



# PHILIPPINES

## E-mobility Country Profile

159  
BEEPRIDES CARD

### Background

Philippines, like many developing countries in the region, is geared towards achieving continued economic growth and social development. Leading up to 2050, it is estimated that 1.3 million people will be added to urban areas per year, and the GDP per capita is expected to grow at an annual average of 4.4%.<sup>1</sup> Such growth in transportation activity drivers are estimated to result in an average annual growth of 3.0% in passenger transport activity (passenger-kilometers), and 3.6% average annual growth rate for freight transport activity.<sup>2</sup>

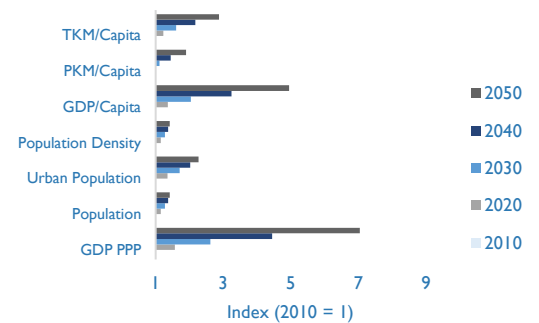
Such growth in activity is estimated to result in increasing road vehicle fleets. For example, it is estimated that more than 8.1 million two and three-wheelers will be added between 2020-2050.<sup>3</sup> However, it must be noted that even such growth, overall motorization would still remain at relatively low levels by 2050, at 185 vehicles per 1000 people.<sup>4</sup>

The transportation sector is one of the major contributors to air pollution and greenhouse gas (GHG) emissions in the Philippines. It is estimated that the transportation sector contributes 20% of the fuel combustion GHGs in the country (total of 124 million tons in 2020). Seventy-five percent (90%) of the transport GHG emissions are estimated to be from the road sector.<sup>5</sup>

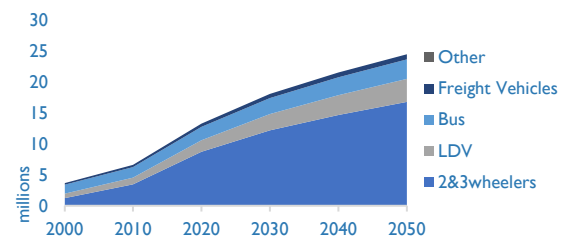
In terms of ambient air pollution, the road transport sector is estimated to contribute 5% of the total burden of disease related to air pollution—Particulate Matter 2.5 (PM2.5) — in the Philippines. Road transport air pollution is also deemed to have significant contributions to the burden of disease related to ischemic heart disease (36%), and chronic obstructive pulmonary disease (7%) in the country.<sup>6</sup>

PM2.5 concentrations in available data for sample cities in the World Health Organisation’s (WHO) open database was, on average, 18 µg/m<sup>3</sup>. In 2018. The World Health Organization’s (WHO) guideline value for PM2.5 is 5 µg/m<sup>3</sup>. It is estimated that in 2019, more than 29 thousand people died prematurely due to PM2.5 in the Philippines.<sup>7</sup>

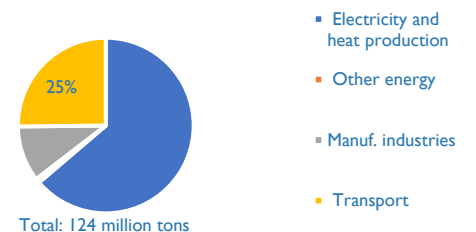
### Socio-economic & Transport Indicators



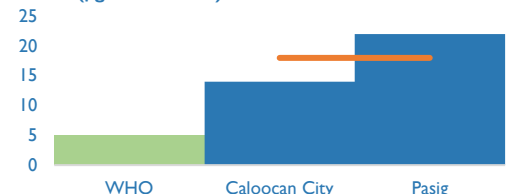
### Vehicle Stock Projections



### 2020 Fuel Combustion CO2: % By Sector



### PM2.5 (µg/cubic meter)



2018 - Average of PM2.5 (µg/m<sup>3</sup>)  
2018 - Average of PM2.5 Country Average (µg/m<sup>3</sup>)



## E-mobility at a Glance

The Land Transportation Office estimates that in 2018, there were 4,362 new registrations of battery electric vehicles, essentially doubling the recorded figure in the previous year. Eighty-three percent (83%) of which are motorcycles. Currently, the Philippine government does not release official statistics on total registered electric vehicles.<sup>8</sup> To put the numbers into perspective, there were 11.8 million vehicles registered in the Philippines in 2020.

There have been various pilot projects in the last two decades such as e-jeepney pilot projects in the past in several major cities, as well as pilots involving e-tricycles (there are currently seven (7) local companies engaged in the production or CKD assembly of electric tricycles).<sup>9</sup>

Multiple significant barriers (i.e. high acquisition costs, limited financing options, consumers' negative connotations regarding EVs, limited charging infrastructure, lack of social and technical familiarity, registration issues, lack of financial incentives) have contributed to such a slow uptake.<sup>10</sup> The EV industry in the country is hindered by the lack of local demand, weak parts and components supply chain, and general low cost-competitiveness and low quantity of locally produced EV's and EV parts.<sup>11</sup>

Due to the recent policy developments and investment support, however, there is certain optimism surrounding the EV industry in the country. The Electric Vehicle Association of the Philippines (EVAP) is forecasting an annual growth rate of 8%-12% up to 2024, resulting in about \$33.6 million revenue from the sales of about 200 thousand units, and the associated services. The Department of Trade and Industry estimates that there are more than 70 industry players that are active in manufacturing, importing, dealing and trading electric vehicles.<sup>12</sup>

Charging infrastructure needs to be boosted. Looking at open data sources on charging stations in the Philippines, only a handful (22) have been reported in the Open Street Map platform.<sup>13</sup> The promising news is that these are not necessarily limited to the capital, Metro Manila.

Electricity prices relatively expensive in the Philippines, where the average price (2021) was 0.17 kWh.<sup>14</sup> This is above the sub-regional averages in Asia, except for the Pacific sub-region. In terms of fuel prices, average gasoline prices jumped by 49% in 2022 (1.55 USD/litre) against 2021.<sup>15</sup>

Moving towards electric mobility is also deemed to alleviate the risks associated with high dependency on imported fuels. In 2021, the Philippines imported 147 thousand barrels of oil products. In the same year, the transport sector consumed 81 thousand (57% of final consumption) barrels of oil products.

Considering overall access to electricity, the Philippines has had significant strides in the last decades to provide access to its constituents. In 2000, it was estimated that 75% of the population had access to electricity services. In 2020, the percentage was at 97%.<sup>16</sup>

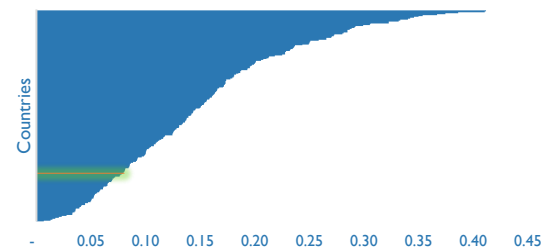
In terms of the emissions impact of the electricity grid, the Philippines is relatively on the higher end of the CO<sub>2</sub> emission factor spectrum. It is estimated that 581 kgCO<sub>2</sub> is emitted per MWh of electricity generated in the country. This is ranked 173rd out of 225 countries globally.<sup>17</sup> The average grid emission factor has been increasing steadily since the turn of the century, wherein in 2000, the emission factor was at 430 kgCO<sub>2</sub>/MWh.

The share of electricity capacity of renewable energy in the Philippines is estimated to be at 26.4%. In 2015, the said share was at 29.1%.<sup>18</sup> Nearly half of the installed power capacity in the Philippines comes from coal. In 2021, 97% of the coal imports of the Philippines is from Indonesia, which has recently imposed measures that impact coal exportation, subject to domestic market obligations.<sup>19</sup>

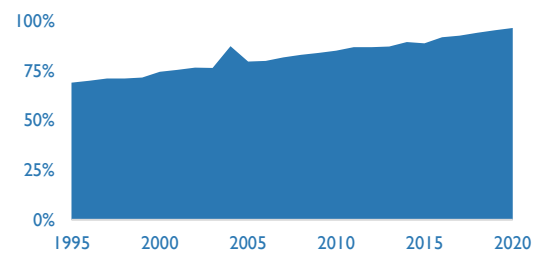
Charging Stations



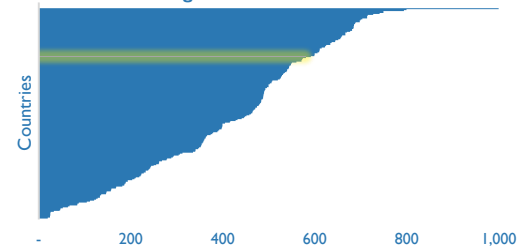
PHILIPPINES: 0.17 USD/kWh



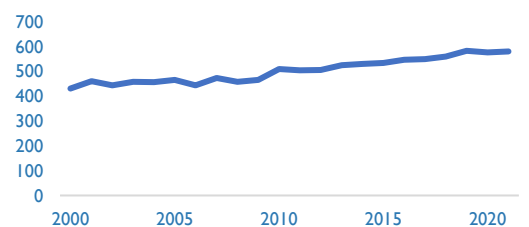
% Population with Access to Electricity



PHILIPPINES: 581 kgCO<sub>2</sub>/MWh



PHILIPPINES Historical Grid kgCO<sub>2</sub>/MWh



## Policy Measures: Highlights

The Electric Vehicle Industry Development Act (EVIDA) or Republic Act No. 11697 became effective last April 2022. It essentially governs the manufacturing, assembly, importation, construction, installation, maintenance, trade and utilization, research and development and regulation of electric vehicles. In summary, EVIDA provides the following fiscal and non-fiscal incentives to support e-mobility.<sup>20</sup>

### Fiscal Incentives:

- EV manufacturing, assembly, and related parts, as well as the establishment and operations of EV charging stations and other support infrastructure shall undergo evaluation for inclusion in the strategic investment priority plan, qualifying for incentives as per the Corporate Recovery and Tax Incentives for Enterprises Act (CREATE) as well as the Omnibus Investment Code which offer income tax holidays (3 to 6 years) and excise tax incentives for importation of capital equipment.
- Completely built EV imports are generally entitled to incentives under the TRAIN Act.
- Importation of completely built charging stations is duty-exempt for eight years from EVIDA's effectivity.
- Users of battery EVs and hybrid-EVs get 30% and 15% discounts on motor vehicle charges, registration, and inspection fees for eight years.

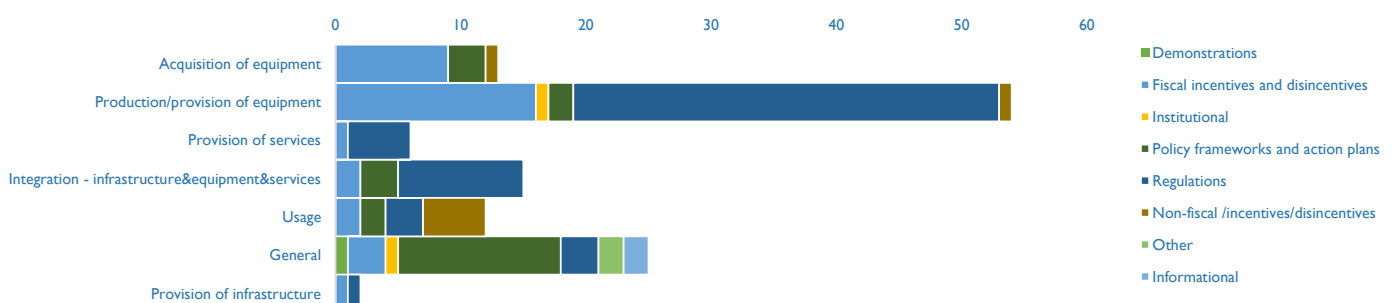
Non-Fiscal Incentives include: priority registration and issuance of special vehicle plates. ; exemption from certain vehicular reduction programs and number-coding schemes; expedited processing for public utility vehicle franchises using exclusively EVs; faster importation processing for EV manufacturers and importers by the Bureau of Customs.; permits for foreign nationals employed under technology transfer agreements, following government agency guidelines.

Aside from the EVIDA, these are some of other notable policy measures in the Philippines:

- Executive Order No. 12 s.2023 has cut the most favoured nation (MFN) tariff rates to zero on built imported electric vehicles including passenger vehicles, buses, mini-buses, trucks, bicycles, motorcycles, scooters, and tricycles, for a period of five years.
- The Department of Energy's Circular No. 2022-11-0034 has enabled foreign citizens and entities to have full ownership of RE projects. This is to support the government's goal of increasing the generation mix to 35% by 2030 and 50% by 2040.
- Republic Act 10963 or the Tax Reform for Acceleration and Inclusion (TRAIN) Law exempts battery EVs from excise tax.
- The Department of Transportation Department Order No. 2017-011 or the Guidelines on Planning of Public Road Transportation Services essentially kicks off the public utility vehicle modernization program (PUVMP). The PUVMP requires consolidation of operators, as well as clean vehicles (Euro IV and up, including electric vehicles) for the issuance of permits towards the provision of public transport services. The Development Bank of the Philippines (DBP) and Land Bank of the Philippines (LBP) provides equity subsidies for the acquisition of modern jeepneys.
- Republic Act 10771 or the Green Jobs Act provides incentives for businesses in the form of income tax deductions for expenses related to training, and R&D, as well as tax and duty-free importation of capital equipment.
- The government is also implementing the Green Energy Auction Program which provides support for large-scale RE projects. The program enables guaranteed markets for RE, and as winning bids are able to secure long-term purchase agreements and stable revenue streams.
- The Philippines' Renewable Energy Act allows for consumers to produce electricity from RE sources for their own consumption, and enables the possibility to sell surplus electricity to the grid. However, this entails that consumers intending to do this need to submit a system impact study to be enrolled. This is a tedious process that had led to discouraging participation, as the backlogs are typically between a year to a year and a half.<sup>21</sup>

The figure below shows a summary of the documented policy measures (including enacted and proposed) related to e-mobility in the Philippines. The policy measures are grouped according to the "stages" (left axis) and types of policy measures. Additional details are contained in the table on the next page.

### Distribution of Policy Measures



## Snapshot of E-mobility Policy Measures in the Philippines

Pillar	Stage	Category	Type of Policy Measure			
Charging equipment and components	Acquisition of equipment	Fiscal incentives and disincentives	Excise tax waiver for chargers and components Value-added tax waiver or reduction for EV and components			
		Fiscal incentives and disincentives	Corporate income tax reduction/holiday - manufacturers of Evs/ components Exemption from import duties for completely built up charging stations Import tax exemption/ reduction - raw materials, supplies, components			
	Production/provision of equipment	Regulations	Charging connector and cable standards Charging systems standards(general)			
	Provision of services	Fiscal incentives and disincentives	Tax Incentives for firms engaging in charging services			
	Integration - infrastructure&equipment&services	Regulations	Enabling appropriate pricing mechanisms Charging protocol standards			
	General	Demonstrations	Demonstrations - charging technologies			
	EVs and EV components	Acquisition of equipment	Fiscal incentives and disincentives	Custom tariff waiver/ reduction for EV and components Equity subsidy for procurement of Evs Excise tax waiver for EV and components Value-added tax waiver or reduction for EV and components		
Policy frameworks and action plans			Accelerated replacement / replacement to EV Corporate fleets electrification targets Public fleet electrification target			
Non-fiscal /incentives/disincentives			Fuel economy and tailpipe CO2 standards			
Fiscal incentives and disincentives			Corporate income tax reduction/holiday - manufacturers of Evs/ components Fiscal incentives - general Import duties reduction for EVs and components Import tax exemption/ reduction - raw materials, supplies, components Tax Incentives for domestic manufacturing of EVs & batteries			
Production/provision of equipment		Institutional	Employment of foreign experts			
		Policy frameworks and action plans	General pronouncement of support for Evs production / assembly / import			
		Regulations	Battery standards - performance Battery standards - safety Battery standards (general) Emission standards favoring Evs EV controller standards EV safety standards EV specifications, standards and Type approval EV standards - multidimension Guidelines - classification and registration of EVs Standards - battery swapping Standards - charge port Standards - on board charger Test specifications - Batteries Test specifications - Evs			
			Non-fiscal /incentives/disincentives	Expedited processing for importation of parts and components		
			Provision of services	Regulations	Expansion of coverage of services for Evs Green routes for Evs	
			Integration - infrastructure&equipment&services	Regulations	V2G interface standards	
			Usage	Fiscal incentives and disincentives	Registration tax waiver or reduction for EV and components Road use tax waiver or reduction for Evs	
				Policy frameworks and action plans	EV Modal targets General pronouncement of support for EV usage	
				Regulations	EV operating characteristics EV performance standards	
				Non-fiscal /incentives/disincentives	Exemption from number coding or similar schemes Priority Parking for Evs Priority processing of permits (e.g. EV for public transport) Priority registration /renewal for Evs	
General			Other	EV Demonstration Projects		
Informational			Guidelines - General related to Evs			
General		Production/provision of equipment	Policy frameworks and action plans	Encouragement of concessional financial packages		
			Fiscal incentives and disincentives	Deduction taxable income for expenses for R&D Deduction taxable income for expenses for skills training Finance for research, development and promotion of RE		
		General	Institutional	Stimulate training and capacity building of staff for the electric mobility market Dedicated National EV Policy/Roadmap/Strategy		
			Policy frameworks and action plans	General pronouncement - efficiency transport vehicles General pronouncement of support - RE General pronouncement of support for emobility Liberalization of RE industry Linking trade and investment policy with industrial policy Local renewable energy planning Renewable energy targets		
			Regulations	Fixed long-term contracts for RE Foreign ownership of RE projects Guaranteed access to markets for RE projects		
			Infrastructure	Integration - infrastructure&equipment&services	Fiscal incentives and disincentives	Incentives for EV charging infrastructure Identification of buildings for charging station construction/installation
					Policy frameworks and action plans	Integration of charging stations in gasoline stations Parking % target for Evs
	Regulations			Standards for Charging Stations		
	Provision of infrastructure	Fiscal incentives and disincentives	Tax Incentives for firms engaging in charging stations EV charging station labeling/markings			
	Services	Provision of services	Regulations	Enabling participation of energy storage systems (e.g. Evehicles) in electricity market		
Usage		Non-fiscal /incentives/disincentives	Direct sourcing of power from RE power suppliers			

Note: The graph and the table pertaining to the e-mobility policy measures are mainly those that the authors had been able to collect, collate, and categorize. The authors make no claims about the completeness of the list, nor the accuracy of the categorization. These are presented to provide an approximation of the developments that are happening in terms of e-mobility policy measures, but may not be fully representative of the actual situation.

## Endnotes

- 1 Nkiriki, J., Jaramillo, P., Williams, N., Davis, A., & Armanios, D. (2021). Global Transportation Demand Dataset using the Shared Socioeconomic Pathways (SSPs) Scenario Framework. <https://zenodo.org/record/4557615#.ZGLJ8nZBxrp>
- 2 Ibid.
- 3 ATO. (2022). Asian Transport 2030 Outlook. <https://asiantransportoutlook.com/analytical-outputs/asian-transport-2030-outlook/>
- 4 Calculated using population projections from Nkiriki et al. (2021) and ATO (2022).
- 5 IEA. (2023) Greenhouse Gas Emissions from Energy Highlights - Data product – IEA. <https://www.iea.org/data-and-statistics/data-product/greenhouse-gas-emissions-from-energy-highlights>
- 6 McDuffie, E., Martin, R., Spadaro, J., Burnett, R., Smith, S., & O'Rourke, P. et al. (2021). Source sector and fuel contributions to ambient PM2.5 and attributable mortality across multiple spatial scales. *Nature Communications*, 12(1). Doi: 10.1038/s41467-021-23853-y. <https://www.nature.com/articles/s41467-021-23853-y>
- 7 WHO. (2022). Air quality database. <https://www.who.int/data/gho/data/themes/air-pollution/who-air-quality-database>
- 8 Land Transportation Office (2019). Number of Electric Motor Vehicles Registered
- 9 Department of Energy. (2023). Comprehensive Roadmap for the Electric Vehicle Industry. [https://www.doe.gov.ph/sites/default/files/pdf/energy\\_efficiency/CREVI%20as%20of%2005-04-2023.pdf](https://www.doe.gov.ph/sites/default/files/pdf/energy_efficiency/CREVI%20as%20of%2005-04-2023.pdf)
- 10 Mitsubishi Motors Corporation. (2019). Philippine Electric Vehicle Policy Analysis. [https://www.researchgate.net/publication/335464260\\_Philippine\\_Electric\\_Vehicle\\_Policy\\_Analysis\\_Report\\_-\\_Draft\\_Report](https://www.researchgate.net/publication/335464260_Philippine_Electric_Vehicle_Policy_Analysis_Report_-_Draft_Report)
- 11 See Endnote 9
- 12 Santiago, J. Philippines Electric Vehicles Market. International Trade Administration website. <https://www.trade.gov/market-intelligence/philippines-electric-vehicles-market>
- 13 Analysis by UEMI. Map data copyrighted OpenStreetMap contributors and available from <https://www.openstreetmap.org>
- 14 Cable.co.uk. (n.d.). Worldwide Electricity Pricing. <https://www.cable.co.uk/energy/worldwide-pricing/>
- 15 Statista Research Department. (2023). Average retail price of one liter gas in the Philippines from 2019 to 2022. <https://www.statista.com/statistics/1306971/philippines-average-fuel-retail-price-per-liter/>
- 16 Department of Energy. (2019). Philippine Energy Plan 2020-2040.
- 17 Ember. (n.d.). Electricity Data Explorer. <https://ember-climate.org/data/data-tools/data-explorer/>
- 18 IRENA [https://mc-cd8320d4-36a1-40ac-83cc-3389-cdn-endpoint.azureedge.net/-/media/Files/IRENA/Agency/Publication/2023/Mar/IRENA\\_RE\\_Capacity\\_Statistics\\_2023.pdf?rev=b357baf054584e589c8ab635140d0596](https://mc-cd8320d4-36a1-40ac-83cc-3389-cdn-endpoint.azureedge.net/-/media/Files/IRENA/Agency/Publication/2023/Mar/IRENA_RE_Capacity_Statistics_2023.pdf?rev=b357baf054584e589c8ab635140d0596)
19. Department of Energy. Philippines Installed Power Capacity by Source. <https://www.statista.com/statistics/1266402/philippines-installed-power-capacity-by-source/>
20. Government of the Philippines.(2022). Electric Vehicle Industry Development Act. <https://www.officialgazette.gov.ph/downloads/2022/04apr/20220415-RA-11697-RRD.pdf>
21. Statista. (2023). The energy crisis in the Philippines. <https://www.statista.com/study/134954/the-energy-crisis-in-the-philippines/>

