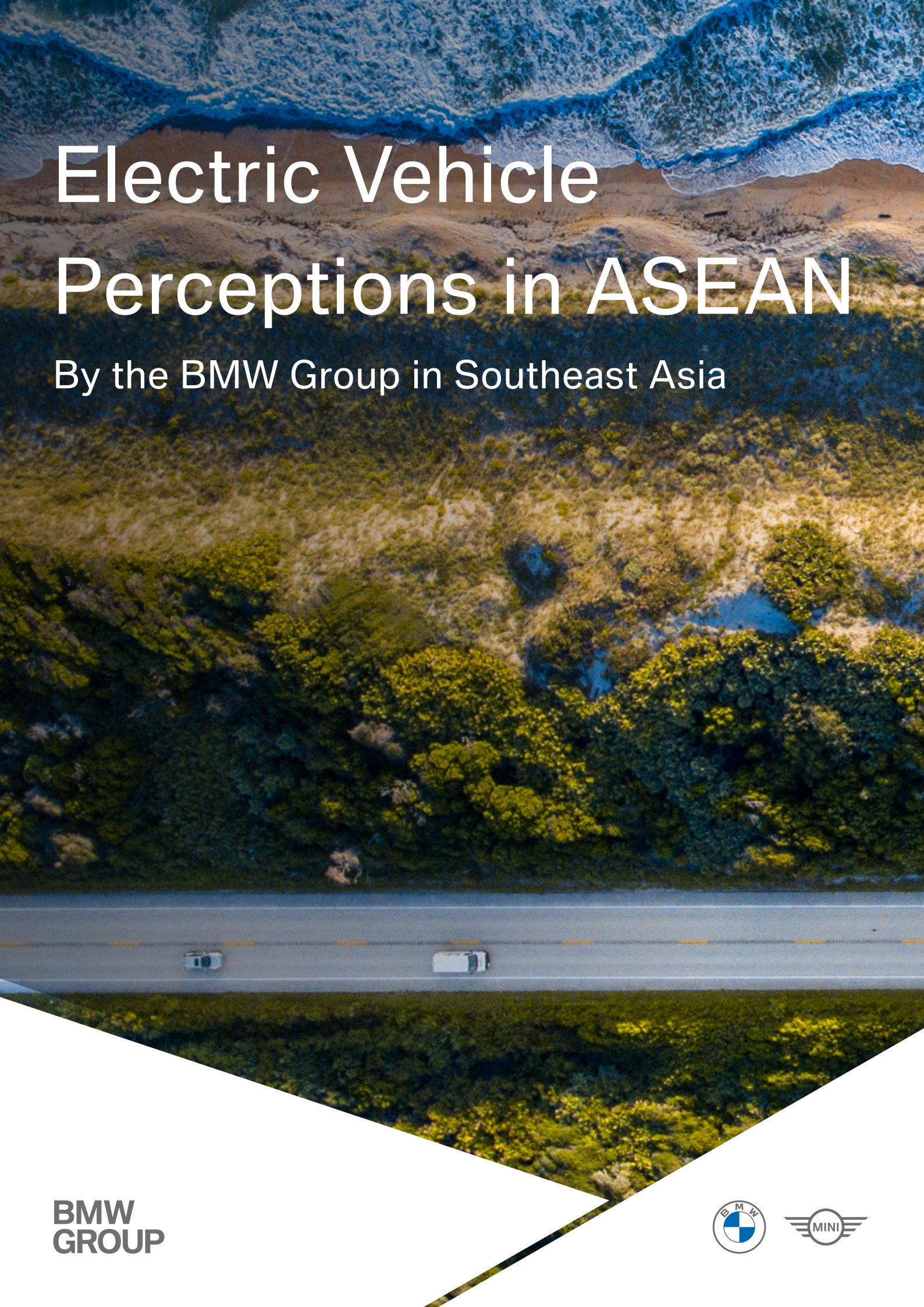
Electric Vehicle Perceptions in ASEAN

By the BMW Group in Southeast Asia



BMW GROUP

CONTENTS

TOP 5 LEARNINGS

1. **Drivers in Southeast Asia are looking for more EVs on the road** to live in a more desirable and environmentally conscious world. Excitingly, **48%** would consider purchasing an EV themselves.

2. **There remains a need for consumer education on the basics of owning an EV.** From the cost of maintaining an EV, to the ins and outs of EV charging, to the range of an EV before charging is required.

3. **Drivers find it important to have a physical aftersales service centre** to support their maintenance needs. With new technology on our doorstep, drivers need to know all their needs will be supported and questions will be answered, and quickly.

4. **The motivation to go electric goes beyond charging infrastructure** and the desire to reduce carbon emission. Purchase decisions are also driven by cost parity with ICE vehicles, battery warranty, and vehicle performance.

5. **There is a greater need for charging points in offices and commercial buildings** as more drivers look to EVs to run errands and for their daily commute to work.

SECTION 01

EXECUTIVE SUMMARY

While the idea of an electric vehicle (EV) might seem like a new concept that has only emerged in recent years, at the BMW Group, our heritage of innovation saw the EV arrive much earlier—five decades ago, in fact. Back at the 1972 Olympic Games in Munich, we introduced two all-electric BMW 1602e units which served as a means of transport for members of the organising committee, and as support and camera cars in various long-distance events. However, there was no question that the lead batteries which weighed 350 kgs, with a range of around 60 km, were not ideal for a production car. BMW therefore launched a series of R&D projects with the aim of bringing an improved and, above all, more efficient technology for electric drive systems onto the road.

Fast forward 50 years, the buzz around EVs spread around the world, but adoption across Asia (excluding China) has been slow amidst the lack of infrastructure, varying government support, and lower consumer understanding of the technologies and benefits underpinning this novel automotive paradigm—all factors that relegated this field of mobility to a fairly niche audience.

Until now.

From Indonesia to Malaysia, and Singapore to Thailand, support for EVs has gotten a tremendous boost in recent months thanks to strengthened government policies across these key markets. Furthermore, with the intentions to expedite the requisite infrastructure to support widespread adoption, and the wide range of options available, consumer confidence in EV technology is increasing, signaling that, yes, they are here to stay.

THE LONG TAIL OF EV —THE ROAD SO FAR

According to data from EV-Volumes, a global EV sales database, 2021 is expected to be a record year for EVs with an estimated 6.4 million in sales at the close of the year. In Asia, the bulk of EVs sold are in China, with only about 3.4 million EVs sold so far in ASEAN member states, according to the ASEAN Automotive Federation (AAF).

While the rest of Asia lags in EV sales, industry watchers agree on one thing—the number of EVs will increase in the coming 50 years due to population growth and economic development. Today, we are already seeing encouraging signs in markets like Thailand, the largest vehicle producer in the ASEAN region since 2020, where the government is introducing policies to help the automotive industry embark on the technological transition needed to address local production of specific EV components—key to securing its leading role in the sector.

Likewise, Indonesia is counting on becoming a global production hub given its rich deposits of nickel laterite ore and copper reserve, both of which are key components in the production of lithium batteries used in EVs.

Meanwhile, all markets surveyed also have some form of revised policies and/or incentives to entice consumers to adopt EVs. In Malaysia, for example, the government announced a complete elimination of all EV taxes (import, excise duties, road tax) at the 2022 National Budget. In Singapore, the enhanced Vehicular Emissions Scheme (VES) introduced in early 2021 reduces the upfront costs for EV adoption. In Thailand, a new excise tax scheme was introduced in 2016 to move taxation away from engine capacity alone towards one based on CO2 emissions. The Thai government also recently announced import duty reduction on EVs, if importers also commit to local assembly of EVs within a specified period. And finally, the Indonesian government has earmarked a target of 2.5 million electric motorcycles and 600,000 EV sales by 2030, and a plan to ensure all motorcycles and cars sold are electric-powered by 2040 and 2050 respectively.

CLIMATE CHANGE COMING INTO FOCUS

Another reason for the increased interest in EVs is the fact that more people are acknowledging the urgency of climate change. But how urgent is the need to address this?

According to the ASEAN Center for Energy (ACE), the region's energy needs will increase greenhouse gas (GHG) emissions from 34 to 147 percent between 2017 and 2040. The big challenge for countries to meet their Paris Accord 2030 obligations, and implement their zero-carbon solutions, is to minimise the physical risks that arise from climate change. According to a McKinsey report assessing the physical risk that climate change brings, Asia will be more severely impacted than almost any other region, with many parts seeing increased average temperatures, lethal heat waves, and even extreme events like hurricanes and droughts by 2050.

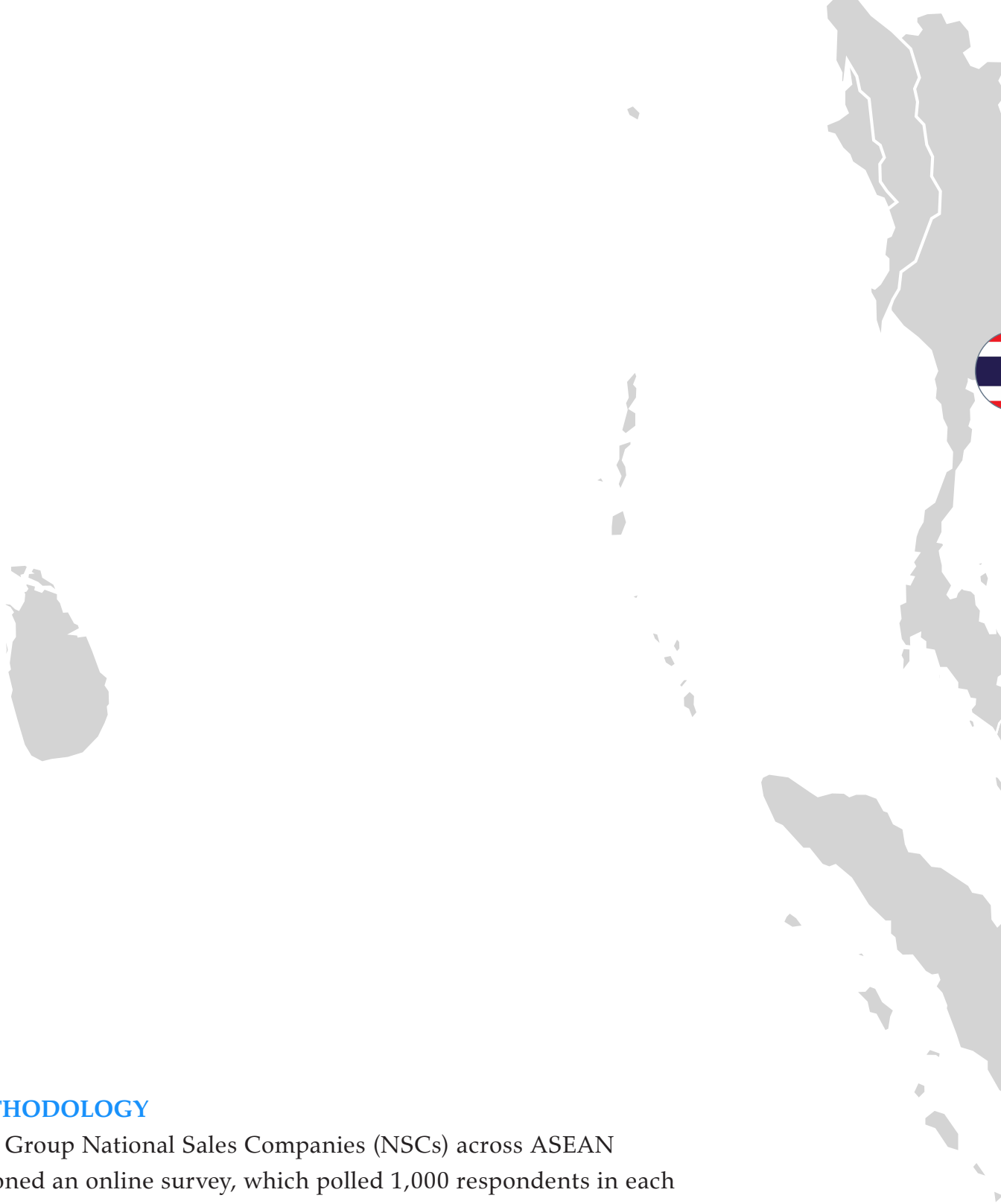
CHANGING CONSUMER ATTITUDES

The good news is that EVs are emission-free, and consumers want to do their part to embrace products that are more environment-friendly. At the same time, early concerns about the limited range of EVs have been addressed—the BMW iX , for instance, has a range of up to 425 kilometres on a single charge in the WLTP cycle.

Furthermore, in 2021, there was a great deal of progress across Southeast Asia as governments introduced policies to incentivise EV ownership, while ramping up infrastructure to support the shift from petrol pumps to electric plugs across public and private spaces.

UNDERSTANDING CONSUMER READINESS

All this progress has culminated in a worthy conversation to be had about consumer readiness to adopt EVs. What will motivate consumers to switch to EVs? What concerns do consumers still have? How much do consumers really know about EV technology? These questions led us to commissioning this survey across four markets in ASEAN—Indonesia, Malaysia, Singapore, and Thailand.



OUR METHODOLOGY

The BMW Group National Sales Companies (NSCs) across ASEAN commissioned an online survey, which polled 1,000 respondents in each market. The survey features at least 500 driver's license holders in each market to further understand familiarity and preference toward EVs among drivers and car owners. Other topics explored include attitudes toward the impact of EVs on the environment as well as factors that would motivate them to purchase an EV.

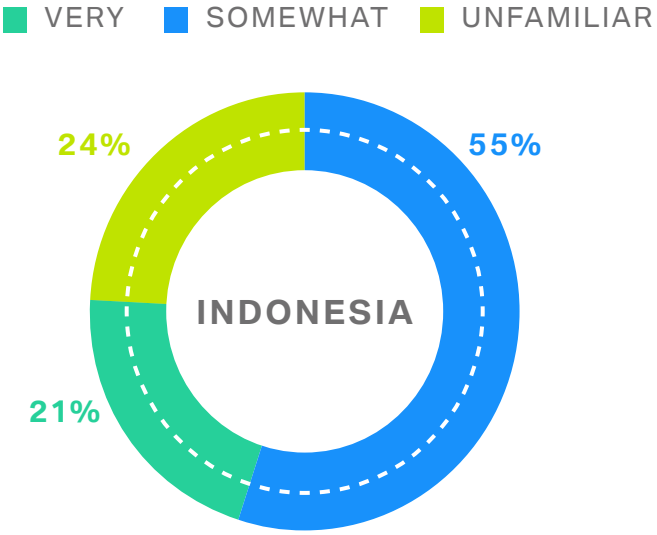

THAILAND
MALAYSIA
SINGAPORE
INDONESIA

SECTION 02

KEY MARKET FINDINGS

INDONESIA

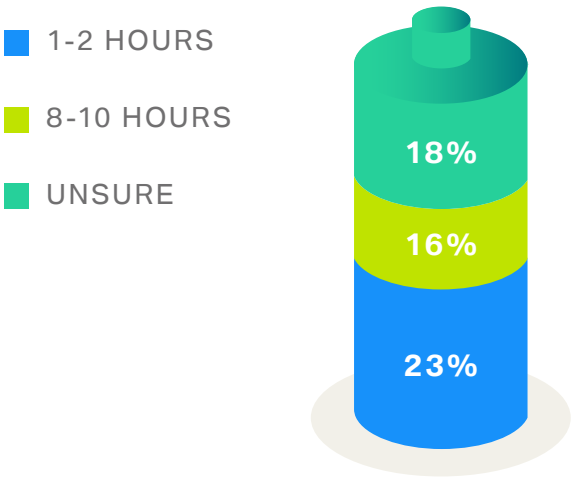
FAMILIARITY WITH EVS



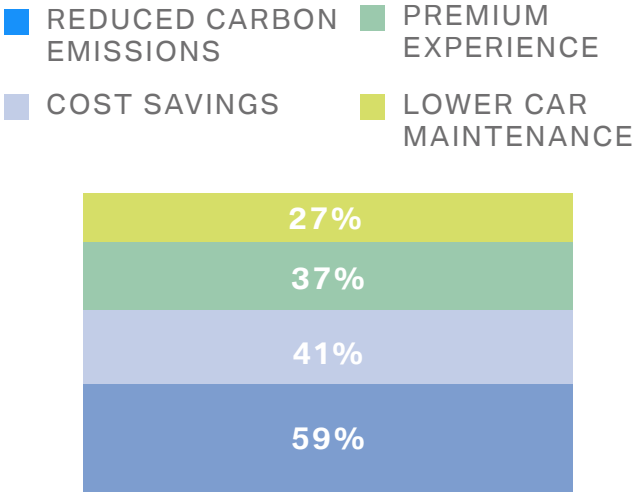
TOP MISCONCEPTIONS ABOUT EVS

Asked about their familiarity with EVs, 55 percent of respondents indicated they were somewhat familiar, with 21 percent of drivers saying they were very familiar, and 24 percent were unfamiliar. Of these respondents, 40 percent of drivers have the misconception that EVs do not have enough range (that is, EVs can only travel 100km before needing to recharge), and only 38 percent of drivers know that fast-charging EVs can reach a charge of 80 percent in under an hour.

DURATION OF EV(S) CHARGE



When asked how long it would take an EV to charge to a level that provides a distance comparable to a full tank in a petrol car, only 23 percent of drivers said it would take 1 to 2 hours (which is the average amount of time it takes BMW EVs to fully charge at a DC, fast-charging station), while 16 percent of drivers said it would take 8 to 10 hours, and 18 percent of drivers saying they do not know.

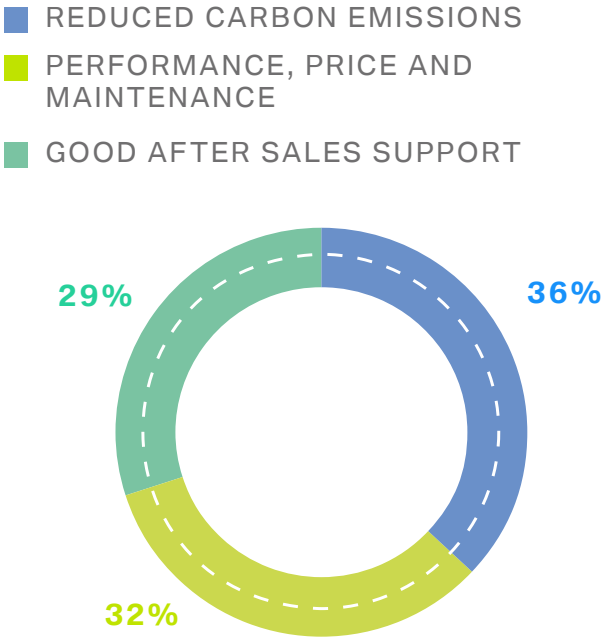


TOP BENEFITS ASSOCIATED WITH EVS

When asked about the top benefits associated with EV ownership, 59 percent of drivers indicated reduced carbon emissions, followed by cost savings from using electricity versus petrol (41 percent), a more premium experience (such as a quieter cabin environment, big screens, autonomous driving, and others) (37 percent), and lower car maintenance (27 percent) rounding up the top benefits.

WHAT'S YOUR NEXT VEHICLE TYPE?

The survey asked Indonesian drivers the choice of their next vehicle type—50 percent of drivers said they would get a petrol car, followed by 13 percent preferring a fully battery electric car (compared to 21 percent of non-drivers with this preference), and 15 percent of drivers saying they would get a hybrid electric car without plug-in charging capability.



TOP MOTIVATORS FOR EV ADOPTION

When asked what factors would motivate them to get an EV, drivers pointed to reduction in carbon emissions (36 percent), car performance and price to purchase and maintain an EV being cheaper or similar to a petrol-based car (both at 32 percent), and good after sales support (29 percent).

MOST IMPORTANT FACTOR FOR EV ADOPTION

In the survey, 15 percent of drivers pointed to reduced carbon emissions as the most important reason to adopt EV. This is followed by a tie (10 percent) between car performance and the price to purchase and maintain an EV being similar or cheaper than a petrol car, and another tie between the style of an EV and access to charging stations (7 percent).

The fact that 50 percent of drivers surveyed are still looking to get a traditional petrol vehicle, means that EV manufacturers still have a way to go in convincing consumers to make the switch. For EV adoption to become mainstream, Indonesia's regulators, state-owned enterprises, and international partners need to come together to boost local production and provide the infrastructural support to encourage consumer adoption.

Indonesia's commitment to EVs is aligned with global efforts to adopt EVs and tackle Greenhouse Gas emissions (GHG). The development of electric cars in Indonesia was first promoted by the Minister of State-Owned Enterprises (BUMN) in 2011, which received the support of engineers and universities. Unfortunately, the project failed to progress to the production stage.

The Indonesian government's most notable EV-related regulation is Presidential Decree No. 55/2019, which firmly mandates the development of a domestic EV industry as a national priority. This regulation is one of many government efforts to increase national energy efficiency and achieve clean, renewable energy in line with commitments to reduce GHG emissions. Similarly, many car manufacturers are ramping up their EV presence in Indonesia with expansionary manufacturing and sales plans.

In addition, the government plans to create a holistic domestic EV battery supply chain to capitalise on Indonesia's extensive nickel and copper reserves to support domestic EV battery production.

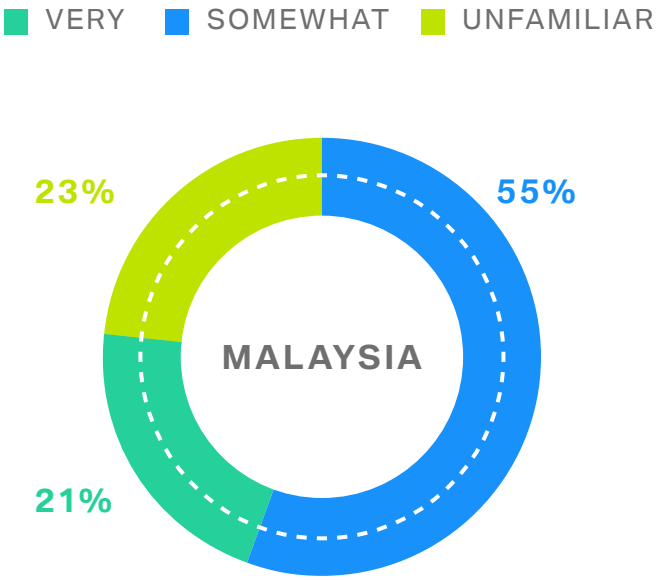
On 16 March 2021, four state-owned companies signed a shareholder agreement forming the Indonesia Battery Corporation (IBC). IBC will manage the battery industry ecosystem as a holding company, especially for EVs. The government has produced a road map for EV battery development and storage systems through 2026, with EV manufacturing companies set to begin production in Indonesia as early as 2022.

Through the Ministry of Industry, the Indonesian government is targeting 3 million EV units in Indonesia by 2030. This target aligns with the country's commitment to reduce CO2 emissions by up to 41 percent in the same period, which would see the CO2 level dropping to 4.6 million tons.

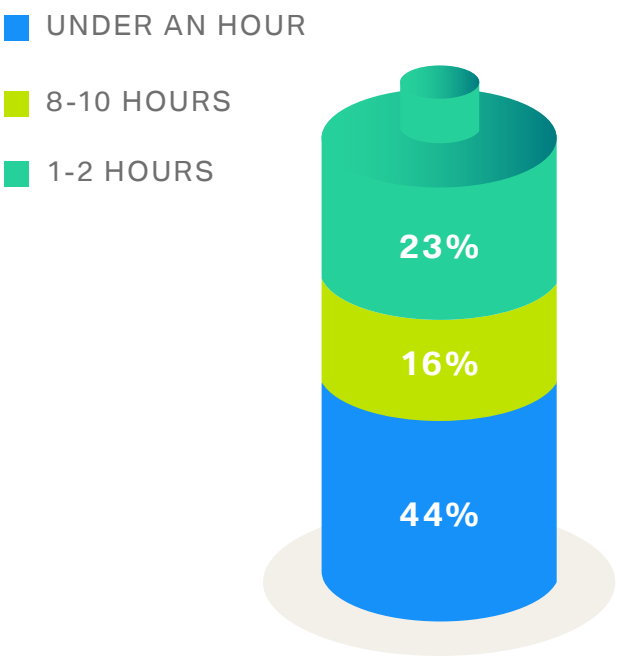
However, Indonesia is certain to face industry and geopolitical challenges, such as limited domestic EV demand, regional competition, and strategic competition. EV stakeholders will need to be agile and adapt to changes, creating their own vision of the future based on data-driven analysis to advance the EV industry in Indonesia.

MALAYSIA

FAMILIARITY WITH EVS



DURATION OF EV(S) CHARGE

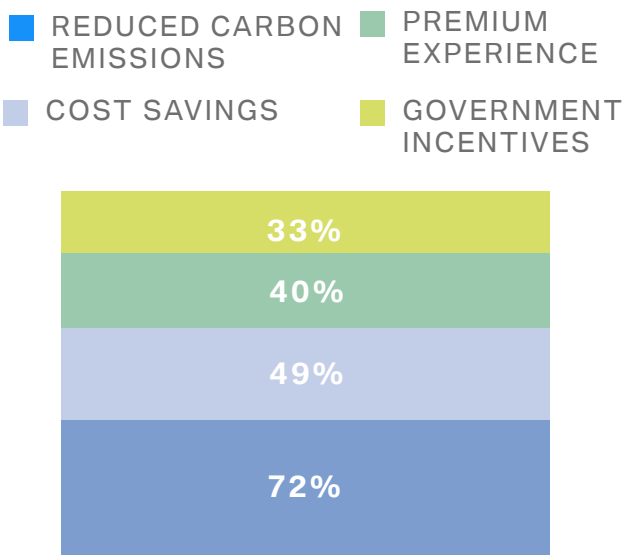


TOP MISCONCEPTIONS ABOUT EVS

Familiarity with EVs is mixed amongst Malaysian drivers, with 55 percent indicating that they were somewhat familiar, 21 percent of drivers indicating they were very familiar, while 23 percent were unfamiliar.

The survey does show that overall, 80 percent of Malaysians are in favour of having more EVs on the road. However, key misconceptions remain a roadblock for many in their transition towards EV ownership. Specifically, 39 percent hold the perception that EVs do not have enough range, 41 percent expect EVs to be more expensive to service or maintain over a period of 10 years; while 29 percent believe that charging EVs would pose difficulty.

On the other hand, only 44 percent of drivers correctly opined that an EV with fast-charging capabilities can achieve 80 percent charge in under an hour (e.g. via 200 kW DV fast-charging stations). When asked how long it would take an EV to charge to a level that provides a distance comparable to a full tank in a petrol car, 16 percent of drivers said it would take 8 to 10 hours (true for most AC charging situations), while 19 percent of drivers expressed no knowledge on the matter. Only 23 percent of drivers mentioned it would take 1 to 2 hours (which is the average amount of time it takes BMW EVs to be fully-charged at most DC fast-charging stations).



TOP BENEFITS ASSOCIATED WITH EVS

Malaysian drivers overwhelmingly cited reduced carbon emissions as the top benefit for owning an EV (72 percent), followed by cost savings from using electricity instead of petrol (49 percent), a more premium experience (40 percent), and the support from government incentives (33 percent).

WHAT'S YOUR NEXT VEHICLE TYPE?

In Malaysia, the survey found that 59 percent of drivers would most likely purchase a petrol car as their next vehicle, followed by 16 percent who would purchase a hybrid electric car without plug-in charging capability.

TOP MOTIVATORS FOR EV ADOPTION

When asked what factors would motivate them to get an EV, three motivators tied (45 percent) as key for Malaysian drivers: Government incentives, price to purchase and maintain being similar to a petrol car, as well as reduced carbon emissions. This is followed by car performance (42 percent), a warranty period of at least 10 years on the battery and EV (39 percent), and good after sales support (35 percent).

MOST IMPORTANT FACTOR FOR EV ADOPTION

When asked what the single most important factor was for owning an EV, Malaysian drivers opted for the price to purchase and maintain being similar to a petrol car (18 percent), followed by a tie (9 percent) across four reasons: car performance, government incentives, reduced carbon emissions, and access to charging stations. This is followed by a comprehensive warranty period of 10 years on the battery and EV (8 percent).

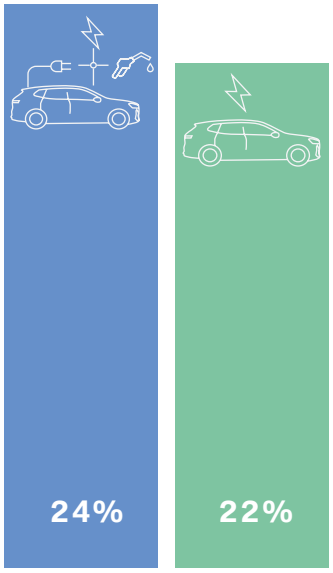
Despite favourable views on EV technology, many Malaysians put pragmatism at the forefront of their decision making. The issue of price remains a key point of consideration for Malaysians planning to make a switch – a point that is corroborated by the Malaysian government's existing EEV initiative, which has been essential in driving the adoption of locally-assembled plug-in hybrid electric vehicles (PHEVs) in the country. By offering substantial deductions in excise duty, the incentive has helped closed the gap in pricing between PHEVs and ICE vehicles - in some cases, allowing for locally-assembled PHEVs to be priced more competitively compared to their ICE counterparts.

A progressive next step forward, the Malaysian government has tabled the 2022 National Budget back in Q4 2021 and announced a complete elimination of all taxes and duties on EVs, which included import, excise and road tax duties on all EVs from 1st January 2022 to 31st December 2023.

While Malaysia's development of the EV ecosystem has been lukewarm over the past few years - with a small number of active players in the field – the announcement has noticeably inspired confidence and development of the EV ecosystem in the country. Automakers and industry players alike, such as those in the energy sector, have since announced or ramped up their plans to introduce new EV models, as well as roll out the necessarily charging infrastructure to support the technology in 2022.

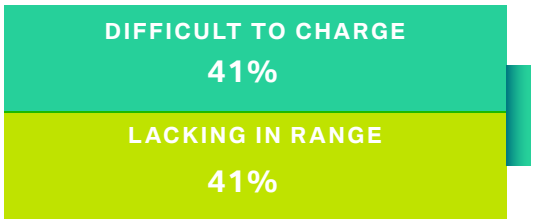
As the EV ecosystem in Malaysia matures, there could be greater room for consumer readiness to adopt EVs. The availability of charging infrastructure, including DC fast charging stations, directly addresses the need for charging accessibility, as well as range anxiety amongst Malaysians. As more players enters the market – a factor that goes hand-in-hand with the development of the charging infrastructure in the country – there is potential for greater accessibility for Malaysians to incorporate the technology into their commute, not just in terms of model options, but also the key motivator of affordability.

SINGAPORE



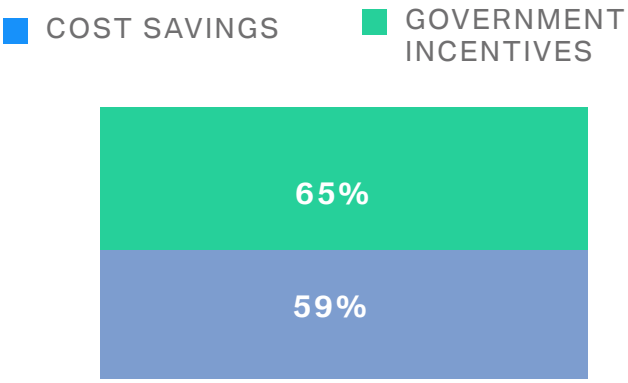
WHAT'S YOUR NEXT VEHICLE TYPE?

The survey revealed that 46 percent of Singaporean drivers are looking to purchase an electrified vehicle as their next car. Of this, it's an even split between a plug-in hybrid electric vehicle (24 percent) or a fully electric vehicle (22 percent).



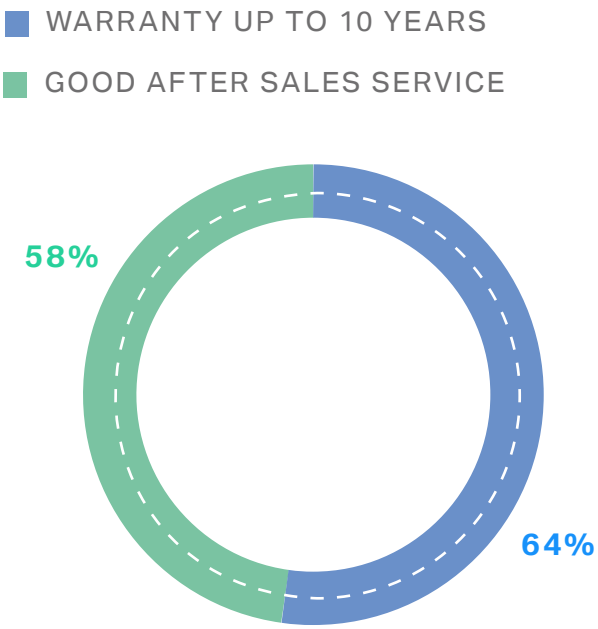
TOP MISCONCEPTIONS ABOUT EVS

While three out of four respondents indicated some familiarity with EVs, misconceptions persist, with the following being most common: belief that EVs are difficult to charge (41 percent), and are lacking in range, travelling up to 100km before needing to recharge (41 percent).



TOP BENEFITS ASSOCIATED WITH EVS

Despite lingering misconceptions, 87 percent of respondents recognised the benefits of EV ownership, a key one being the reduction in carbon emissions, tying back to the overall desire of Singaporean drivers to go greener with their motoring. The growing number of government incentives (65 percent) and cost savings from using electricity instead of petrol (59 percent) are also key factors for desire to support EVs.



TOP MOTIVATORS FOR EV ADOPTION

Respondents identified a longer warranty period of up to 10 years (64 percent) and good after sales service (58 percent) as the top two (service-focused) motivators.

MOST IMPORTANT FACTOR FOR EV ADOPTION

Pragmatic considerations remain key to getting Singaporeans to purchase an EV. When asked about infrastructure motivators that would drive them to make the switch to an EV, government incentives and access to public charging facilities were cited as the most important (72 percent), with access to charging at home following closely at 70 percent. Performance (55 percent), vehicle build quality (43 percent), and technological features (42 percent) are all also important deciding factors. Lastly, 30 percent indicated that brand loyalty was also key.

Many of the findings in our survey tally with the market's lukewarm reception of EVs until recent years. Like many markets in the region, Singapore's initial slow start in embracing EV has come to a close, as the city state began introducing policies to phase out Internal Combustion Engine (ICE) vehicles to ensure all vehicles run on cleaner energy by 2040.

At Singapore Budget 2021, the government announced that S$30 million had been set aside for EV initiatives and car loan taxes will be adjusted. The Singapore Government also announced the ramping up of charging infrastructure from 28,000 to 60,000 charging points by 2030 (40,000 charging points in public carparks and 20,000 in private premises). This is a ratio of about five EVs per charging point, according to the Land Transport Authority of Singapore (LTA).

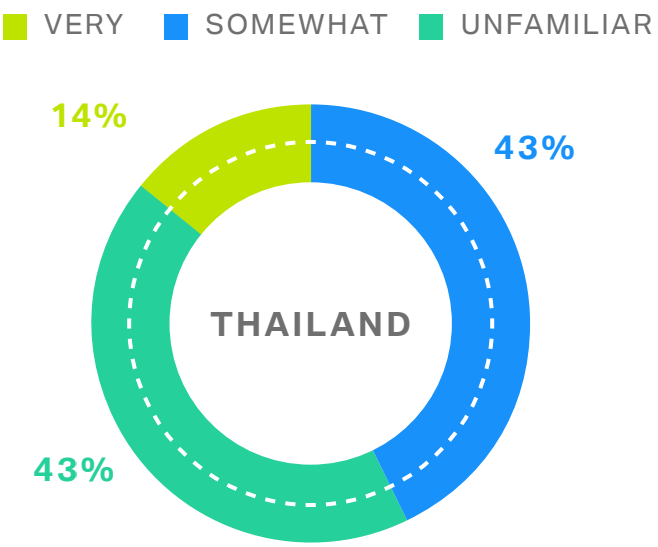
These charging stations will provide LTA with data that includes charging durations and state-of-charge at the start and end of each session. This aligns with Singapore's Smart Nation ambition, which aims to enhance all aspects of life and business underpinned by data and digital solutions.

If all Singapore's light vehicles run on electricity, the city state would reduce carbon emissions by 1.5 to 2 million tones, or about 4 percent of total national emissions.

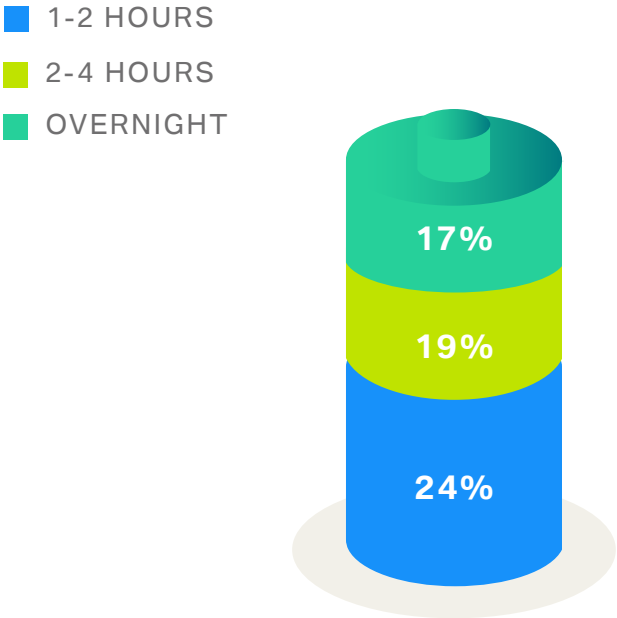
BMW has seen encouraging signs that Singaporeans are embracing EVs, with a 27 percent increase in EV purchase in 1H 2021 compared to the whole of 2020. Nonetheless, the survey has shown that government support and infrastructure readiness are still key to getting drivers in the market excited and ready to adopt electrified vehicle offerings.

THAILAND

FAMILIARITY WITH EVS



DURATION OF EV(S) CHARGE

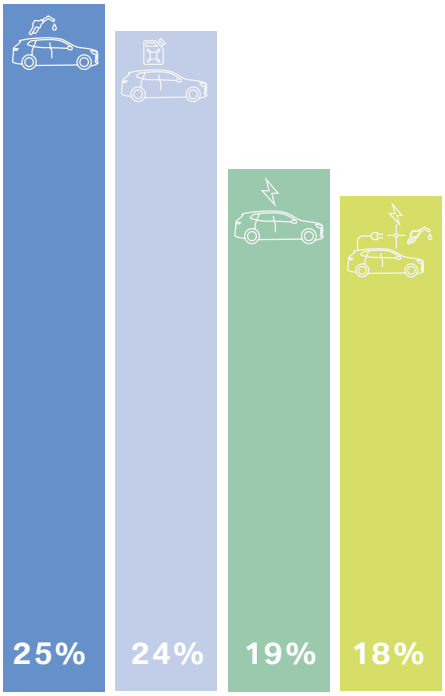


TOP MISCONCEPTIONS ABOUT EVS

The results for the Thai market regarding driver familiarity with EV show that knowledge about the benefits of EVs have much headroom for growth. While 43 percent of drivers said they were somewhat familiar with EVs, and 14 percent said they were very familiar, a staggering 43 percent—more than any other market surveyed—said they were unfamiliar.

49 percent of drivers agreed with the statement that EVs don't have enough range (that is, EVs can only go up to 100 km before requiring a recharge) and 39 percent of drivers believe that EVs are more expensive to service or maintain over a period of 10 years.

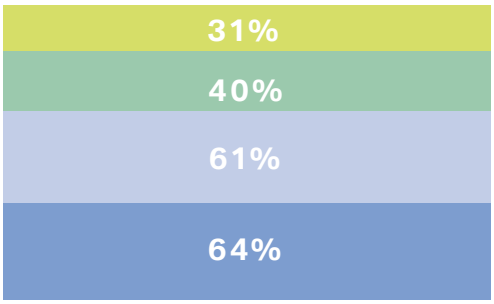
Thai drivers also showed less familiarity with advances in EV charging capabilities. Asked how long it would take EVs to charge, while 24 percent of drivers correctly said it would take 1 to 2 hours, 19 percent said 2 to 4 hours, 18 percent said less than an hour, and 17 percent said it would be an overnight charge (8 to 10 hours).



WHAT'S YOUR NEXT VEHICLE TYPE?

In Thailand, 25 percent of drivers said they would most likely purchase petrol and 24 percent said they would pick a diesel car, while 19 percent said they would get a full EV, followed by 18 percent who chose a plug-in hybrid.

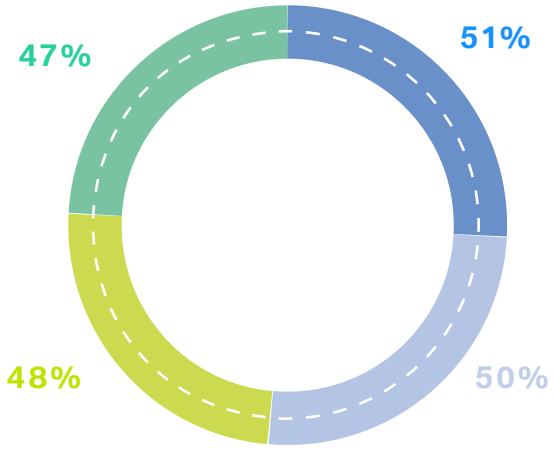
- REDUCED CARBON EMISSIONS
- PREMIUM EXPERIENCE
- COST SAVINGS
- GOVERNMENT INCENTIVES



TOP BENEFITS ASSOCIATED WITH EVS

Drivers in Thailand cited cost savings from using electricity instead of petrol/diesel (64 percent) as the top benefit, followed by reduced carbon emissions (61 percent), a more premium experience (40 percent), lower car maintenance fees than petrol/diesel cars, and government incentives (31 percent).

- WARRANTY OF AT LEAST 10 YEARS ON THE BATTERY AND EV
- PRICE OF EV BEING CHEAPER OR SIMILAR TO THAT OF PETROL
- ACCESS TO CHARGING STATION WITHIN IN ONE'S HOME
- PRAGMATISM, INFRASTRUCTURE READINESS, PERFORMANCE AND ACCESS CHARGING STATIONS



TOP MOTIVATORS FOR EV ADOPTION

Asked about the key motivators that would compel drivers to purchase an EV, Thai drivers chose value as key reasons, with warranty coverage for the battery and EV for at least 10 years (51 percent), followed by the price of an EV being cheaper or similar to that of a petrol car (50 percent). Drivers also showed pragmatism, citing infrastructure readiness as a top motivator, with car performance and access to charging stations both tying at 48 percent, and access to a charging station within one's home carpark at 47 percent.

MOST IMPORTANT FACTOR FOR EV ADOPTION

What would be the top single most important reason for EV adoption? 18 percent of drivers said access to widely available charging stations, followed by car performance (13 percent), and a tie between price to purchase and maintain an EV being cheaper or similar to a petrol car and a 10-year-minimum warranty coverage for the battery and EV (both at 11 percent).

Today, most of Thailand's vehicles are powered by fossil fuel, with EVs making up less than one percent nationwide. According to the International Organisation of Motor Vehicles Manufacturers (OICA), Thailand was the world's 11th largest producer of vehicles in 2020. Therefore, its position on EV support is not merely supporting consumer adoption, but also the transition of technologies supporting the manufacturing of EV components and the output of EVs.

In early 2021, the Thai government introduced its national EV Target—a masterplan that covers the usage and production targets for EV—with a goal of registering passenger EVs 50 percent of total passenger vehicle registration by 2030, and to register only zero-emission vehicles in the country by 2035.

The policy announced by the National EV Policy Committee also encourages the development of battery manufacturing and supplies, as well as national infrastructure, including 12,000 fast charging stations by 2030, power grid management and related policies that enable comprehensive adoption and integration in a market where currently half of all vehicles manufactured are supplied to the domestic market—emphasising the criticality of broad support for EVs at both consumer and producer levels.

SECTION 03

THE VIEW ACROSS THE REGION

EV education and infrastructure readiness remain key in mass EV adoption

Our survey was eye-opening in many respects. Despite 69 percent of respondents indicating their familiarity with BEVs, 40 percent still believe EVs do not have enough range—defined in the survey as EVs only being able to go up to 100km before needing to recharge—and in three of the markets (Indonesia, Malaysia, Thailand), 59 percent of those surveyed indicated they have a preference for a petrol or diesel car as their next vehicle.

The survey revealed that on the whole, consumers are more aware of climate change than ever. Respondents cited reduced carbon emissions as one of the top three benefits of EV adoption, the other two being cost savings from using electricity instead of petrol/diesel, and a more premium experience. Furthermore, 78 percent of respondents indicated they would like to be in a more environmentally conscious world with more EVs on the road, and 41 percent said that in addition to reduced carbon emissions, the more sustainable production of EVs was another aspect that motivated their support of EV adoption.

Alas, practical considerations like infrastructure and after sales service continue to influence whether consumers support EVs as 91 percent of respondents who indicated interest in getting an EV in the coming years also said the importance of having a physical after sales service centre was either very or somewhat important.

The lack of education on EV innovation has also come into focus, where in addition to consumers not thinking today's EVs have enough range, the other top two misconceptions are that EVs are more expensive to service and maintain compared to petrol/diesel vehicles over a period of 10 years, and that an EV with fast-charging capabilities can reach 80 percent charge in under an hour.

When asked what they thought were the benefits of owning or leasing an EV, 11 percent of those surveyed noted they did not know enough about EV benefits to comment, highlighting a knowledge gap and opportunity for education in this area.

When looking at the top reason for purchasing EVs, respondents across markets differed broadly: Indonesia noted reduced carbon emissions as the most important factor (15 percent); Malaysia noted price to purchase and maintain needs to be similar to that of a petrol vehicle (18 percent); in Singapore, government incentives and access to public charging facilities were cited as the most important (72 percent); and finally, Thailand noted access to widely available charging stations in public as the most important factor (18 percent).

THE KEY TO ELECTROMOBILITY SUCCESS—A BMW PERSPECTIVE

While automotive makers, policymakers and partners in the ecosystem have a role to play in consumer education, real-world infrastructure readiness remains key to mass EV adoption. In the coming years, consumers will have a choice of a wide variety of EVs. But what will make EV manufacturers stand out from the crowd? What will motivate drivers in the future to "Go EV"? Below are five key areas the BMW Group believes will make or break EV adoption in the future.

DO MORE WITH LESS

Climate friendly mobility is not automatically created by a higher number of EVs on the road—it is crucial to reduce the use of resources by scaling down on the number of component parts, material groups and surface finishes. Materials from bio-based raw materials will also help to minimise environmental impact and contribute to a smaller carbon footprint. For instance, renewable raw materials such as natural fibres can be integrated into vehicle production as these are lighter than plastic alternatives, and still maintain their mechanical properties.

SECONDARY FIRST

Automotive manufacturers must take a close look at the materials going into their production process, and ensure they can be reused again at the end of the product life cycle. The BMW iX illustrates how this can be achieved where a high proportion of its components comes from secondary resources with up to 50 percent secondary aluminium, up to 20 percent recycled thermoplastic, and 60kg of recycled plastic.

DESIGN DIGITALISATION

Automotive manufacturers need to develop smart control panels to reduce both complexity of design and the use of materials. In addition to this, digital surface treatments enable a reduction in the number of hardware variants and open up whole new possibilities for design.

LONGER PRODUCT LIFESPAN

Ideally, a sustainable product will have a long lifespan, with a rich and enjoyable product experience making people a lot more enthusiastic about using the product--and using it for longer. One way of ensuring this happens is by incorporating digitality to create new experiences. The display options via digital display surfaces in the exterior and interior of a car and the availability of "option as a service" allow users to constantly bring something new to the vehicle. Constant updates over the air and cloud computing keep the product technically up to date for longer.

CONNECTED SERVICES

EV consumers are some of the most tech savvy drivers and they like having information at the tip of their fingers. With smartphone applications like My BMW or MINI, EV customers can already interact with, and program, their vehicles; remotely monitor charging status and available range; and see the nearest public charging stations and their availability. With these and many other functions and services, manufacturer-developed mobile apps could be the key to ensuring carefree mobility and even more sheer electric driving pleasure—regardless of where the customer is.

DRIVING TOWARD A SUSTAINABLE FUTURE

With the EV industry picking up pace in ASEAN, the challenge lies in building a future-proof, sustainable ecosystem beyond infrastructure and monetary grants. EV makers must look beyond just producing vehicles that are friendly to the environment to ensuring sustainability every step of the way. They also need to leverage the latest developments to ensure the customer benefits from the best that technology can offer.

As we look to the future, EV makers and the wider automobile industry need to understand the drivers that impact consumer purchasing decisions. Brands will need to discern for themselves what will make them stand out from the crowd, whether through their processes, features, or service.

It is only by understanding these drivers and identifying market gaps will EV players be able to not only secure their slice of the EV pie, but, on a larger scale, truly be on their way to climate neutrality.

BMW
GROUP