

Table 2 - Vehicle Production Trend

Through Automotive Development Policy (ADP 2016-21), Government has tried to promote competition in automotive sector. The earlier policy, Automotive Industry Development Programme (AIDP) 2007-12, was prepared with the objective that the industry will be supported through five year tariff plan and various non-tariff measures for the overall development of the auto sector with regard to technology, productivity, HRD, cluster development etc. The AIDP 2007-12 did not achieve the desired objectives mainly due to compulsory localization requirements. ECC of Cabinet constituted a high level Committee for the preparation of Automotive Development Policy on October 02, 2013. The Policy (2016-21) was finalized after intensive consultation with all

stakeholders: the auto industry, auto part manufacturers, consumers, and relevant government organizations. Policy was approved on 18th March 2016 and is active since July 01, 2016 onwards. The Policy has achieved its desired objectives to attract competition in the market. The ADP 2016-21 did not encompass motorcycle, rickshaws and loaders as the existing tariff based system was continued for 2-3 wheelers.

In Pakistan, the Automotive Manufacturers are represented by Pakistan Automotive Manufacturers Association (PAMA) whereas auto parts vendor industry is represented by Pakistan Association of Auto Parts and Accessories Manufacturers (PAAPAM). The auto parts manufacturers are mainly located in Karachi, Lahore and Gujranwala region and are manufacturing broad range of products including plastic parts, automotive batteries, vehicles interior (seat, dashboard, carpets),sheet metal parts, rubber parts, cast and machined parts, forged parts, precision components, accessories etc. According to PAAPAM, there are almost 3600, including 286 registered (Tier-I: 700, Tier-II-1300, Small and Cottage Units: 1300) auto parts vendors operating in the Pakistan's auto parts vendor industry. Pakistan auto parts vendor industry provides direct employment to almost 800,000 individuals. These part manufacturers will play an important role in development of EVs in Pakistan especially in terms of common parts.

Pakistan has achieved significant localization in 2-3 wheelers and tractors. Mostly engine parts and some critical parts which require heavy investment are being imported while the body parts and exterior parts are being manufactured locally. The localization of high tech parts depends upon volumes and feasibility. Motorcycle segment has already achieved desired localization. The presence of experienced vendors for manufacturing of common parts is an advantage for Pakistan in its shift towards EVs.

It is a fact that maintenance costs associated with changing lubricants and filters is not associated with EVs. However, in case of EVs the battery replacement costs are high, which is one of the major considerations by a customer while making an investment decision. The battery costs are expected to reduce by the passage of time.

5.0 Limitations of Policy

Pakistan being a developing country, with lesser developed road infrastructure and facing limitations in providing specific funding/subsidies for EVs, may subsequently face following problems, which need solutions through coordination amongst various government agencies and stakeholders.

i. One of the major objectives of policy include reduction of emissions, however, no vehicle retirement policy is in place in Pakistan and older vehicles in car, bus and truck segment are source of emissions. Coordinated efforts by concerned departments are required for achievement of objectives on sustainable basis.
ii. EVs are a costly option. The battery cost constitutes significant share in the total cost of an EV. Battery life is normally five years and the customers in Pakistan may not be attracted to pay the upfront cost in advance. However, the batteries for motorcycles and rickshaws are either not much expensive or normal batteries can also be used in these 2-3 wheelers.
iii. Hybrid vehicles are also a bit costly and customers may be attracted to pay additional cost as they are treated as normal gasoline vehicles. This technology is common in Japan, which has significant market share in local automotive sector. However, promotion of hybrid technology is not addressed in this policy.
iv. Road infrastructure in Pakistan, especially in the lesser developed parts of the country, does not suit EVs which are expected to be sophisticated and light weight vehicles.
v. No dedicated funding is available to support gradual import substitution through localization which may bring down costs of EV specific parts in future.
vi. Standardization, quality and safety of equipment will be a challenge in view of less developed conformity assessment mechanism in Pakistan.
vii. Non-availability of Charging Infrastructure is the biggest challenge. The investors in charging infrastructure and quantum of investment are to be worked out.
viii. Disposal of Battery to be ensured as it is hazardous for human health.

6.0 Tariff Incentives for Electric Vehicles

Four segments of EVs require different policy incentives as national and international markets are at various stages of development for each of the respective segment. In 2-3 wheelers segment, pure electric vehicles have been proposed in the policy whereas in 4-wheelers and heavy vehicles advanced technologies like hybrid also exist but this policy only caters for EVs. However, for any kind of EV to have a market acceptance, a sizeable market development effort is required. Moreover, batteries are an integral part of EVs and their development also requires incentives otherwise these will have to be imported at initial stage. Similarly adequate charging infrastructure is also needed to eliminate anxiety amongst EV owners.. Segment wise tariff incentive for various sub sectors of auto sector are as under:

6.1 Tariff Incentive for New Model Scooties / Motorcycles / Three-Wheelers

This segment is also growing in Pakistan especially in urban areas and working women prefer an independent mode of transport to look after their daily assignments, particularly EVs having low maintenance cost is more attractive for woman, therefore to penetrate in this segment, EV related parts are proposed at 1% customs duty and remaining body parts to be imported at road map mentioned in table 3 below.

Description	Category	Proposal
Motor, Battery & Drivetrain (replacement of engine/gear/battery)	EV related	1% Custom Duty(CD)
Non-Localized Parts	Non EV	15 % Custom Duty (CD)
Localized Parts	Normal	46 % Custom Duty (CD)
- Duty of raw materials, sub-components & components to be as per existing regime i.e. SRO 656(I) 2006 - Sales tax to be fixed at 1% at sales for locally manufactured 2-3 wheelers. - Sales tax at import stage 0 % on CKD only(waived)		

Table 3 - Proposed Customs Duty Structure for Scooty / Scooter

The year wise tariff roadmap (custom duty) for Scooty/Scooter is proposed as under.

	Description	Existing	2020-21	221-22	2022-23	2023-24	2024-25
1	Raw material	1 %	1 %	1 %	1 %	1 %	1 %
2`	Component Sub-Component	10%	10%	10%	10%	10%	10%
3	Sub-assembly	20%	20%	20%	20%	20%	20%
4	CKD (EV Related)	1%	1%	1%	1%	1%	1%
5	CKD (Non Localized)	15%	15%	15%	15%	15%	15%
6	CKD (localized)*	46%	46%	46%	46%	46%	46%
7	CBU	50%	50%	50%	50%	50%	50%
***** Localization to be promoted through enabling tariff. CKD lists (localized/non-localized to be finalized.							

Table 4 - Proposed Annual Customs Duty for Scooty / Scooters

6.2 Incentive for Motorcycles

The duty structure for motorcycles is mentioned in table 5 below.

Description	Category	Proposal
Existing Shape s (CD 70 & 125, already developed)		
Motor, Battery & Drivetrain etc.	EV Related	1% Custom Duty
CKD Non Localized	Non EV	15 % Custom Duty
CKD Localized	Normal	46 % Custom Duty
New Shape		
Motor, Battery & Drivetrain etc.	EV Specific	1% Custom Duty
CKD Non Localized	Non EV	15 % Custom Duty
CKD Localized*	Normal	46 % Custom Duty
- E-Bikes to attract same duty as 2 wheeler (motorcycles) - Sales tax on finished product to be 1% on locally manufactured motorcycles. - Sales tax at input stage on CKD to be 0 % (waived off to avoid adjustment refunds)		

Table 5 - Proposed Customs Duty Structure for Motorcycles

The year wise tariff roadmap (custom duty) for motorcycles (87.11) will be as under.

	Description	Existing	2020-21	2021-22	2022-23	2023-24	2024-25
1	Raw material	1 %	1 %	1 %	1 %	1 %	1 %
2`	Component Sub-Component	10%	10%	10%	10%	10%	10%
3	Sub-assembly	20%	20%	20%	20%	20%	20%
4	CKD (EV Related)	1%	1%	1%	1%	1%	1%
5	CKD Non localized	15%	15%	15%	15%	15%	15%
6	CKD localized*	46%	46%	46%	46%	46%	46%
7	CBU	50%	50%	50%	50%	50%	50%
***** Localization to be promoted through enabling tariff							

Table 6 - Proposed Annual Customs Duty for Motorcycles

6.3. Incentive for Three Wheelers {Rickshaw (8703) and Loader (8704)}

The tariff structure for three wheelers i.e. EV Rickshaws and Loaders is presented in table 7 below.

Description	Category	Proposal
CKD Non Localized	Normal	15 % Custom Duty
CKD Localized	Normal	46 % Custom Duty
Motor with differential, gearbox, motor controller, accelerator paddle, Battery LiFePo4 or Polymer (industrial grade), battery management system, charger	EV Specific	1 % Custom Duty
- Sales tax to be fixed at 1 % at sales of locally manufactured 3 wheelers - Sales tax at import stage to be waived off from CKD.		

Table 7 - Proposed Customs Duty Structure for Rickshaws & Loaders

The year wise tariff roadmap (custom duty) for Three Wheelers Rickshaw (8703) and Loader (8704) is as under.

	Description	Existing	2020-21	2021-22	2022-23	2023-24	2024-25
1	Raw material	1 %	1 %	1 %	1 %	1 %	1 %
2`	Component Sub-Component	10%	10%	10%	10%	10%	10%
3	Sub-assembly	20%	20%	20%	20%	20%	20%
4	CKD (EV Specific)	1%	1%	1%	1%	1%	1%
5	CKD (Non Localized)	15 %	15 %	15 %	15 %	15 %	15 %
6	CKD (localized)	46%	46%	46%	46%	46%	46%
7	CBU	50%	50%	50%	50%	50%	50%

Table 8 – Proposed Annual Customs Duty for Rickshaws & Loaders

Import of 100 percent CKD will be allowed to the investors at the rate of customs duty presented in the above tables.

6.4 Incentive for Buses

The all-electric buses are still quite expensive. However, they are feasible for use especially on fixed intra-city routes and provide a major reduction in emission owing to their high usage. In view of the above, following measures have been proposed.

1. Import of all parts (both localized and non-localized) at 1% customs duty applicable to non-localized parts for manufacturing of electric buses.
2. The electric buses will have no registration fees or annual token tax. Additionally, the State Bank of Pakistan may allow EVs to be purchased under Green Banking Guidelines or similar financing scheme.
3. Metro buses and BRT routes in Lahore, Islamabad/Rawalpindi, Multan and Peshawar to consider electrification of buses on dedicated routes.
4. Under ADP 2016-21, the custom duty on hybrid electric vehicles (HEVs)/Buses is 1%. However, no imports have been witnessed in this category due to lack of infrastructure. The same has been extended to dedicated electric buses in CBU condition. CBU Import and CKD manufacturing have same rates till announcement of next policy i.e. Auto Industry Development and Export Plan (AIDEP) starting from 1st July 2021. The sales tax on locally assembled buses to be 1 % at sales stage whereas exemption from sales tax at import stage is to be granted.

6.5. Incentive for Trucks/Prime Movers

The all-electric trucks, like buses, are also expensive. However, unlike buses most heavy duty trucks perform cross country hauls and require a widely distributed charging infrastructure. To this end, trucks require a different strategy also. In the view of above, Government of Pakistan, in collaboration with relevant entities shall take the following measures.

1. In the short term of 1-2 years the electric trucks of over 1-ton haulage will be used for City wide hauling as their charging requirements are relatively easier for relevant bodies to fulfill.

2. The electric trucks will have no registration fees or annual token tax i.e. renewal fee. Additionally, the State Bank of Pakistan may allow EVs to be purchased under Green Banking Guidelines or Similar financing scheme until SBP defines incentive policy towards EVs
3. Import of all parts (both localized and non-localized) at 1% customs duty applicable to non-localized parts for manufacturing of trucks till announcement of AIDEP.
4. Under ADP 2016-21, the custom duty on hybrid electric vehicles (HEVs)/Trucks is 1%. The same incentive has been extended to all electric trucks. Final tariff structure will be announced in AIDEP beyond 2021. The sales tax on locally assembled electric trucks/ prime movers to be fixed at 1 percent on sale stage whereas the import of inputs/CKD to be exempted from sales tax.

For Government, the eventual goal is local manufacturing, designing and developing of all major components of EVs. The development of components also leads to local manufacturing in phased manner. Battery, motor etc. are an essential part of an EV. In order to encourage local manufacturing of EVs encouragement of local manufacturing of EV components is needed. However, in view of time constraint, measures to promote EVs have been envisaged in the policy at this stage. Local manufacturing of parts can be considered at a later stage as in presence of low import tariffs, localization seems impossible.

7.0 Promotion of Electric Vehicles & Parts Manufacturing

In order to create enhance attraction for consumers, measures including reduction in GST, road tax exemption, Income tax benefit, reduced power tariff, toll charges, permits, attractive leasing, free insurance and registration etc. are proposed from 2021-2025.Follwoing are few measures to promote the efficient EVs, other fuel efficient vehicles, their parts and equipment.

Description	Intervention
GST	GST rate for EVs including 2-3 wheelers and heavy vehicles to be brought down to 1% of the prevailing rate. Sales tax exemption to be

	provided at CKD import stage to avoid adjustments/refunds
Annual Tax	Annual renewal fee to be fully exempted for EVs only.
Power Tariff	Incentivized Power Tariff on charging stations for EVs.
Toll Charges	EVs to be exempted from Toll Tax partially @ 50 % .
Demand Creation	Phasing out of Internal Combustion Engine vehicles from year of model. For e.g. annual renewal on vehicles of more than 30 years old vehicles to be doubled.
Permits	EVs & hybrids will be exempted from permit costs (heavy vehicles)
Leasing	-Leasing at favorable interest rate for Electric Vehicles. -State Bank of Pakistan may initially allow new locally manufactured EVs to be purchased under Green Banking Guidelines and may further evolve an incentive scheme push down the price through a better financing scheme. For part manufacturing, the loans at 5% interest rate to be given to registered manufacturers of EV specific parts and infrastructure development equipment. EDB to certify the registered part manufacturers.
Insurance	Bulk insurance at concessional rate for commercial fleets for electric vehicles.
Income Tax Exemption for Part Manufacturers	Five years income tax exemption to be granted to auto part manufacturers for setting up a greenfield independent manufacturing facility for manufacturing of EV related equipment and infrastructure development.
Incentive on Inputs	All inputs for manufacturing of EV related parts by the OEMs and vendors to be exempted from all duties and taxes for 5 years from the start of manufacturing
Registration (For EVs only)	Locally manufactured EVs will be exempted from registration fees. Registration number plates of EVs will have distinct color/design as per convenience of registration authorities. The registration to be based on unique identification number as and envisaged by provincial registration authorities and the capital.

Table 9 - Incentives for Promotion of EVs & their Part Manufacturing

8.0 Incentives for New Investment

In order to fulfill the objectives of the policy, encouragement of stakeholders to setup EV manufacturing facility and introduction of EVs, incentives for both; Exiting Players / Manufacturing Units and New Entrants have been proposed in table 10 below in addition to interventions for promotion of parts and components manufacturing for local market and potential export at a later stage.

Sr#	Key Points	Proposal
1	Manufacturing Facility	Modification of existing facility to EV technology (EV testing & EV Charging etc) to be allowed by Engineering Development Board (EDB) upon submission of request. New investors HCVs etc. to route their application through Board of Investment as per criteria envisaged in ADP 2016-21. However, 2-3 wheelers to be certified by EDB as per practice being carried out under Tariff Based System.
2	Import of EV related Machinery & Equipment	0% Custom Duty and Taxes (income tax & sales tax) on imports of machinery & equipment for EVs for both new and existing manufacturers. In addition import of machinery and equipment for development of EV parts and infrastructure development equipment be exempted from payment of Custom Duty, Sales Tax, Income/Withholding tax etc.
3	Import of CBU for Test Marketing	10 CBU units (for each variant) to be allowed at 50% of prevailing custom duty to the extent of maximum 200 units to 2-3 wheeler segment. Import of SUVs to be allowed as per guidelines provided in ADP 2016-21 to new entrants. In case of scooties, motorcycles, rickshaws and loaders, a maximum of 10 units per variant will be allowed for imports at 50% of the prevailing duty for CBUs. The maximum units to be imported collectively in scooties, motorcycles, rickshaws and loaders not to exceed 200 units per company even in case it has more than 20 different variants) Subsequent manufacturing within 2 year of import will be compulsory as per guidelines provided in ADP 2016-21. Import to be allowed to new entrants upon groundbreaking as per criteria laid down in ADP. The existing companies setting up related manufacturing

		facilities as per SRO 656(I)2006 will be verified by EDB. Approval of import of CBUs to all existing companies at concessionary rate to be provided by EDB. Similarly, approval for concessionary import of 2-3 wheelers to be provided by EDB in case of both; new entrants and existing companies.
4	Import of CKD	Tariff as per policy proposed in the policy for HCVs and 2-3 wheelers
5	Approval Process	Existing 2-3 wheeler manufacturing companies having manufacturing certificates under Tariff Based System (TBS) may apply directly to EDB for approval. EDB to approve requests as per SRO 656(I) 2006 as per laid down criteria. New entrants of 2-3 wheelers to route their applications through BOI with business plans to EDB for approval. EDB to approve the requests by new entrants and keep Auto Industry Development Committee (AIDC) informed about decisions in its quarterly meetings. The applications of HCVs to be processed as per criteria defined in ADP 2016-21.

Table 10 - Incentives for Promotion of EVs & Hybrids by New/Existing Companies

It is expected that above interventions would be instrumental in introduction of EVs in Pakistan and addressing major concerns of stakeholders (i.e Manufacturers & Customers). The new policy compliments, Automotive Development Policy 2016-21 as significant investment has been attracted under ADP**,** which needs to be protected.

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9.0 Interventions required from related Government Organizations

Following interventions are required to be taken by related organizations in order to support the objectives of this Policy.

- NEPRA/CDA/Metropolitan Development Authorities/OGRA shall provide relevant measures to help develop charging infrastructures
- PSQCA to facilitate in adoption of quality standards of EVs and other vehicles. Inclusion of UN Regulation 100 and 136 to be evaluated collectively in technical committee by EDB and PSQCA for inclusion in list of regulations to be adopted. Similarly, standards for motors for being water proof i.e. IP 67 needs to be considered by PSQCA.
- Excise and Taxation Department of Islamabad and other major cities (Rawalpindi, Lahore, Karachi etc.) in relevant provinces shall handle registration incentives/tax exemptions/design EV number plates.
- NHA shall implement incentives like toll taxes exemption
- Amendment in MVR ordinance to be carried out by provincial excise and taxation departments.

10.0 Registration of Electric Vehicles

Currently there is no mechanism to register all-electric vehicle in Pakistan. Since existing fossil fuel engine and chassis Electric Vehicle will have chassis number but in absence of engine it will have unique motor number for registration purposes. The Government of Pakistan, in collaboration with relevant entities, shall take the following measures

1. The categorization of registration shall be based on their 'rated' electric motor. However, in case of no registration fee, the categorization is not required as such. Registration authorities to device the suitable mechanism.
2. A special/distinguishable registration plate color and design will be allocated to EVs by registration authorities.

11.0 Standards Development

In order to advance electric mobility establishment of standards is necessary and a key step. Particularly for vehicle safety and charging infrastructure, standards are necessarily required. The safety of passengers especially in case of rainy season has to be ensured in motorcycles, rickshaws and loaders as their structure have minimum safety considerations. Standards significantly reduce investment risks for the stakeholders that are integral to provide resources in the transition to expand the businesses. Standards can be developed in parallel and support specific policy instruments. As 2-3 wheelers are on mandatory list of PSQCA, the organization may develop the standards and ensure their enforcement. However, WP 29 regulations for 2-3 wheelers be adopted and PSQCA may align the standards for 2-3 wheelers with WP-29 Regulations. In case of HCVs, the regulations can be adopted in phase wise manner as per plan for adoption of WP 29 Regulations already taken up with WP 29 Secretariat by EBD, which may support exports in the long run. The AIDC or National Standards Committee of PSQCA to analyze and recommend adoption of UNR 136 for vehicle safety, IEC60335-2-29 for house hold chargers and EEC 134 for Max Speed for 2-wheelers and UNR 100 for 4-Wheelers or Chinese OEM Standards in order to ensure safety of customers and safeguard the market from substandard products. The changes to be incorporated in the already prepared standards for 2-3 wheelers by PSQCA.

12.0 Charging Infrastructure for EVs

To promote and penetrate EVs in market, infrastructure needs to be developed in major cities, commercial/government buildings, motorways/highways by relevant authorities.

1. Charging infrastructure be installed at different points in all selected cities initially and will be expanded to all secondary cities. In each selected city at least one DC fast charger to be installed in every 3x3 km grid/4x4 km grid (as per advise by relevant department)

2. Fast chargers will be installed along major motorways and highways after every 15-30 km. Initially the chargers will be installed at highway N5 and rest areas of motorways M1, M2, M3, M4, M5 and M9, while the infrastructure will further be extended to the rest of the motorways and highways in the country.
3. Public charging stations may opt to have standardized swappable battery facilities in lieu of standard charging for appropriate category of vehicles.
4. All Electric Distribution Companies (DISCO) to identify the feeders where electricity load can be managed to support fast charging stations based on aforementioned targets. If there are system constraints in achieving the targets of the charging stations in each 3x3 km area then the DISCOs will be responsible for removing such supply constraints.
5. Existing CNG and Fuel Stations to be encouraged by related Government Bodies in establishment of charging infrastructure.
6. In order to relieve main grid, smart charging may be employed at charging stations particularly of Level-2 and above. Smart charging is possible through smart metering, time-of-use pricing and any other innovative mechanisms.
7. Initially, 2-3 wheelers may be promoted as their charging facilities are easier to develop. Major cities like Karachi, Lahore, Rawalpindi, Faisalabad and Peshawar may be considered initially for introduction of EVs and complete infrastructure in the long run.

13.0 Subcommittee under Automotive Industry Development Committee (AIDC)

As per MoIP's notification No. 2(48)/2018-LED-II EDB will function as Secretariat of the Electric Vehicle Policy formulation and implementation. EDB will also provide relevant clarifications as and when required by the investors with reference to implementation of policy.

The Technical and New Technology Sub-Committee of EDB formulated by EDB to work under Auto Industry Development Committee (AIDC), an approved committee by the

cabinet, will work dedicatedly for promotion of EVs and high technology vehicles. The technical and new technology committee will liaise with stakeholders, ensure their involvement for establishment of echo system for electric vehicles including charging stations and work with industrial stakeholders for introduction of latest technology vehicles in Pakistan in timely manner.

The policy will be reviewed after 2 years by AIDC in case desired objectives for promotion of 2-3 wheeler EVs have not been achieved. The Auto Industry Development and Export Plan (AIDEP) for July 2021 and beyond will encompass changes and necessary measures for promotion of Electric Cars, LCVs and SUVs in addition to Heavy Vehicles (trucks, primer movers and buses)

As a secretariat, EDB will coordinate will relevant Government Bodies for alignment of rules, provision of required infrastructure and to carry out various activities for promotion of EVs and fuel efficient vehicles.

14.0 Recommendations

The aforementioned interventions have been summarized to following recommendations.

2-3 Wheelers

a. General Sales Tax (GST) at sales stage to fixed for 2-3 wheelers @ 1% for five years i.e. the policy period. Sales Tax at import stage to be waived off (0%) to avoid refunds.

b. EV Specific Parts of 2-3 wheelers to be imported at 1 % Customs Duty (CD) for five years..

c. Exemption of 2-3 wheelers from Registration and Annual Token Tax. Reduction of toll tax to 50% for EVs.

d. Existing manufacturing regime for 2-3 wheelers with respect to non EV parts & components to remain intact to safeguard already achieved localization

e. Benefits of EV policy to be extended to both; existing and new manufacturers.

f. Import of new EVs (2-3 wheelers) in CBU condition at concessionary rate of duty (50 % of the prevailing rate of custom duty) to be linked with establishment of manufacturing facilities i.e. 10 units per variant with maximum of 200 units allowed to be imported under concessionary regime

Heavy Commercial Vehicles (HCVs) –Electric

g. 1 % Customs Duty on import of CBUs (Electric Buses, Trucks & Prime Movers)

h. Import of entire CKD allowed at 1 % Customs duty to the local manufacturers

i. General Sales Tax @ 1 % at sales and waived off (0%) at import stage.

j. Exemption of registration fee, annual renewal fee, permits and reduction of toll tax to 50 percent for HCVs.

General Proposals for 2-3 wheelers & HCVs

k. Localization of parts and components to be reviewed after 2 years announcement of policy

l. Duty and Tax Free import of plant and machinery to be allowed to both; existing and new entrants in both 2-3 wheelers & HCVs

m. Five year income tax exemption for auto part manufacturers for setting up manufacturing facility for EV related equipment

n. Inputs for EV vendors to be exempted from duties and taxes for 5 years (applies to in-house manufacturing by OEMs also)

o. The funding facility of State Bank of Pakistan to encourage green investments will encompass EV manufacturers, EV parts, components and module manufacturers, EV infrastructure development including charging stations

p. Five years income tax exemption for manufacturers of EV equipment and infrastructure development

q. Import of chargers with the CKD to attract 1 % Customs Duty and 1 % Sales Tax whereas import of charging stations for electric vehicle under HS Code 8504.4030 already allowed at 0 % Customs Duty to continue

15.0 End of Document