

How to make EV viable within Asean



A new electric bus, left, on Phahon Yothin Road in the capital during a test run by the Bangkok Mass Transit Authority. PATTARAPONG CHATPATTARASILL

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If there is a region that could use a mobility revolution, it is Southeast Asia. Much of the area grapples with persistent congestion, expanding environmental concerns, and surging oil demand to serve transit needs. Electric vehicles could help make a dramatic change. Consider that in 2018, 1.1% of all new passenger cars sold in Europe were battery electric vehicles. This number is expected to grow to around 28% of light vehicle sales by

2030, according to Bain analysis. Yet seeing an electric vehicle on the streets of Singapore or Thailand is rare.

Undoubtedly, the economy supporting electrification, mobility, charging and other services in Southeast Asia eventually will be huge. The region's annual new investment in passenger electric vehicles will grow to US\$6 billion (about 182 billion baht) by 2030, according to Bain estimates, and another \$500 million in new charging infrastructure will be needed to support electrification needs. On top of this, billions will be invested in telematics, fleets and their management, and passenger services, further increasing the potential profit pool. By our estimate, this growth is likely to be slow over the next few years, but should increase dramatically after 2025.

Other markets offer lessons about what it takes for electric vehicles, typically starting with passenger cars, to gain acceptance. It comes

down to four prerequisites: available electric vehicle models, attractive purchase economics in terms of total cost of ownership (TCO) and purchase price, government incentives, and convenient charging infrastructure.

Available electric vehicle models. Walk into a dealership in most Asean countries, and you will see few, if any, electric vehicles for sale — and those that are available are typically far more expensive than the alternatives. The most common explanation is that consumer interest is not there. Most original equipment manufacturers (OEMs) also are not prioritising their few models for sale in markets that are scaling up outside China, Europe or the US. While many OEMs have announced ambitious plans to augment their electric vehicle portfolios, there will be little effect in the near term for Southeast Asia. The reasons: Most OEMs launch electric vehicles to challenge newcomers such as Tesla in their core markets and to meet future environmental emission standards in China and Europe (thus allowing them to continue to sell high-emission vehicles, such as SUVs). Those OEMs are likely to lose money on every electric vehicle until production scales. Bain estimates that leading OEMs will generate profits with the launch of new models in the next three to five years. However, as long as they are still losing money, there is little economic incentive to push electric vehicles onto Southeast Asia and other second-tier markets.

Attractive purchase economics. Electric car prices are made even higher by policies in Indonesia, Malaysia and other countries that discourage imports over local production or impose costs, such as Singapore's 100% to 180% fees and taxes on imported cars. Battery costs — the key component of electric vehicles — will drop by about 40% between 2018 and 2025, allowing for global purchase-price parity between battery electric vehicles and internal combustion engine vehicles in major markets. However, without this parity, consumers are unlikely to change their behaviour.

Government incentives. These barriers have been overcome by early government support in other markets, such as direct tax credits in Norway and the US or preferential licences in China. Yet governments in Singapore and Thailand prefer to prioritise getting passengers out of cars and onto public transportation. Some governments worry about losing local manufacturing jobs, as electric vehicles are not likely to be produced locally in the near future. Some governments, such as Thailand, are promoting traditional hybrids or plug-in hybrids as electric vehicles, which supports domestic manufacturing, but results in a slower behavioural change among consumers.

Charging infrastructure. While all regional utilities are thinking carefully about how to adjust future investments in the grid to sup-

port electric vehicles, with some upstarts and developers looking for ways to invest, the economics of investing in charging are not great. It is difficult to make charging stations profitable in most markets. Yet without the infrastructure build-out to support consumers and their passenger electric vehicles, penetration is going to remain stuck in the garage.

How is this chicken-and-egg situation likely to change? We believe that the pace of change in most Asean countries will not follow the path of China, Europe and US first movers, in which passenger vehicles led the transition. Instead, other classes of electric vehicles could set the pace in Southeast Asia, with passenger cars following behind.

While Asean consumers interested in electric vehicles are somewhat held hostage by the status quo, commercial fleet owners face an entirely different situation. First, fleet owners may develop their own charging infrastructure and only would need to make outside investments (or tap third parties) for top-up charging in outside locations. Second, their higher-intensity operations with light vehicles or trucks offer more attractive TCO economics — particularly in markets such as Singapore or Thailand, where fuel costs are relatively high.

There have been early successes. Consider the example of Grab's programme in Singapore, a joint venture with Hyundai supplying the vehicles and SP Group supplying the charging infrastructure. Together, they are leasing and managing 200 vehicles until the end of 2019 in Singapore, providing both the cars and charging infrastructure at attractive terms. Even after accounting for higher rental rates and waiting time to charge, the average participating Grab driver should be able to make around 10% to 20% more per day than a driver leasing a typical internal combustion engine vehicle.

Fleet economics do vary widely across markets. Still, many commercial users will progressively see the benefits. While high-mileage drivers in some markets already have achieved TCO parity, purchase-price parity will arrive around 2025, depending on vehicle type and market.

Another way to encourage electric vehicles: two-wheelers. Asean is the largest motorcycle market in the world, and it is expected to continue to expand at 3% annually through 2030. Providing government incentives for electric two-wheelers in several markets is not as crazy as it might seem. It would not only help the neediest segment of society, but also make it easier to scale back fuel subsidies, and ease the way for local manufacturing. Already, Indonesia and Vietnam, both major markets for two-wheeled vehicles, are considering options to promote electric scooters and bikes.

A third, but more uncertain, path forward might involve a disrupter. More than 45% of the Asean states' population lives in an urban

environment, with most drivers traveling fewer than 15 kilometres per day and rarely far from a service station. Is there an opportunity to provide Asean consumers, particularly millennials, with smaller, lower-cost cars that are designed for cities? Such a disrupter could come from China, where small-scale electric vehicles more than doubled the sales of regular electric vehicles in 2017.

An alternative option would be for a start-up to consider launching such a vehicle with local manufacturing in Southeast Asia. Already, many unconventional players considering local production of electric vehicles are emerging, from Dyson in Singapore to Energy Absolute in Thailand to Vingroup's ambitions in Vietnam, to various local players in Indonesia.

These could be the companies that reap the early profits from Southeast Asia's electric vehicle future when it eventually arrives.

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