Clean Energy Technology in the Philippines: Case of the Electric Vehicle Industry

MAUREEN ANE D. ROSELLON

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Philippine Institute for Development Studies
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

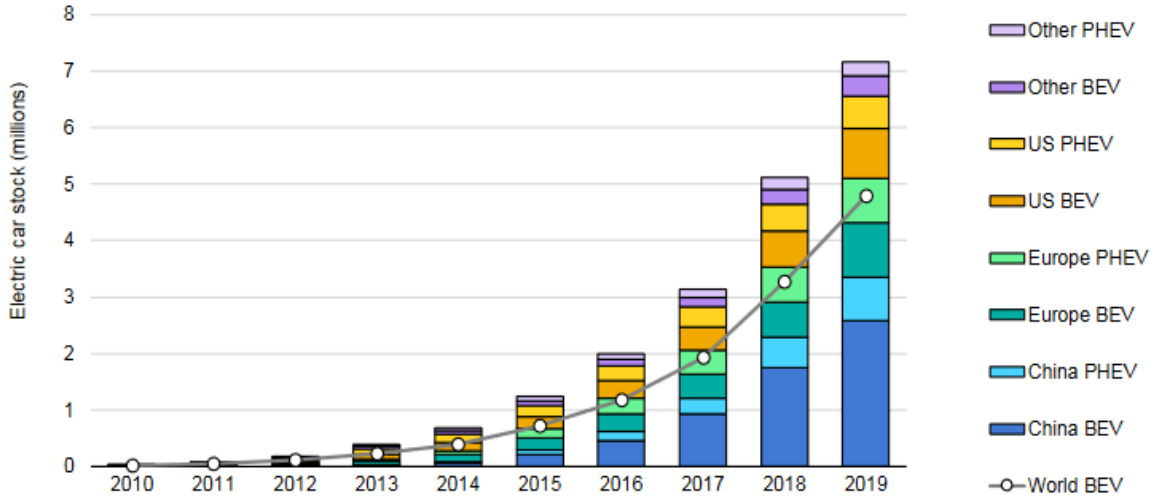
About the study

- Objectives: Examine the EV industry in the Philippines, current regulations, and challenges faced and prospects in the industry; and, Present insights and recommendations based on the findings.

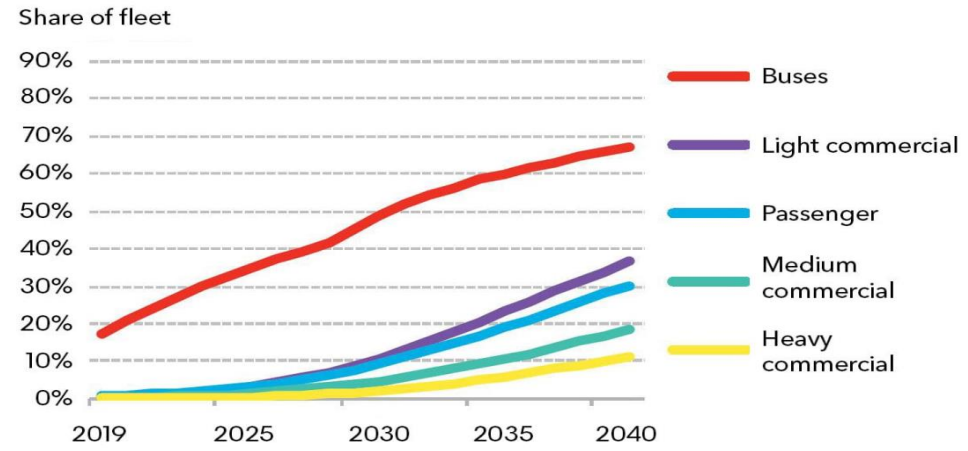
- Methodology: SWOT (Strengths, Weaknesses, Opportunities, Threats)

Positive Global Outlook for EVs

Global fleet of EVs, 2010-2019



Electric Vehicle Share of Global Fleet by Segment

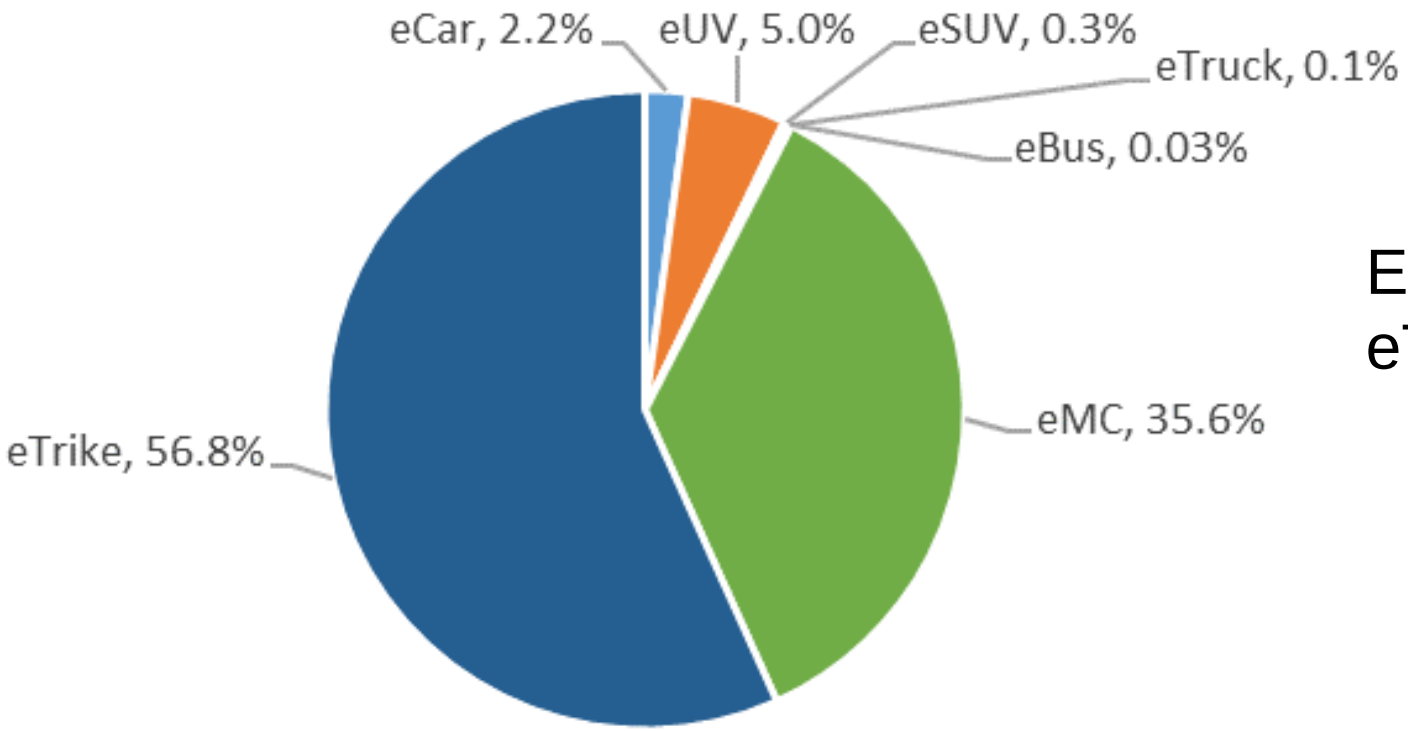


Source: BloombergNEF. Note: Commercial vehicle adoption figures include the main markets of China, Europe, and the U.S.

- Low carbon economy, reduced dependence on fossil fuels
- Electric Vehicle (EV) – clean transportation, new technology in automotive
- Governments encouraging adoption of EVs – granting of incentives and implementation of tighter regulations on emissions; announcement of specific goals for EV sales and dates for banning internal combustion engine (ICE) sales

Source: Figure 1.1, IEA (2020)

EV Industry in the Philippines
Electric vehicles in Philippine Transport



EVs on the road are mostly eTrike and eMC.

n=11,950
Based on LTO-registered EVs, 2010-2019

Source of data: LTO presentation in the Philippine EV Summit 2020

EV Industry in the Philippines
Industry profile and outlook

28 vehicle manufacturers (8 with foreign equity), 11 parts & components manufacturers, 7 importers/dealers/traders

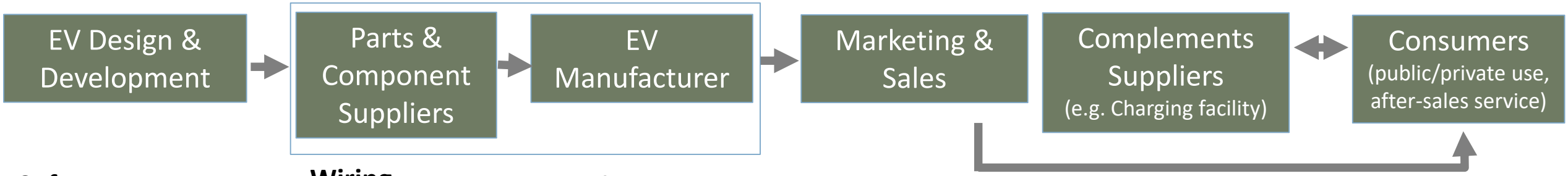
As of March 2019: 15 e-jeepney models, 21 e-trike models, 11 electric car models (including SUVs, vans, pick-ups) and 61 motorcycle models (two-wheel, three-wheel, quadricycle) in the Philippines

(2019) Outlook - eVAP projected EV sales will reach 200,000 units by 2025
- Gov't targeted 200 charging stations in SM and Shell outlets by 2022

Current target: EVs comprise 21% of vehicle sales by 2030, 50% by 2040

Sources: Electric Vehicle Association of the Philippines (eVAP) Proposed Roadmap 2014-2024; BOI (2018); MMC (2019) for EV models; www.freepik.com for vector photos

EV Industry in the Philippines
Examples of local capabilities in the value chain



Software development, System design

Wiring, Mechanical components, Aluminum components, Rubber and plastic components, Chassis system, Electrical system, Interior system, Battery module

E-Trikes, E-jeepneys

Marketing, Sales

Charging services

Maintenance and repair

Sources: Compilation for the Industry value chain: BTIPR (2017); Todd et al (2013); Wu et al (2018)
MMC (2019) for local supply capability

EV Industry in the Philippines
Policies, programs, regulations

- **Investment Priorities Plan (IPP) and Inclusive Innovation Industrial Strategy (i3S)**
  - income tax holiday (manufacturing of EVs and operation of charging stations)
- **Public Utility Vehicle Modernization Program (PUVMP)**
  - replacement of 15y & older vehicles with modern PUVs (brand-new Euro 4 compliant diesel engines or electric motors)
- **CARS Program and Eco-PUV Program**
  - portion of CARS budget support manufacture of eco-friendly PUVs under PUVMP
- **Philippine National Standards for EVs**
- **EV Roadmap and EV Incentive Strategy**
- **Executive Order 488 (2006)**
  - zero tariffs on components, parts and accessories for the assembly of hybrid, electric, flexible fuel and compressed natural gas (CNG) motor vehicles
- **Tax Reform for Acceleration and Inclusion (TRAIN) Law or RA 10963**
  - purely electric vehicles and pickups exempt from the excise tax on automobiles; hybrid vehicles subject to 50% of the applicable tax rates on automobiles
- **Proposed: Senate Bill 1382 or the Electric Vehicles and Charging Stations Act of 2018**
  - a national policy and regulatory framework for the use of electric and hybrid vehicles and the establishment of electronic charging stations in the country

Sources: autoindustriya.com; tojomotors.com, PinoyAko Fb, GoGo Ebikes Ph, Top Gear Philippines

SWOT findings

Strengths

- Government support (policies and programs)
- Active industry association/players; positive outlook by the industry
- Partnership established in the private sector and with the government
- Manufacturing capabilities useful in EV sector, including presence of local EV manufacturers
- Positive consumer outlook

SWOT findings

Weaknesses

- Relatively low level of technology utilization in manufacturing and infrastructure
- Low number of charging stations
- Consumer concerns in using EVs (e.g. range anxiety, safety)

SWOT findings

Opportunities

- Participation in the value chain in Asia and the world
- Battery production
- Possible decline in price of battery
- Transfer of technology; Technical cooperation
- Electrification in the transport sector is a global trend

SWOT findings

Threats

- High cost of EVs
- Charging infrastructure or technology not catching up with the growth in production and adoption of EVs
- Increased competition in the region for trade and investment

Conclusion

Potential for growth, given the support from government policy, active engagement of the industry and private stakeholders, and automotive and electronics manufacturing capabilities, among others. But the country is faced with a relatively low technology utilization, general concerns about EV infrastructure, and strong competition for investments.

- Fast-track the deliberations on the EV bill
- Develop market/feasibility studies, roadmap for manufacturing prospects (e.g. battery manufacturing, charging infrastructure; Focus on manufacturing a type of vehicle?
- Consider incentive schemes to stimulate consumer demand
- Establish an EV strategy committee/council, and one that is connected to an EV network
- Include the EV sector in the areas for technical cooperation and trade missions

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