



Paving the pathway to future of the Thai electric vehicles



Highlights

- The current business environment in Thailand is not favorable for the production and sale of electric vehicles (EVs), due to their higher prices compared to conventional cars and insufficient EV related infrastructure. The government and private sector are therefore working together to push forward policies and business activities that would foster growth and support EV production in Thailand.
- EIC recommends operators seek business opportunities arising with government measures and get human resources ready to support technology transfers from parent companies or foreign business partners in the future.

The Thai automobile market is not ready to sell EVs due primarily to their high prices due to importing. Data from LMC Automotive shows that Hybrid car sales in Thailand during 2015 accounted for a mere 1% of total cars sold, the same level as in 2012. This reflects the fact that despite the availability of imported Hybrids or Plug-in hybrid cars in the Thai market, these cars have not received much interest from consumers. The low sales figures are due mainly to premium prices for EVs compared to conventional cars. For example, the NISSAN LEAF that costs 2.4 million baht including taxes has equivalent acceleration to an average large car like a TOYOTA CAMRY 2.5G that sells for only 1.5 million baht. Kunat Tharasrisuthi, a senior analyst at LMCA, holds similar views, saying that, “prices for EVs and hybrid cars in Thailand are high and Thai people perceive that EVs and hybrid cars are too expensive compared to the performance of the same or similar conventional models”. As for manufacturers, NISSAN and TOYOTA both feel that the Thai automobile market will only be ready for EVs if there are supportive government measures promoting more competitive prices for EVs. Examples of such measures are waivers on EV import duties to reduce prices or subsidies for EV buyers, as is the case in countries where an EV market already exists, such as South Korea and Germany.

Business conditions are unfavorable for the sale and manufacturing of EVs. First, the limited number EV charging stations, with only 20 stations in Bangkok and none upcountry, is insufficient to spur confidence among consumers and manufacturers. A case study of NGVs shows that a shortage of NGV stations was the main impediment during the initial phase. That is, in the first 5 years starting from 2001, when only 44 NGV stations operated, the share of NGV usage stayed under 1% of total registered cars in 2005. In fact, it took another 10 years for major car manufacturers to begin full scale NGV production. Second, Thailand is not ready to support the transition towards new business models that will arise with EV usage. These new models include car sharing systems that are currently used in USA, France, Japan and South Korea, systems to handle and recycle flat batteries, or businesses that link with related industries like smart grid and alternative energy sources. The third

factor is the fact that Thailand's technological capacity is unable to support the production of primary EV parts, such as Li-ion batteries and motor drives and control units. These parts need to be imported, leading consumers to question whether or not these car parts would be readily available for car servicing and maintenance.

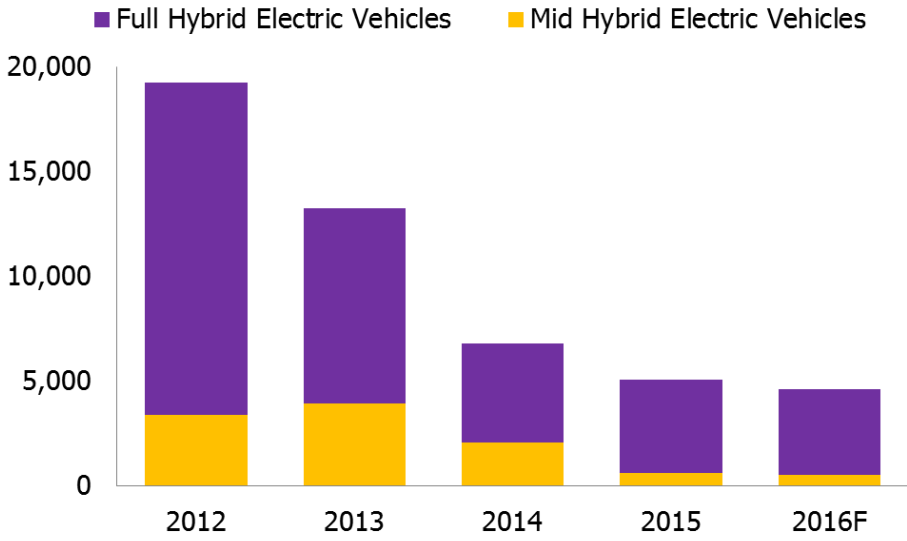
Nevertheless, government and private sector collaboration can drive a future EV industry in Thailand. The government's goal of having every related ministry and agency set clear policies to support the manufacturing of EVs in Thailand by November 2016 marks an important step for the development of the Thai automobile industry. Several ministries have already shown cooperation by organizing projects that would support EV production. Some examples of such projects are setting standards for car capacitor socket outlets and studies of privileges rewarded through the BOI from the Ministry of Industry, pilot testing of 200 electric buses and diesel-hybrid buses running on the 137 bus route from the Ministry of Transport, 76 million baht in funds to support the setting up of EV charging stations by the Ministry of Energy, EV motor and battery development projects for manufacturers from the iEVT and NSTDA, and research projects to develop Li-ion batteries for EVs from the Synchrotron Light Research institute under the Ministry of Science and Technology. As for the private sector, BMW was the first manufacturer to announce expansion of their production of plug-in hybrid vehicles (PHEV) (models X5 and 330e) this year. These cars will be sold domestically and exported to China, the world's largest EV market, where over 200 thousand EVs were sold in 2015. PHEVs from various European brands such as Mercedes-Benz and Porsche are also being imported, while another Japanese manufacturer, FOMM, is currently negotiating investment terms in setting up the production of EVs and EV batteries in Thailand.

Implications

- EIC recommends operators seek new opportunities at the start, in particular from various government projects such as EV charging stations, procurement of electric public transport, and various technology development projects that can support the development of new businesses. Furthermore, operators need to look for opportunities in related businesses, especially in services, that will take off quickly once the EV market is established, such as commercial EV charging stations, EV maintenance and servicing businesses, the importation of EV parts, and the development of new business models like car sharing systems in Thailand.
- EIC advises operators to have human resources ready because the development of EV technology will not only impact the replacement of primary car parts, such as the substitution of fuel by batteries or the use of electric motors instead of internal combustion engines, but it will also encourage increased use of electronic equipment in all vehicles. Furthermore, increased investment into research and development by major electric car parts manufacturers like Panasonic and Samsung in developing EV batteries and Denso Delphi and Robert Bosch that are developing sensors and various electric systems will have an undeniable impact on Thailand as a small car part manufacturer. Thus, for Thailand to be able to support more sophisticated technology, it is crucial that human resources in this sector be equipped with the skills to support the technology transfer from parent companies or foreign business partners that will occur in future.

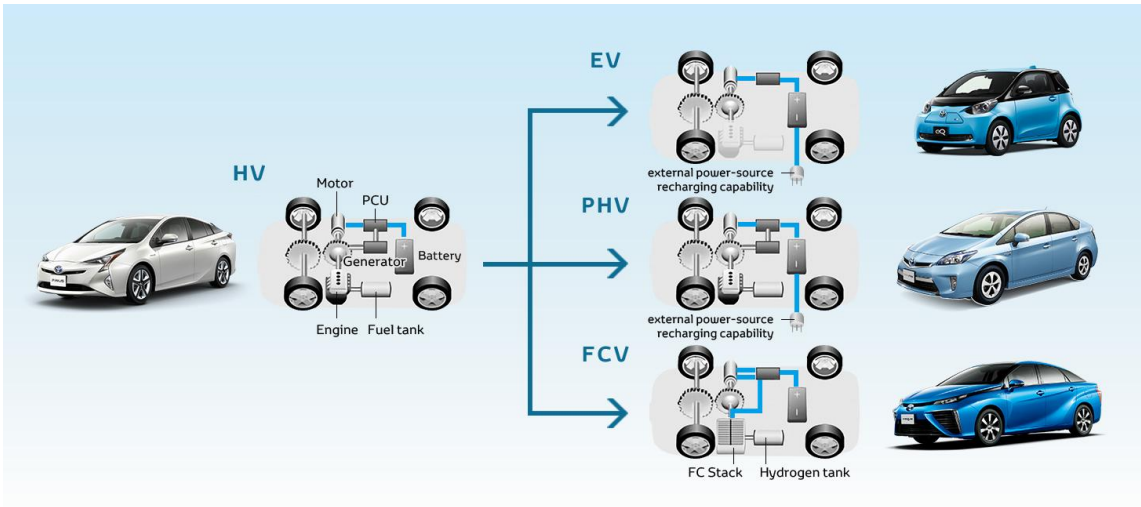
Figure 1: Sales volume of Hybrid cars in Thailand

Unit : cars



Source : EIC analysis based on data from LMC Automotive

Figure 2: Types of electric vehicles



Source: Data from Toyota-Global

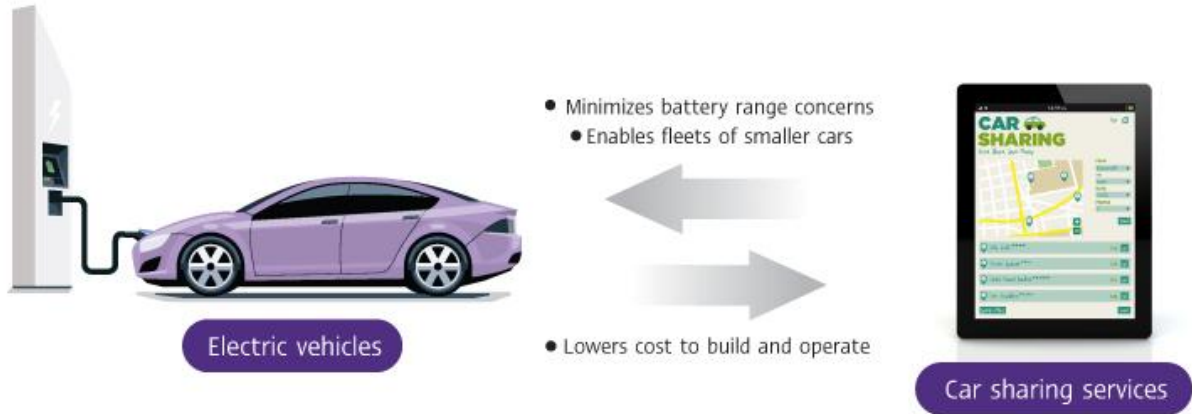
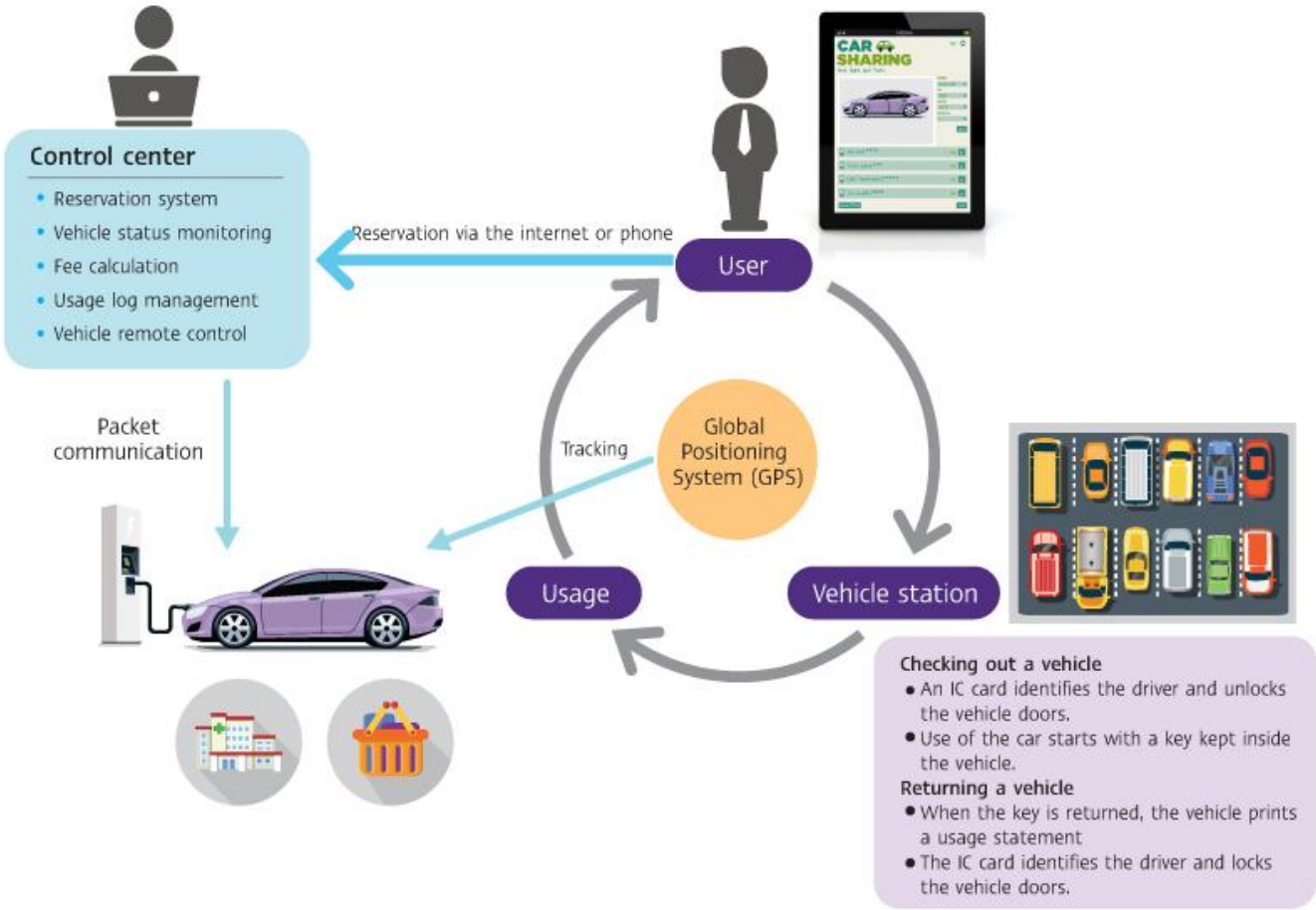
HV- Hybrid Vehicles, a vehicle with gasoline engine and electric motor. Batteries cannot be recharged from the power grid
 PHEV – Plug – in Hybrid Vehicle, a hybrid vehicle runs mostly on batteries that are recharged by plugging into the power grid.

EV - electric vehicle, a vehicle runs entirely on a battery and electric drive train

FCV – Fuel Cell Vehicle, an electric vehicle that generate electricity from fuel cell as hydrogen and oxygen

Disclaimer: The information contained in this report has been obtained from sources believed to be reliable. However, neither we nor any of our respective affiliates, employees or representatives make any representation or warranty, express or implied, as to the accuracy or completeness of any of the information contained in this report, and we and our respective affiliates, employees or representatives expressly disclaim any and all liability relating to or resulting from the use of this report or such information by the recipient or other persons in whatever manner. Any opinions presented herein represent our subjective views and our current estimates and judgments based on various assumptions that may be subject to change without notice, and may not prove to be correct. This report is for the recipient's information only. It does not represent or constitute any advice, offer, recommendation, or solicitation by us and should not be relied upon as such. We, or any of our associates, may also have an interest in the companies mentioned herein.

Figure 3: Business model for car sharing



Source : Data from Daihatsu

By: Nantapong Pantaweesak (nantapong.pantaweesak@scb.co.th)
 Economic Intelligence Center (EIC)
 Siam Commercial Bank Public Company Limited
 EIC Online: www.scbeic.com

Disclaimer: The information contained in this report has been obtained from sources believed to be reliable. However, neither we nor any of our respective affiliates, employees or representatives make any representation or warranty, express or implied, as to the accuracy or completeness of any of the information contained in this report, and we and our respective affiliates, employees or representatives expressly disclaim any and all liability relating to or resulting from the use of this report or such information by the recipient or other persons in whatever manner. Any opinions presented herein represent our subjective views and our current estimates and judgments based on various assumptions that may be subject to change without notice, and may not prove to be correct. This report is for the recipient's information only. It does not represent or constitute any advice, offer, recommendation, or solicitation by us and should not be relied upon as such. We, or any of our associates, may also have an interest in the companies mentioned herein.