

The Road Ahead: Indonesia's Electric Vehicle Readiness and Consumer Insights 2024

This detailed report examines Indonesia's electric vehicle (EV) readiness for 2024, covering key aspects such as the current EV landscape, consumer demographics, and adoption trends. It delves into the role of technology and digital services, the emerging used EV market, and the challenges of charging infrastructure and range anxiety. Additionally, it explores government policies and incentives to harness the opportunities in Indonesia's evolving EV market.

November 2024



Welcome letter

Accelerating the future is our initiative to offer deep insight into the state of Indonesia's electric vehicle (EV) market and its readiness to spotlight its current activity to analyse where it is moving in the future. At PwC, we have understood how crucial it is for industry stakeholders to understand factors impacting the sector, where consumers are becoming consistently more educated regarding sustainable transport options. In an age of increased natural disasters and climate-related anomalies, deepening consumers' mindsets regarding EVs is crucial. This report offers readers an overview of updated perspectives on the short-term development of the EV business in Indonesia, compared with other markets in Asia Pacific (APAC), Latin America (LATAM), North America (NA), Europe, the Middle East and Africa (EMEA).

Over the past few years, the EV industry across APAC has experienced massive developments, highlighted by the region accounting for the largest share of battery electric vehicles in the global market. APAC has been demonstrating an increase in growth, compared to western competitors for EV sales. China recently accrued the highest number of EV usage and is on track to produce the largest volume of EVs in the region. EVs have enjoyed success in Japan, where hybrid electric vehicles are the most purchased type of cars in the nation. Concerning India, the EV market penetration has been slow but is catching up. The king of the Indian EV market are two-wheelers, which is different compared to other nations where most EVs are traditional four-wheel vehicles.

The data within the report shows a significant Indonesian EV prospect who are looking to purchase one within the next five years, indicating there is an industry shifting to accommodate and educate future buyers. While our survey found that EVs are trending positively, the overwhelming majority of participants still used fossil fuel-based vehicles. Improving the EVs themselves and educating consumers on the facts and benefits and government initiatives will help the market grow faster over the next few years. Compared to other nations, the adoption of EVs in Indonesia has been slightly slower. Despite that, government officials, industry leaders, high profile figures, and influencers are preparing for a future where eco-friendly vehicles will play a prominent role in the market and daily lives.

The report highlights that while Indonesia is progressing greatly in EV readiness, addressing concerns related to battery performance, charging infrastructure, and overall costs will be crucial to accelerating adoption. As a key driver for EV purchasing, nearly half of prospective consumers responded that fuel cost per kilometre and reducing their environmental impact as important motives for acquiring an EV. The availability of EVs has expanded nationally, along with an industry-wide push to launch more EVs than ever, leaving consumers increasingly interested in the benefits of the change from fuel-based to hybrid or electric options. Even with all the positive environmental changes that consumers can benefit from purchasing an EV, there are still doubts that leave people needing to be convinced. The survey found that consumers are worried about charging duration, limited range and battery lifespan. These barriers mirror concerns across other regions, though Indonesia shows a higher resistance due to limited public charging infrastructure.

Further integrating innovative features from consumers' mobile devices to ensure a seamless connection between phones and cars will help leaders gain fundamental competitiveness. The government can further contribute by adding more public transport that are electric transport options, educating consumers to separate facts from perceptions. While more Indonesians are willing to contribute to the country's EV readiness, there is still homework to be done to convince prospective buyers and sceptics to embrace the change.

PwC would like to thank all members who participated in this report. We are eternally grateful to partake in the transformation of an industry where stakeholders can gain useful insight into market factors. We are proud of this vision, and we fully embrace our role as an industry enabler while supporting the Indonesian automotive industry.



Hendra Lie

Automotive Leader
PwC Indonesia

Executive summary

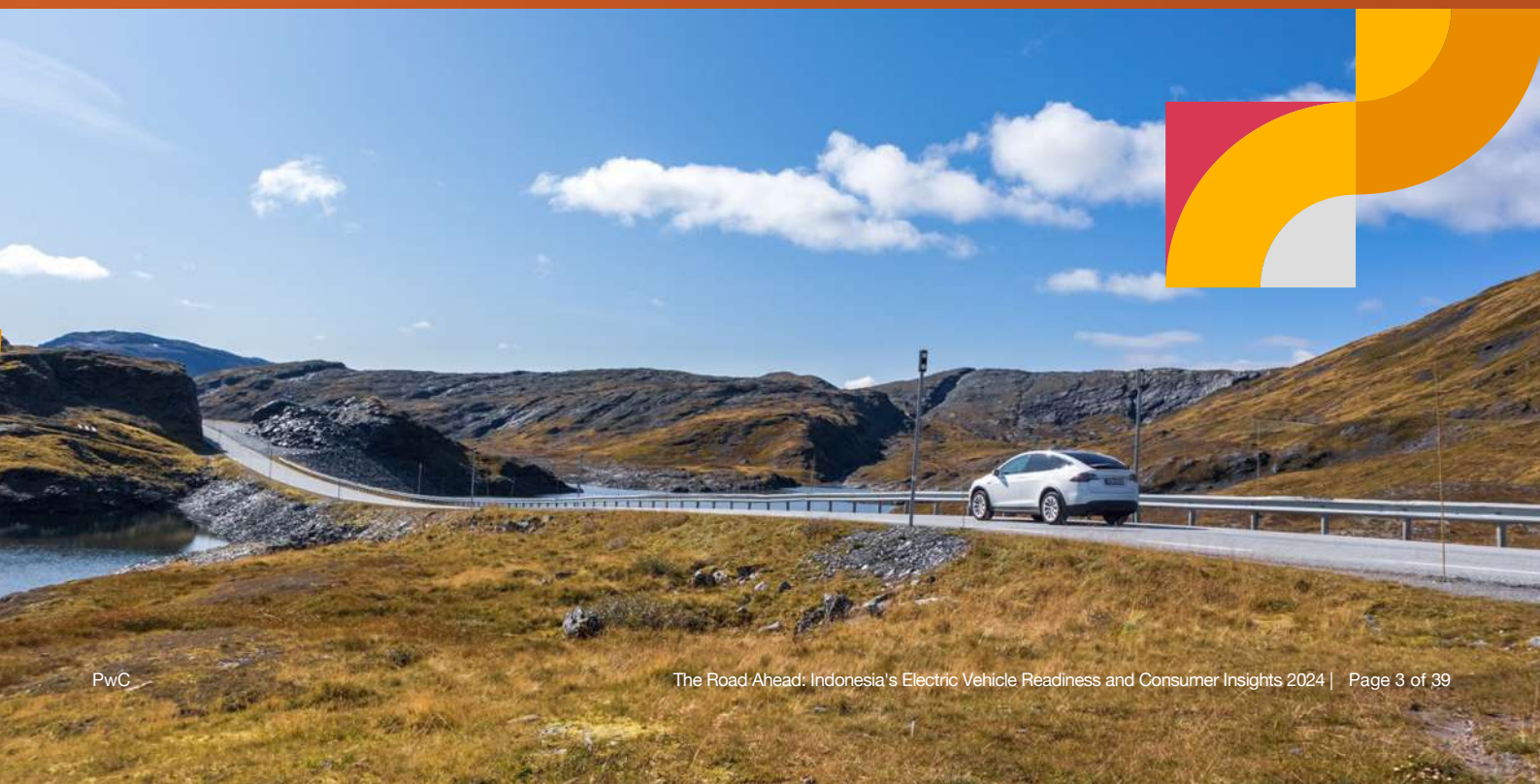
The further involvement of Indonesians in the EV industrial revolution is something that stakeholders should celebrate. PwC has been carefully observing calls worldwide for consumer readiness for sustainable solutions, and the best place to begin is through personal transport options. To best comprehend the adaption and attitudes of the Indonesian population toward an EV, PwC is pleased to support any stakeholders in the EV industry. Upon analysis, this survey provides knowledge into the population's perceptions and readiness to shift to EVs, shining a spotlight on potential areas of concentration for EV players, industry stakeholders, and policymakers to show what work needs to be done to gauge the public to make the green transition.

The ability of industry players to adapt to changing market demands and embrace innovative technologies underscores the competitive nature of Indonesia's automotive sector. Alongside Indonesia, several neighbouring countries are offering educational programmes, tax credits, and financial incentives to encourage the transition from fossil fuel vehicles to EVs, fostering a more sustainable future. Consumers are responding positively to the offers.

This trend is expected to persist in the coming years as governments urge car manufacturers to increase EV production and help educate consumers about these modern, progressive transportation options that are becoming more affordable and accessible to prospective buyers. As we are still in the early stages of the EV era, Indonesia's high middle class population will continue to expand, accompanied by a revitalised consumer spending power. This will prompt automotive companies and business leaders to prepare for ongoing questions and meet the evolving demands of the market.

This survey reveals how stakeholders, industry players, and governments can penetrate the EV consumer market by relieving some of the fears that may deter certain buyers while comparing the Indonesian market on a global scale. It also gives a wholesome overview of the EV industry in the nation, alongside buyers' perceptions and personas, with most realising the need for such products and solutions to combat climate change.

We will maintain our initiatives and results-driven strategies to support global EV players. We hope this report will be a valuable resource for stakeholders seeking to understand the Indonesian EV market, including consumer readiness and perspectives. It illustrates the story of an industry poised for continued growth and adaptation in the next era of sustainable development in the automotive sector.



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Introduction

As the world embraces a sustainable future, Indonesia stands at a pivotal moment in transforming its transportation sector. This chapter explores the current landscape of EV adoption in Indonesia, driven by government incentives and a high middle class population, while examining the opportunities and challenges that lie ahead based on PwC's eReadiness Indonesia study 2024.



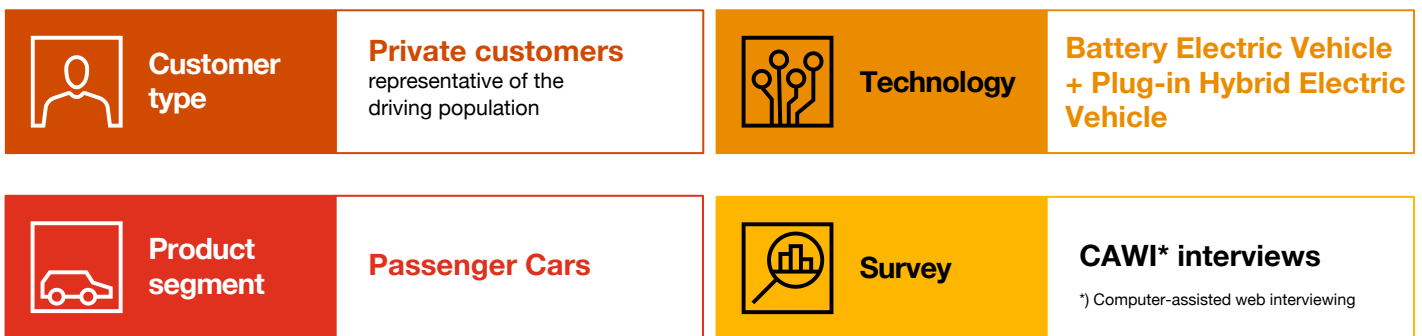
The world is transitioning toward a more sustainable future, and EVs have emerged as one of the most promising solutions in the global push to reduce carbon emissions. In this movement, Indonesia, Southeast Asia's largest economy, plays a crucial role. With its vast urban population, increasing middle class, and government incentives, Indonesia is about to undergo a significant shift in its transportation landscape. Based on PwC's eReadiness Indonesia study 2024, this report explores the current state of EV adoption in Indonesia, the drivers of this transformation, the challenges ahead, and the perspectives of consumers across different segments.

Over the past few years, Indonesia has seen a surge of interest in electric mobility. From EV owners benefiting from lower fuel costs to sceptics wary of battery life and infrastructure concerns, this report delves into the factors shaping the market. Through detailed consumer insights, data analysis, and a forward-looking perspective, it provides a comprehensive view of Indonesia's readiness for the EV revolution.

Methodology

To develop an overall view of the market, we studied customer type, product segment of passenger cars, technology, utilising computer-assisted web interviews. This is an eReadiness study as a part of the PwC Global study in 27 other territories, allowing us to compare with a focus on APAC, LATAM, NA, EMEA and Indonesia.

Indonesia's EV market is rapidly evolving, influenced by both regional trends in the APAC and broader global dynamics. For a precise and actionable analysis, our methodology targeted key segments and employed advanced data collection techniques:



Global context

Globally, including regions such as APAC, LATAM, NA, and EMEA, the EV market is experiencing growth, driven by increasing environmental concerns, government incentives, and technological advancements. Major markets, such as China, Europe, and the United States, are leading in EV adoption, with strong policies supporting the transition to electric mobility. By 2030, many countries have set ambitious targets for phasing out Internal Combustion Engine (ICE), further propelling the EV industry.

APAC landscape

In the APAC region, country like China is at the forefront, with substantial investments in EV infrastructure and manufacturing. The region is also home to major battery producers and automotive manufacturers focusing on electric mobility. Southeast Asia, including Indonesia, is beginning to emerge as a significant player, driven by urbanisation, a high middle class population, and government initiatives.





According to data from the Association of Indonesian Automotive Industries (GAIKINDO), the wholesale sales of EV in Indonesia from January to September 2024 amounted to 27,548 units. This figure represents a 4,35% of the total national vehicle wholesales, which stood at 633,218 units as of September 2024 (GAIKINDO, 2024).

Barriers of EV adoption

Despite the clear benefits, the Indonesian EV market faces several hurdles that must be addressed for widespread adoption. The most significant barriers concerns the duration of the charge, limited range, and uncertainty about battery life as reasons for hesitation. Concerning potential EV buyers, 60% were worried about charge duration, 59% were concerned about the limited range, and 47% were uncertain about the battery life. For sceptics, 75% were discouraged by the limited range, 51% worried about the charging time and 46% were concerned about battery lifetime. For many potential buyers, the fear that their EV's battery will degrade quickly resulting in expensive replacements remains a significant concern.

Another pressing issue is charging infrastructure. Although many consumers are open to charging their vehicles at home, public charging stations must be available, especially outside major urban centres. This lack of infrastructure contributes to range anxiety, with 59% of prospective EV buyers expressing concern over the limited range (compared to 75% sceptics) and 34% of EV sceptics are concerned of the lack of public charging solutions. Consumers may be willing to switch from ICE vehicles only when the network of charging stations is expanded.

Additionally, the high upfront cost of EV is a deterrent for many Indonesians. While the long-term savings on fuel and maintenance are attractive, the initial price of purchasing an EV remains prohibitive for a significant portion of the population, hindering 31% of prospective buyers and 15% sceptics. This is where government intervention is crucial. Without more affordable models or government incentives to lower the cost, widespread adoption will be challenging.

Indonesian EV landscape

Understanding the current state of EV in Indonesia

This section provides an overview of the EV market in Indonesia, highlighting key trends, market players, and the overall ecosystem. It sets the stage for understanding how the EV sector is evolving in the country.



Global trends

EV is no longer a niche market restricted to environmentally conscious consumers or early adopters. Globally, the transition to electric mobility is accelerating, driven by advancements in battery technology, environmental policies, and increasing consumer demand for sustainable solutions. With its large population and growing urbanisation, Indonesia has emerged as a critical player in the APAC region's EV market.

At the World Climate Conference (COP26) held in Glasgow, Scotland, in November 2021, global leaders reached an agreement to significantly reduce carbon emissions by 2030 and to achieve net zero carbon emissions by 2050. COP26 introduced new "building blocks" to further the implementation of the Paris Agreement through actions aimed at guiding the world towards a more sustainable and low-carbon future. According to a United Nations report, over 30 countries, six major vehicle manufacturers, and various other stakeholders, including cities, have committed to ensuring that all new car and van sales are zero-emission vehicles by 2040 globally, and by 2035 in leading markets. This initiative is designed to accelerate the decarbonisation of road transport, which currently accounts for approximately 10% of global greenhouse gas emissions (United Nations, 2023).

Rising sales volumes

EV sales have surged dramatically, with millions of units sold annually all over the world. This growth is driven by increasing consumer awareness, improved vehicle options, and expanding charging infrastructure.

Government policies and incentives

Many countries are implementing stringent regulations on emissions and providing incentives for EV buyers, such as tax credits, rebates, and grants. Some nations have set ambitious targets to phase out ICE vehicles, accelerating the shift toward electric mobility.

Diverse vehicle offerings

Automakers are expanding their EV portfolios to include a wide variety of models—ranging from compact cars to Sport Utility Vehicle (SUV)s and trucks.

Advancements in battery technology

Improved battery technology, including higher energy density and lower costs, is making EVs more accessible and practical. The emergence of solid-state batteries also promises even greater performance and safety.

Charging infrastructure expansion

Investment in charging infrastructure is increasing, with both public and private sectors working to establish widespread, accessible charging networks. Fast-charging stations are becoming more common, alleviating range anxiety.

Sustainability and corporate responsibility

There is a growing focus on sustainability, with manufacturers striving to reduce the carbon footprint of their production processes and supply chains. Many companies are committing to carbon neutrality, aligning their strategies with global climate goals.

Emergence of new markets

Regions such as Southeast Asia, Latin America, and parts of Africa are beginning to adopt EVs, driven by urbanisation and rising income levels. Local governments are also starting to implement supportive policies.

Shared mobility and electrification

The rise of shared mobility services, such as ride-hailing and car-sharing, is influencing EV adoption. Many of these services are transitioning to electric fleets to reduce emissions and operational costs.

Consumer preferences shifting

Consumer attitudes are changing, with more individuals prioritising sustainability and considering EVs as viable alternatives to traditional vehicles. This shift is supported by increased environmental awareness and changing societal norms.

Investment and innovation

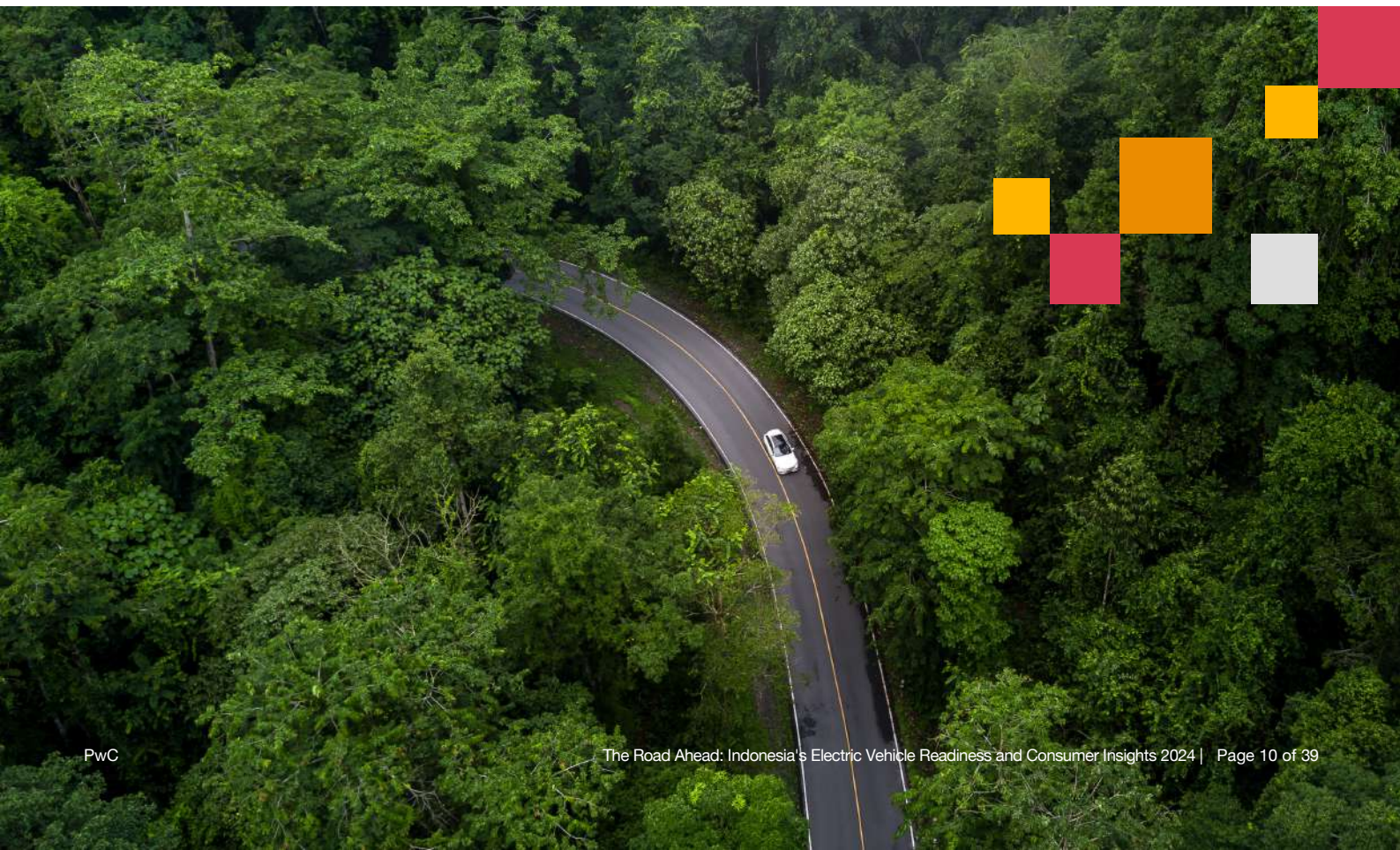
Significant investments in EV technology and infrastructure are being made by both established automotive companies and new entrants. This competition is fostering innovation and driving down costs, further enhancing adoption rates.

Indonesia in the EV market

PwC's eReadiness Indonesia study 2024 identifies three main consumer segments in the market: EV owners, EV prospects, and EV sceptics. With only 7% of consumers have already owned an EV, the remaining 93% are split between those 78% who intend to buy one within the next five years and those 15% who remain hesitant. These dynamic underscores the untapped potential of the Indonesian market, which, if effectively harnessed, could position the country as a leader in the region.

A snapshot of Indonesia's EV readiness

The data from PwC's study shows a country primed for electric mobility. Of the consumers surveyed, 78% indicated their intention to buy an EV in the coming years, compared to 7% EV owners and 15% who are sceptical. Prospective buyers are particularly drawn to the cost savings associated with EV ownership, with fuel economy emerging as the primary driver of interest. However, significant barriers, such as concerns over charging duration, limited range and uncertainty about battery lifetime, still hinder the adoption of electric mobility at a broader scale.



Indonesian EV consumer profile and demographic

Who are Indonesia's EV buyers?

Dive into the demographics and psychographics of Indonesian EV consumers. This section explores who is purchasing electric vehicles, their motivations, and their characteristics, offering valuable insights into the target market.



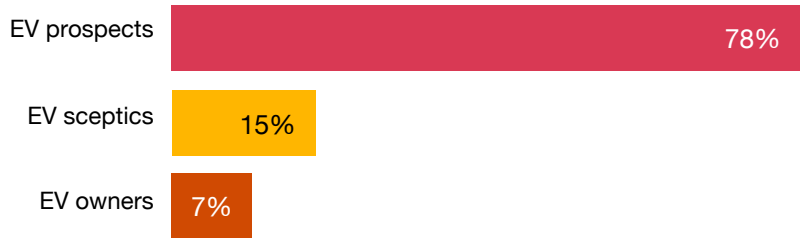
Overview

PwC's eReadiness Indonesia study 2024 vividly describes the various respondent groups shaping the country's EV market. While EV ownership is still in its infancy, the study categorises Indonesian respondents into three distinct groups: EV owners, EV prospects, and EV sceptics, each with unique characteristics, motivations, and barriers.

EV owners

EV owners are pioneers in the Indonesian market, comprising just 7% of the total consumer base. This group of people, who currently own an EV, primarily reside in urban centres (85%), where the infrastructure for charging is more developed. Most EV owners (60%) are female, with an average age of 42 years. They are motivated by EVs' charging duration (68%) and lower operating costs (43%). A remarkable 93% of these consumers commute using cars daily, averaging about 31 km per day.

Insight: Sample profile

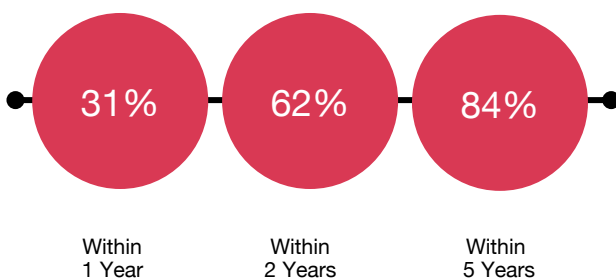


	EV owners	EV prospects	EV sceptics
What is your age? (in average)	42 years	40 years	41 years
What is your gender? (majority of gender)	60% female	51% female	55% male
Where do you live? (majority of response)	85% large city	61% large city	37% suburbs city
Do you commute with a car? (% of yes)	93%	70%	51%
How many km do you commute daily? (in average)	31 km	23 km	23 km

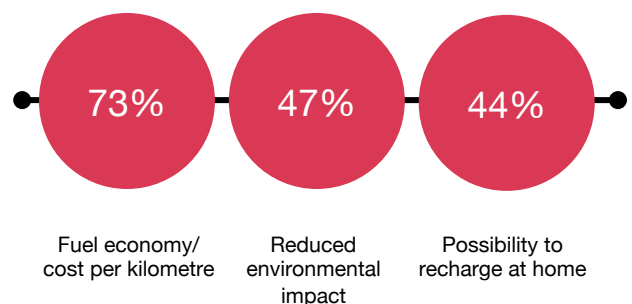
EV prospects

For a significant 78% of the market, EV prospects represent Indonesia's future of electric mobility. They are slightly younger than EV owners, at around 40 years old, 49% male respondents. Like the owners, most prospects live in cities (61%), with 72% having access to private parking, a key factor for installing home-charging solutions. Their average commute is 23 km per day. However, they remain cautious, with many intending to wait up to 5 years before committing to a purchase. Fuel economy and environmental benefits are strong motivators but concerns over charging duration, limited driving range, and uncertainty of battery lifetime hold them back.

Insight: Intention to buy an EV EV prospects



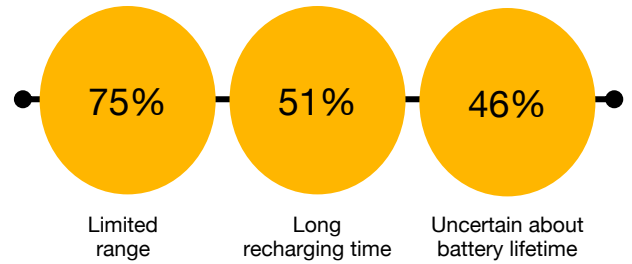
Insight: Key reasons to buy an EV EV prospects



EV sceptics

EV sceptics are the second smallest group (15%) but represent a significant challenge for the Indonesian EV market. This group has declared their intention not to buy an EV in the next 5 years. Typically male (55%) and slightly older than EV prospects, with an average age of 41, these individuals face several critical barriers. Their main concerns include limited driving range (75%), long charging times (51%), and uncertainty battery lifetime of EVs (46%). Only 37% reside in suburban areas and commute an average of 23 km per day. Their scepticism is compounded by a lack of confidence in the current infrastructure and technology and the higher upfront costs compared to traditional ICE vehicles.

Insight: Key barriers to buy an EV EV sceptics



EV purchase intentions and preferences

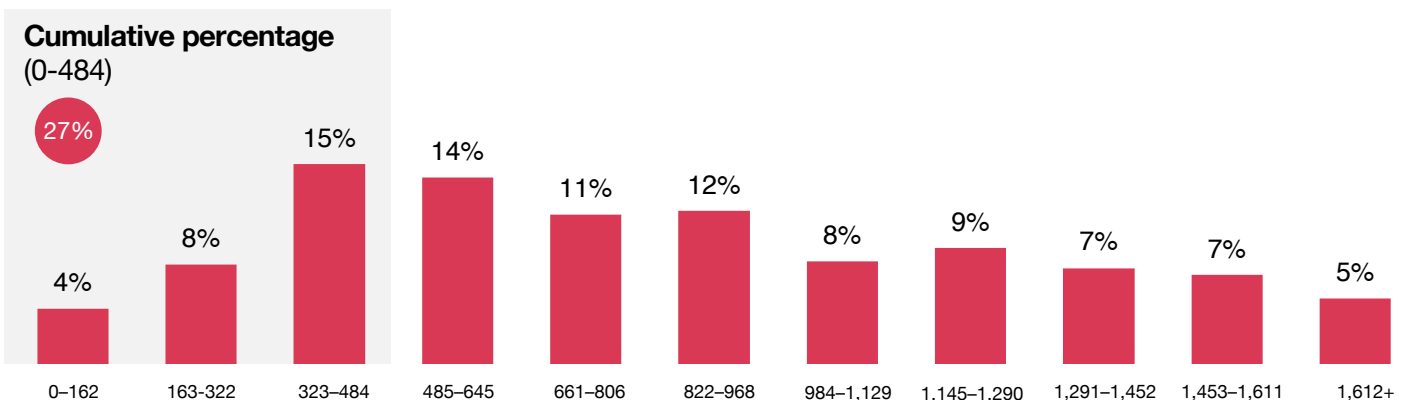
The Indonesian market for EVs is poised for rapid growth, with 78% of consumers indicating their intention to buy an EV within the next five years. 15% are sceptics and only 7% are current EV owners. However, this intent is layered with specific expectations and preferences regarding vehicle type, price, and features. Concerning intentions, the data trends positively, with 31% intending to buy an EV within 1 year, 62% within 2 years, and 84% within 5 years.

Pricing expectations

When it comes to pricing, around 27% of Indonesian EV prospects expect their new EV to be under IDR 484 million, with the largest segment (15%) focusing on the IDR 323-484 million range. This indicates a clear demand for more affordable models. The current cost of EVs remains a barrier for many middle-income consumers, who are looking for competitive pricing in comparison to ICE vehicles. Despite the long-term savings that EVs offer, such as lower fuel and maintenance costs, the high upfront cost, along with safety and limited battery lifetime are still major factors in decision-making.

Question: How much are you expecting to pay your next EV? (in million IDR)

EV prospects

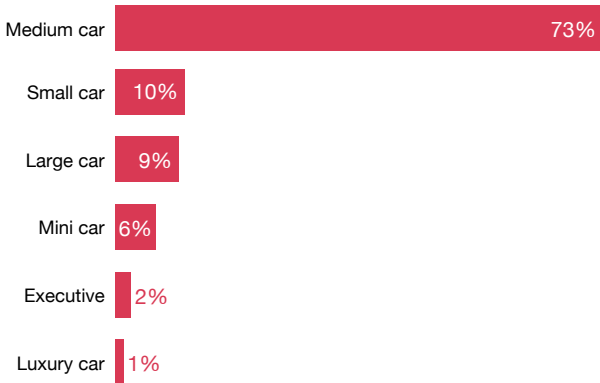


Preferred vehicle types

The C-segment (medium cars) and SUVs are the two popular vehicle types among Indonesian consumers. These preferences align with global trends, where medium cars are seen as practical for urban driving, and SUVs cater to the high middle class population looking for family-friendly, spacious vehicles. The report shows that 73% of prospects prefer medium-sized cars, followed by 10% favouring smaller cars. This distribution is consistent across other regions, further confirming Indonesia’s alignment with global consumer behaviour.

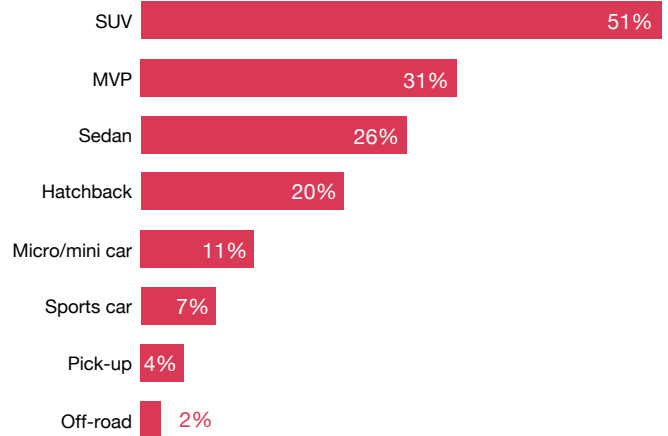
Question:
What type of car segment would you buy?

EV prospects



Question:
What type of car body type would you prefer?

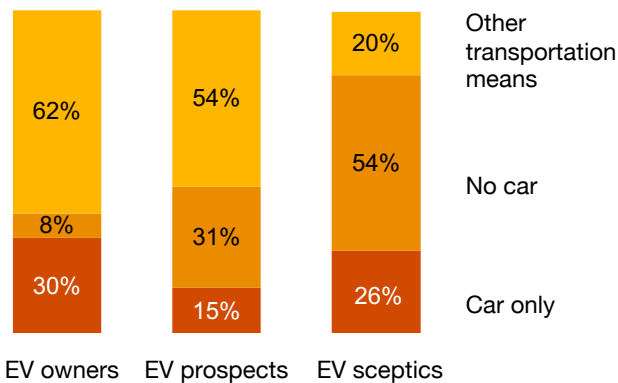
EV prospects



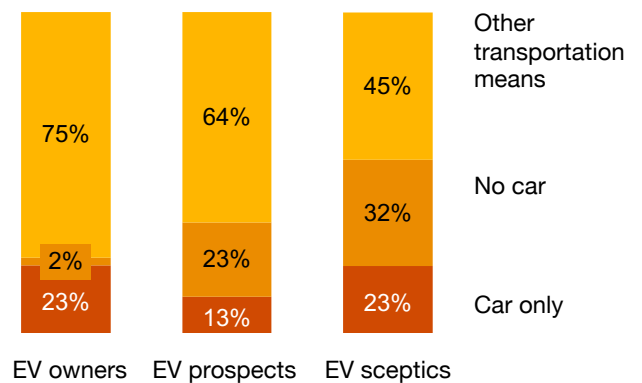
Commute

Concerning EV owners, 30% commute by car while 62% use other means of transportation. In contrast, 26% of sceptics commute by car while only 20% use other means of transport and 54% do not use a vehicle. For prospective buyers, 15% use a vehicle for transportation, 31% do not use a car, and 54% use other means of transport. For leisurely activities, 75% of EV owners use other means of transport, compared to only 64% for prospective and 45% sceptics owners.

Question:
Which of the following means do you use to commute?



Question:
Which of the following means do you use during your free time?



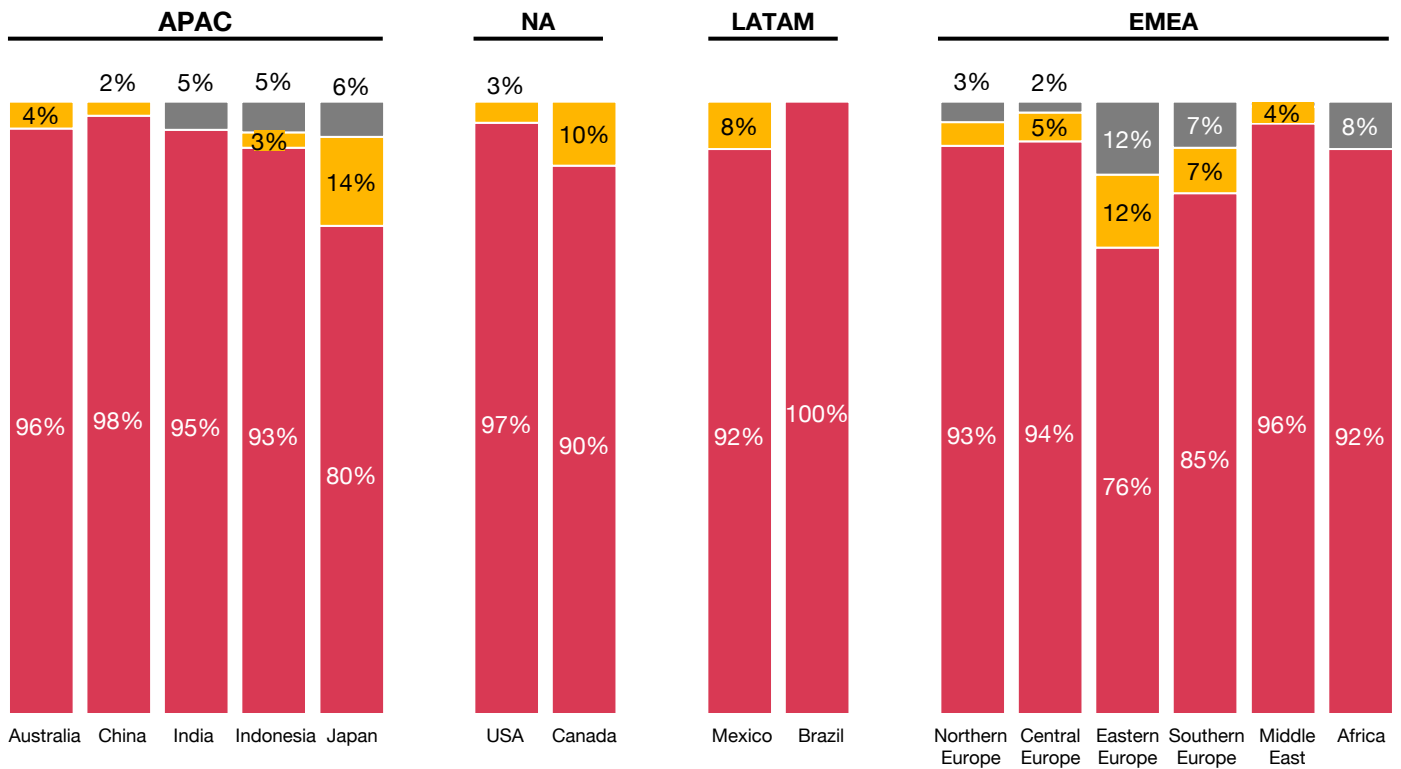
High satisfaction for current EV owners

In Indonesia, EV owners purchased their vehicle through a dealership and an overwhelming 93% of current EV owners are satisfied with their vehicle. The main drivers of satisfaction ranked 68% are happy with the duration of the charging duration, 43% lower operating costs, and 35% found they are satisfied with the availability parking spots. Globally, Indonesia has one of the highest rates of EV satisfaction, compared to among others 98% from China, and 80% from Japan.

Question:
How satisfied are you with your current EV?

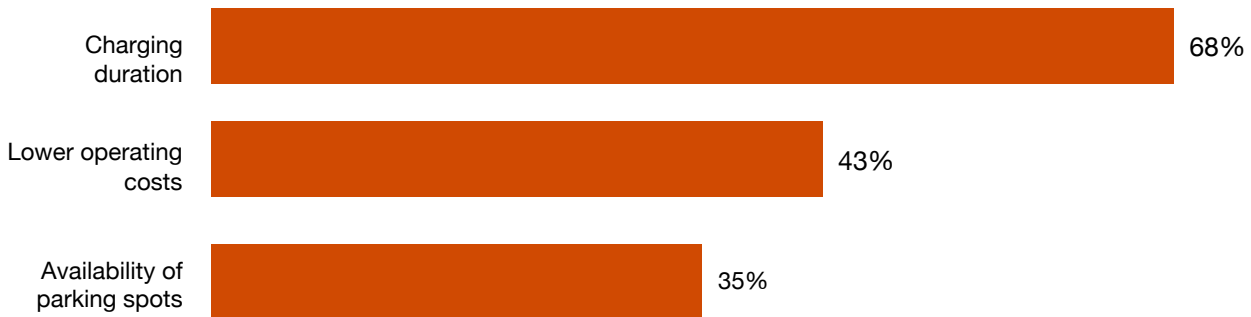
EV owners

■ Satisfied ■ Neither satisfied nor dissatisfied ■ Dissatisfied



Question:
What are the main drivers of your satisfaction?

EV owners



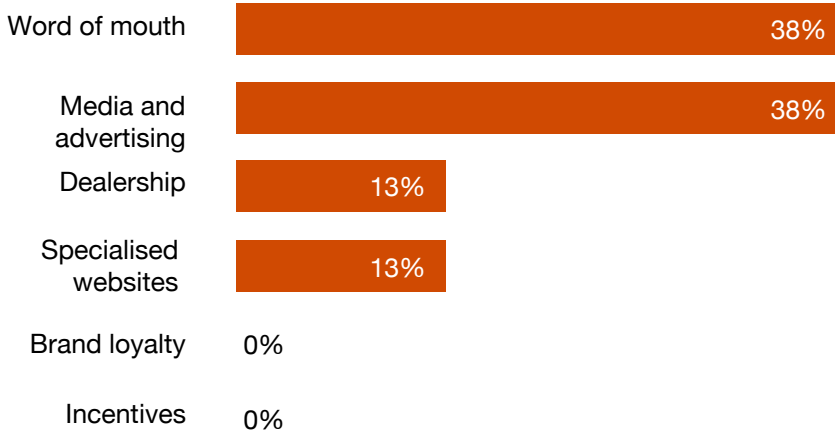
Customer experience gaps

When considering purchasing an EV, consumers found they were encouraged by word of mouth and media and advertisement with similar percentage by 38%, then followed by dealership and specialised website (13%). However, when it came to the deciding factor that led to the purchase of an EV, 60% were convinced by overall price offer and followed by 40% the driving experiences.

Question:

How did you begin to consider buying an EV?

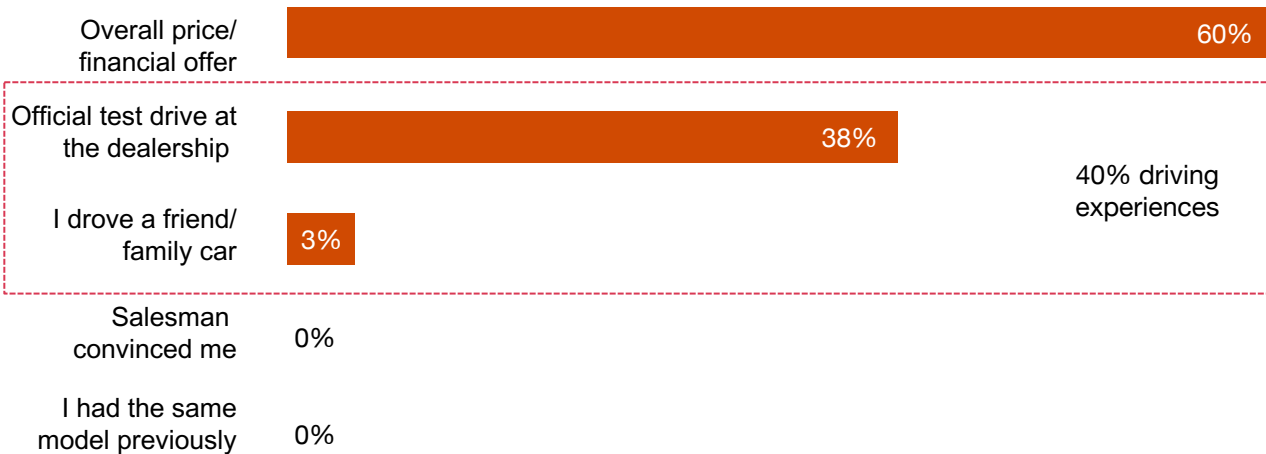
EV owners



Question:

What was the deciding factor that led you buying it?

EV owners



Note: Percentages shown may not total 100 due to rounding.

EV prospects

Understanding the distinct personas of future EV buyers is critical for manufacturers and marketers looking to capitalise on the growing interest in EVs. PwC's eReadiness Indonesia study 2024 identifies five key personas based on behavioural dimensions such as environmental consciousness, technology confidence, price sensitivity, and car usage habits:

Mainstream (32% of cluster size)

Mainstream consumers prioritise convenience and value. They are open to EVs but are waiting for the technology to become more accessible and affordable and are 79% likely to acquire an EV.

Tech enthusiasts (30% of cluster size)

These early adopters are highly confident in technology and willing to pay more for early access to new advancements. They are motivated by both the environmental benefits and the novelty of EV technology and are 96% likely to buy an EV.

Dreamers (28% of cluster size)

This group is digital natives and is willing to pay more for good bargains. They are also very concerned about the environment compared to other personas. They value the long-term savings of EVs but will only commit if the price is right and are 83% likely to purchase an EV.

Luxurious (6% of cluster size)

These consumers are less concerned with price and environment, more focused on comfort, technology, and brand prestige. They are likely to be among the first to adopt high-end EV models at 85% likelihood of purchase.

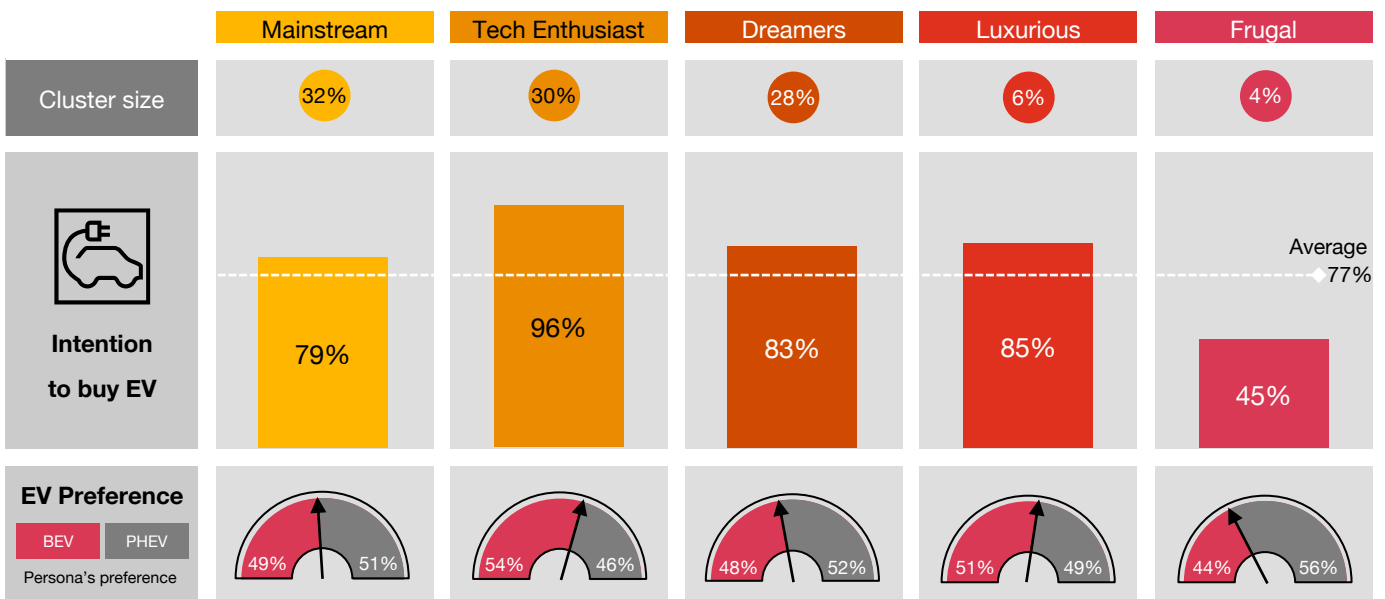
Frugal (4% of cluster size)

Frugal consumers are highly price-sensitive. While they are concerned about the environment, it is not their top priority. They prefer cheaper alternatives over using a car.

Insight:

Focus on key personas – EV purchase intention

EV prospects



Purchase intent per persona

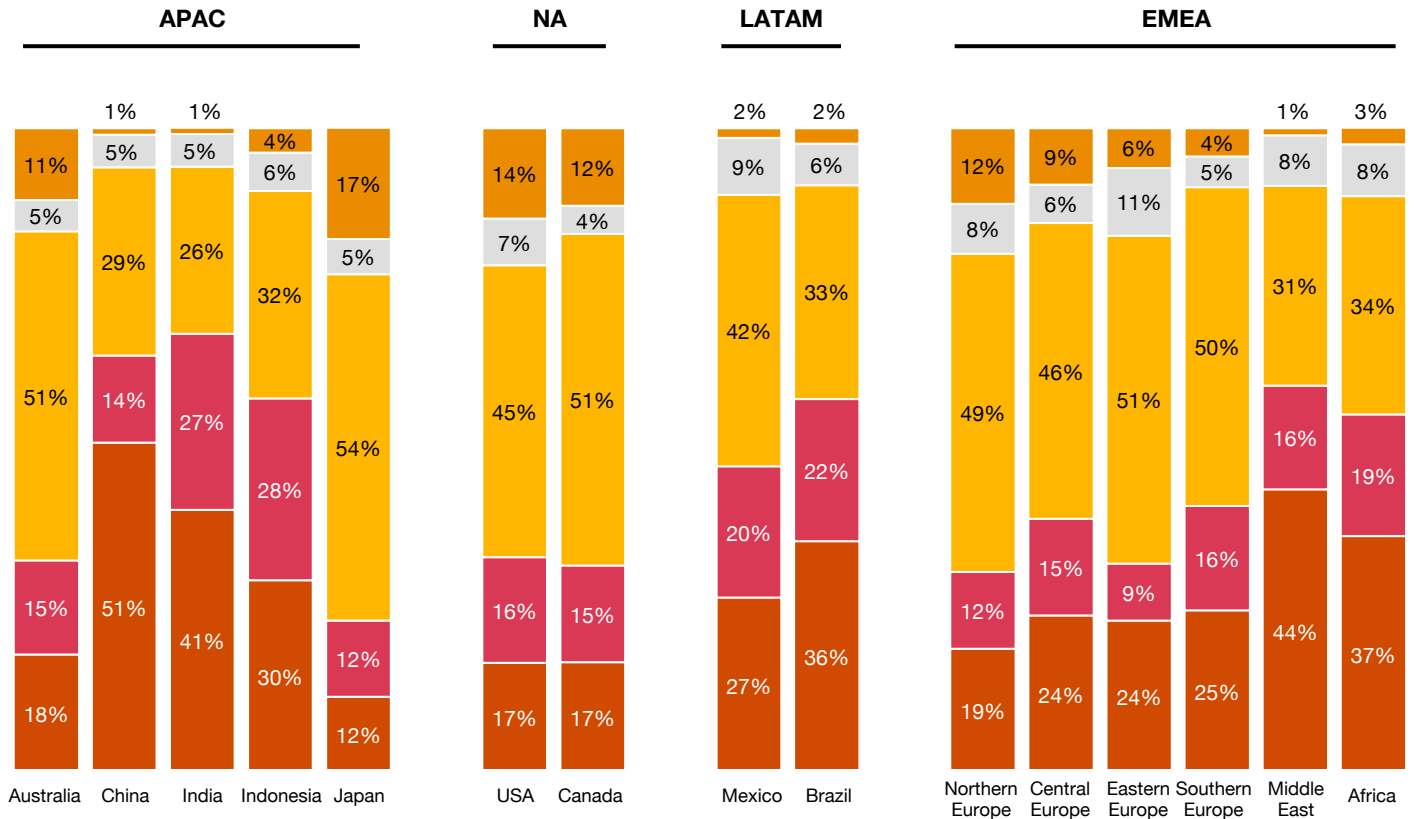
Dreamers, Tech Enthusiasts, Mainstream, and Luxurious are deemed the most likely to make an EV purchase in the near future. On a global level, China (51%) and India (41%) are leading with the highest percentage of Tech Enthusiasts. Indonesia (28%) and India (27%) have the highest percentage of Dreamers who are likely to purchase an EV.

Insight:

Cluster size per country

EV prospects

■ Tech Enthusiast
 ■ Dreamers
 ■ Mainstream
 ■ Luxurious
 ■ Frugal



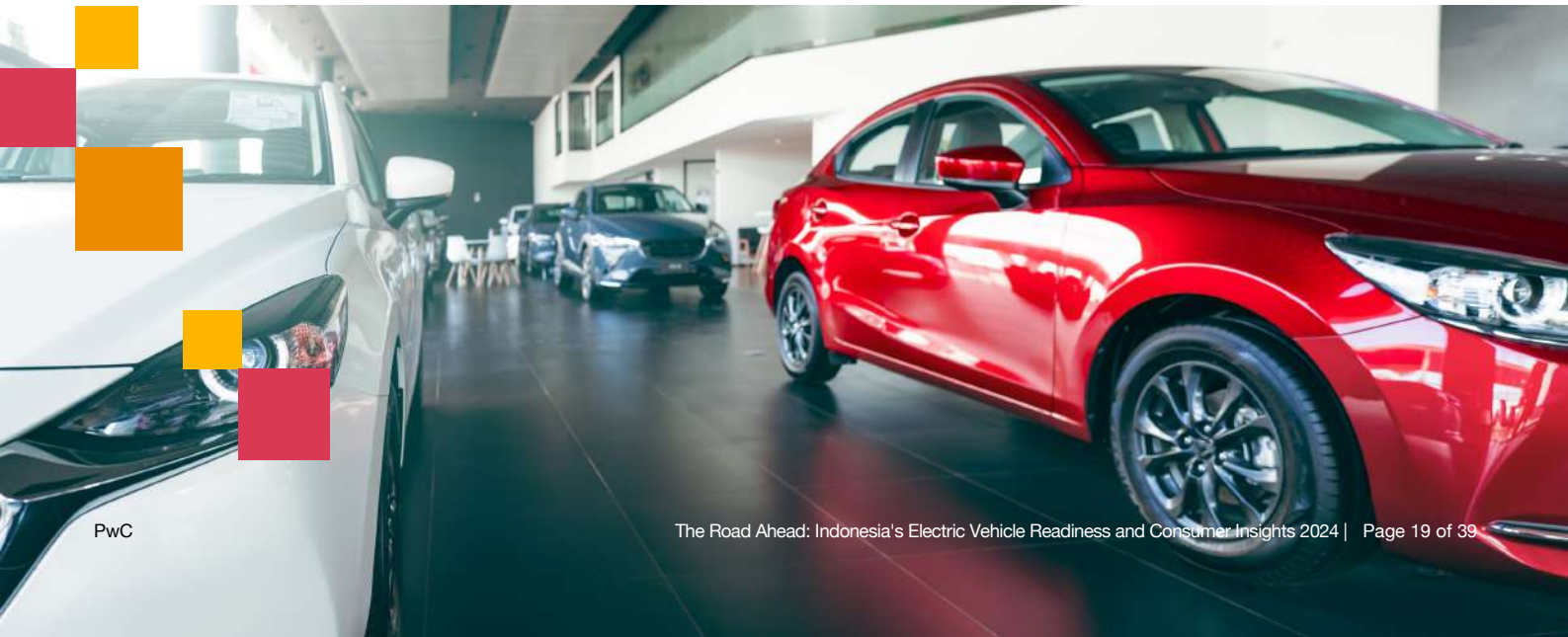
Motives to purchase an EV

When purchasing an EV, consumers tend to consider most cost, environment, and convenience. Cost was the most important driver at 73%, proving that consumers are still price conscious when making an investment in relatively newer technology. Environmental concern came in second place at 47% and followed by convenience at 44%. The cost as the main driver in Indonesia was higher than China and India (57%) and Indonesian consumers were found to be more driven by the positive environmental aspect of an EV in comparison other countries in APAC.

Question:

What are main reasons that drive you to buy an EV?
EV prospects

Cost Convenience Environment



EV adoption in Indonesia

Tracking the growth of EV adoption

Analyse the current adoption rates of EV in Indonesia. This section examines the factors driving adoption, barriers to entry, and projections for future growth, providing a comprehensive picture of EV uptake in the country.



Drivers

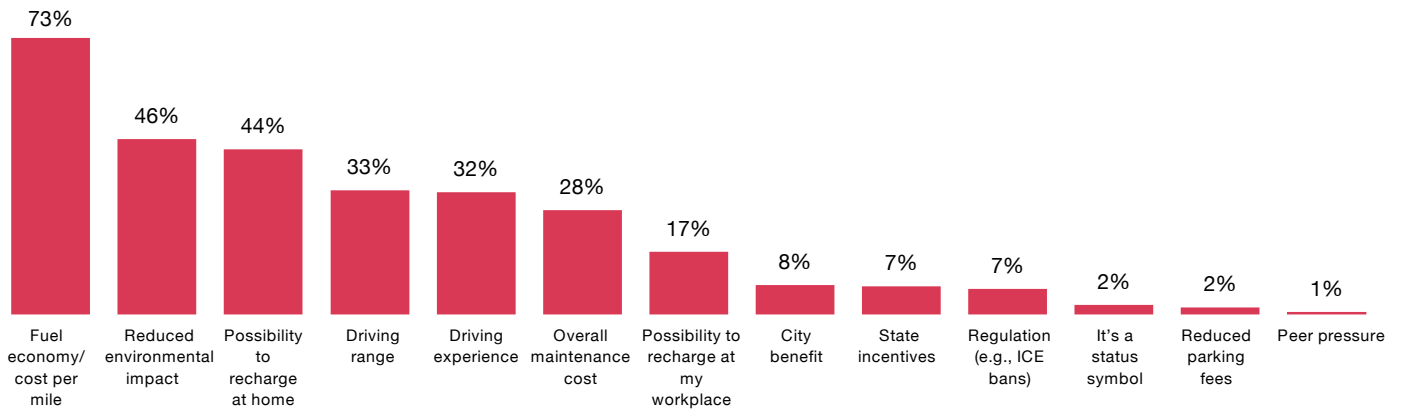
Cost efficiency is one of the most compelling reasons for Indonesians to switch to EV. As fuel prices continue to rise, EVs offer a long-term solution for consumers looking to reduce their transportation expenses. According to the insight, 73% of prospective owners cited fuel economy and cost per kilometre as the main reasons they would consider purchasing an EV. This is particularly significant in a country where fuel subsidies are reduced, and consumers are becoming more cost-conscious. 43% of EV owners were motivated by the lower operating costs.

Another major driver is the ability to charge at home. For 44% of prospective respondents, the convenience of home charging is a key factor in their decision to switch to an EV. 68% of EV owners were driven by the duration of the charge and 24% by the ease of charging solutions. With more urban households in Indonesia having access to private parking and the infrastructure needed to install charging points, in certain areas, the barriers of lack of at-home charging remain and private parking is not available everywhere.

Question:

What are main reasons that drive you to buy an EV?

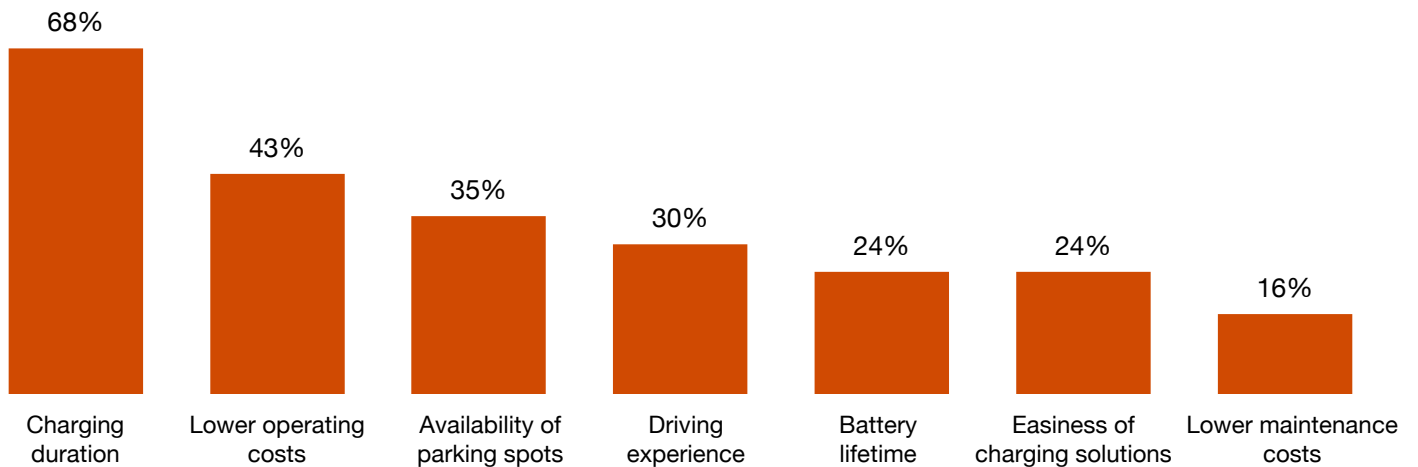
EV prospects



Question:

What are the main drivers of your satisfaction?

EV owners



Key drivers for purchase

- **Fuel economy:** The most significant motivator for prospective buyers is fuel economy, with 73% of respondents indicating that the cost savings associated with EVs are a key reason for their interest. This is reflected in the reduction of fuel subsidies, prompting consumers to seek more affordable long-term transportation solutions.
- **Environmental impact:** While 46% of respondents cited environmental concerns as a reason to switch to EVs, economic factors still dominate decision-making. However, as the government and private sector ramp up awareness campaigns around the environmental benefits of EVs, this figure is expected to grow.
- **Home charging:** Convenience is another powerful motivator, with 44% of respondents stating that the ability to charge their vehicle at home is a major factor in their decision. Indonesia's urban households are more likely to have access to private parking, allowing for the easy installation of home charging units.

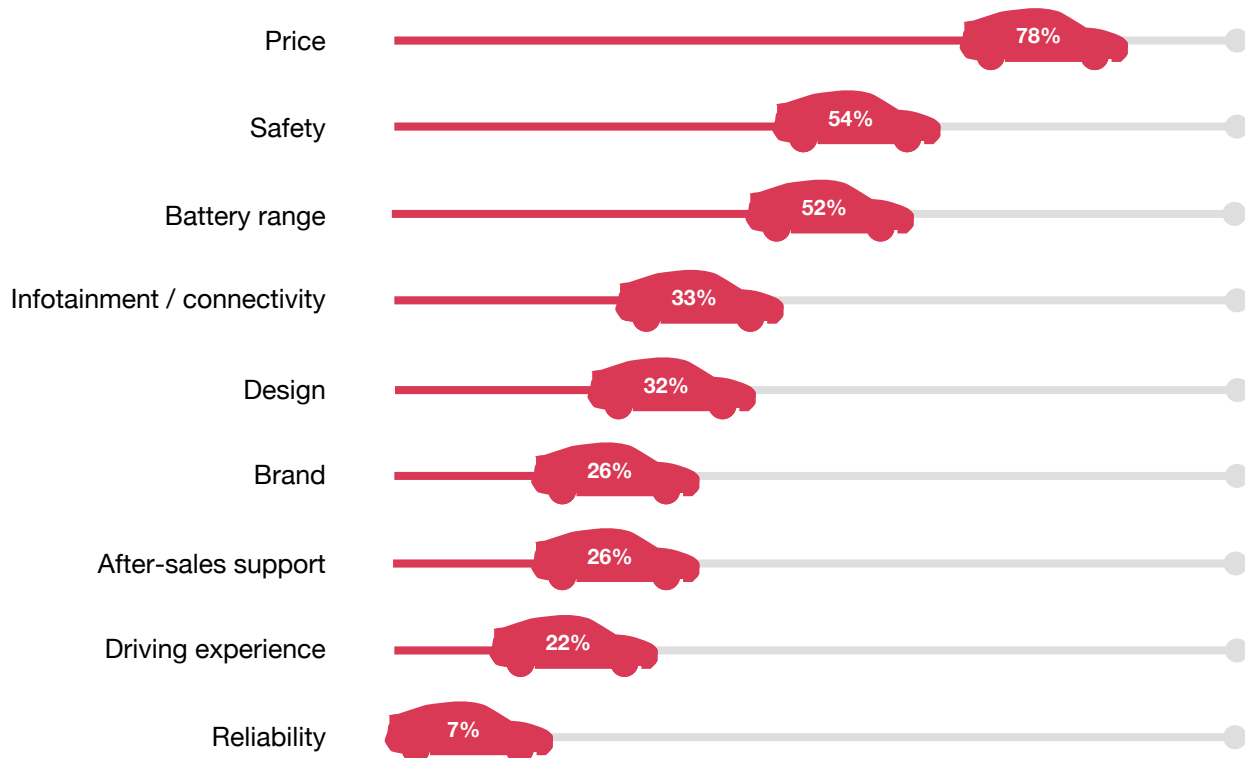
The environmental impact of traditional ICE vehicles is also gaining attention among Indonesian consumers. While 46% of prospective respondents stated that reducing their carbon footprint is essential in buying an EV, the environmental concern is still secondary to the economic benefits. However, as more education and awareness campaigns promote the environmental benefits of EVs, this is expected to become a more potent driver for future generations of buyers.

When purchasing a new car, prospective buyers were mostly mindful of price (78%), safety (54%) and battery range (52%).

Question:

Which are the most important criteria when purchasing a new electric car?

EV prospects



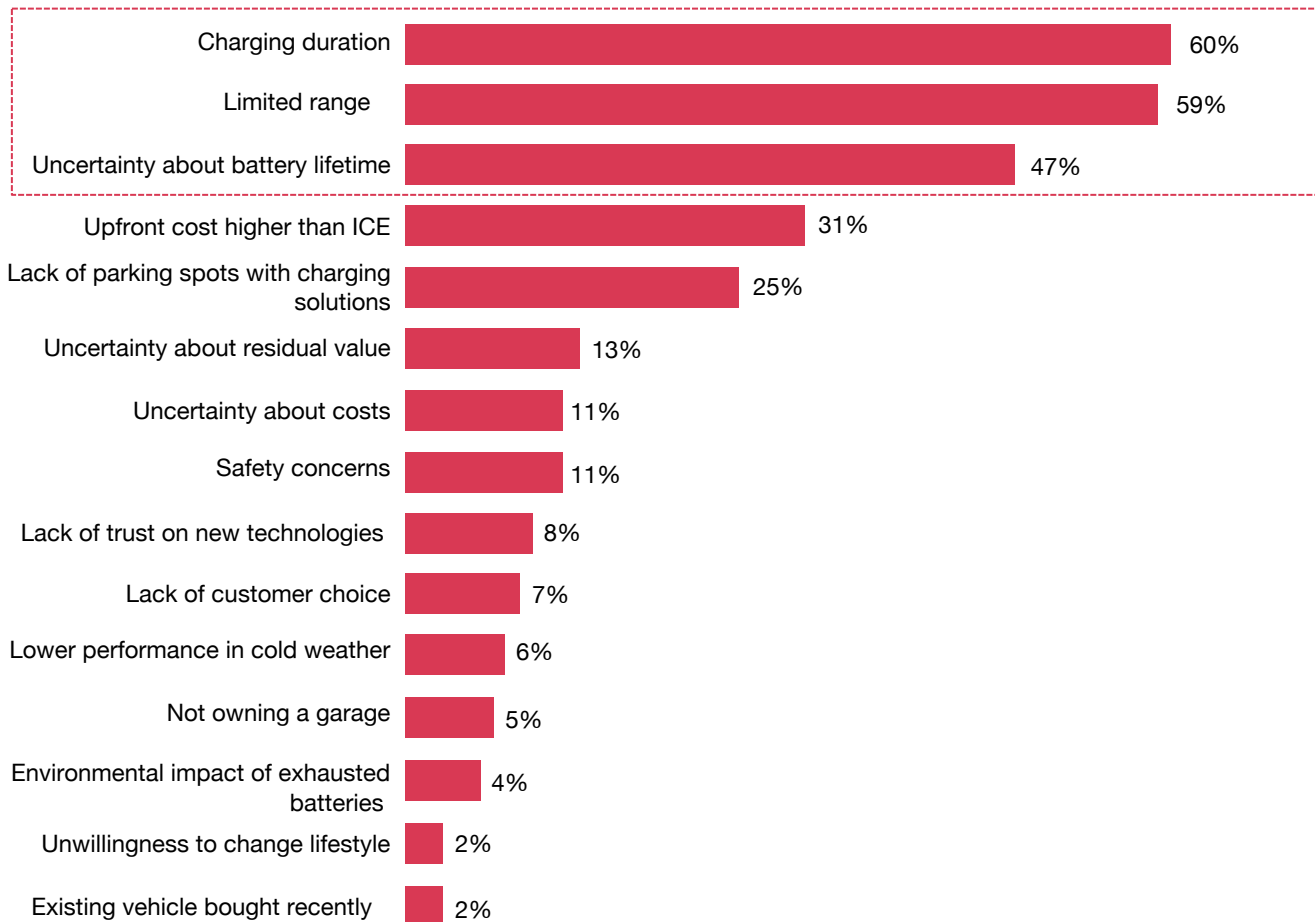
Barriers roadblocks for purchasing an EV

- Lengthy charging time:** Around 60% of potential buyers are concerned about the inconvenience of waiting for their vehicle to charge, especially during long trips or busy schedules, compared to 51% of sceptics. While fast-charging stations are becoming more common, they still require significantly more time than a quick stop at a gas station. This perceived inconvenience can deter consumers, particularly those who rely on their vehicles for daily commutes or spontaneous travel, making them hesitant to transition to EVs .
- Limited driving range:** Limited driving range is a significant roadblock for potential EV buyers (59%), as many experience "range anxiety" – the fear of running out of battery power before reaching a charging station. This concern is even more pronounced among sceptics, with 75% sharing this anxiety. Despite improvements in battery technology, consumers remain hesitant to commit, worrying about being stranded or needing to plan trips around charging stops.
- Uncertainty about battery lifetime:** Potential buyers often worry about how long the battery will last before needing a costly replacement, as well as its performance over time (47%), compared to sceptics (46%). Concerns about battery degradation can be exacerbated by varying usage patterns and charging habits, leading to fears about the overall reliability and long-term value of the investment.

Question:

What are the key factors that discouraged you to buy an electric vehicle up until now?

EV prospects

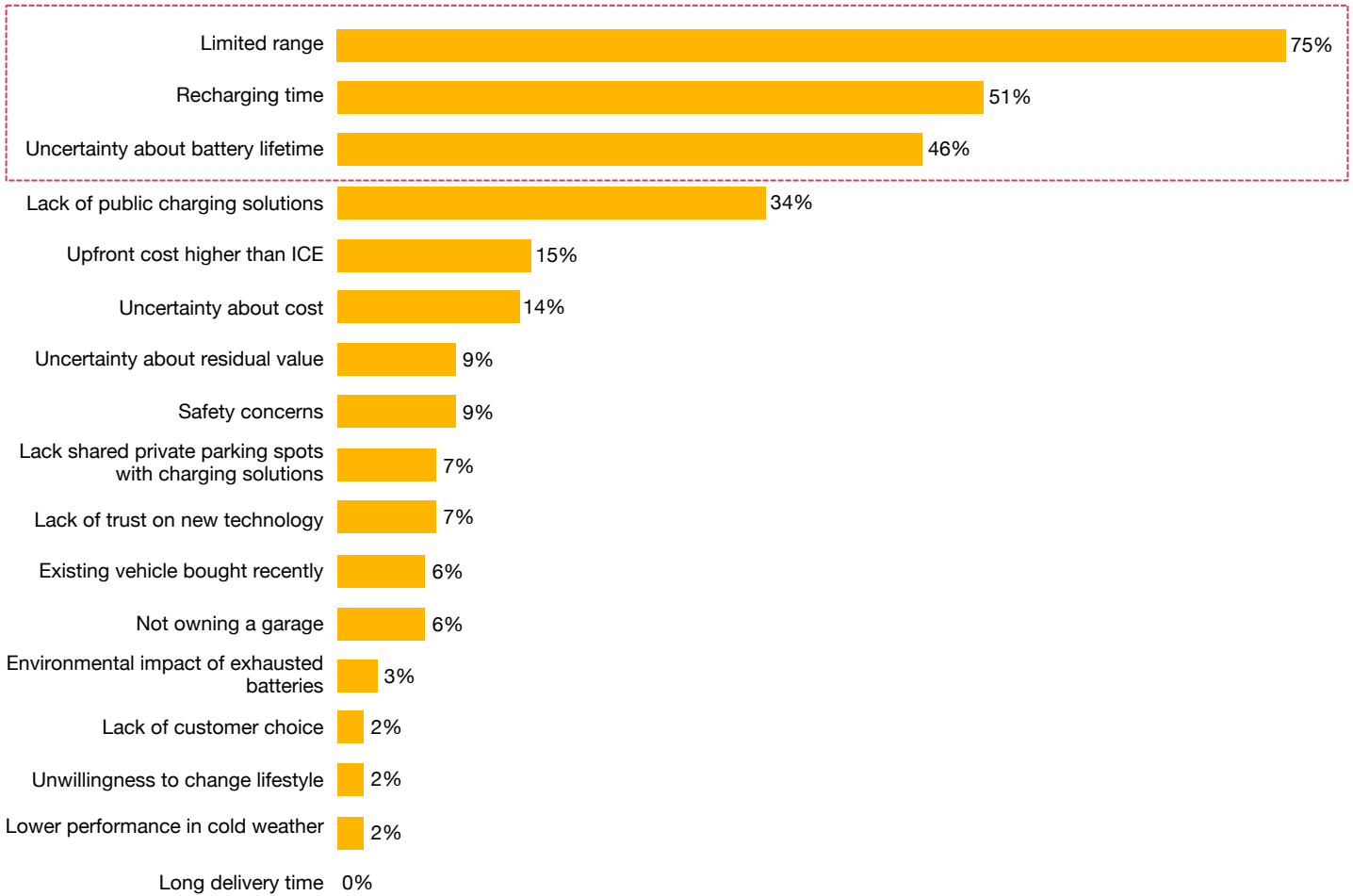


Additionally, we found that both prospects (31%) and sceptics (15%) have concerns regarding upfront costs. Many of their concerns are similar, but sceptics seem to be most concerned about the limited range, compared to prospective buyers that are almost equally concerned about charging time, range, and battery lifetime.

Question:

What are main reasons that discourage you from buying an EV?

EV sceptics



The role of technology and digital services

Technology's impact on EV adoption and use

Explore how technological advancements and digital services are influencing the EV landscape in Indonesia. This section covers innovations in vehicle technology, connectivity, and the role of digital platforms in enhancing the EV experience.



The role of technology in EV adoption

Technology plays an increasingly important role in the adoption and use of EVs, particularly in Indonesia. From how often consumers charge their cars to the digital services they expect from their vehicles, it is clear that the technological ecosystem surrounding EVs is a major factor in consumer decision-making.

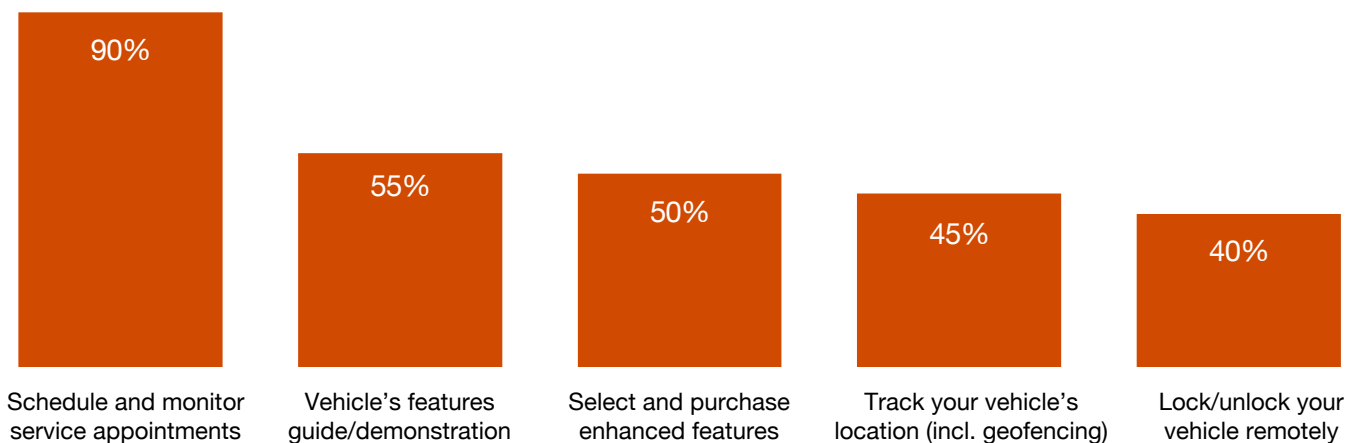
When purchasing an EV, there is an array of services and options customers can bundle to homogenise their experience, right from their car, all through an app. In this section, our feedback stems mostly from EV owners. From the car app, 90% use the schedule and monitor service appointments, 55% use the vehicle feature guide, 50% select and purchase enhanced features, 45% use to track the vehicle's location, and 40% use the app to unlock or lock the car remotely. Some other features that are included in the car app comprise of remote start with preheat or precooling, remote support to live chat with an agent, an overall view of battery health and current charge level, and remote parking assist.

For prospective EV buyers, the appeal of integrating their personal devices to their car to make their lives simple is attractive. Car apps are viewed as a helpful tool to manage the car's lifecycle, schedule service appointments, and track the location of their EV. 70% of respondents would use their app to schedule and monitor service appointments, 44% to track the location of their car, and 37% to lock/unlock their car remotely.

Question:

Which are the top 5 services do you use / would you like to have in your car app?

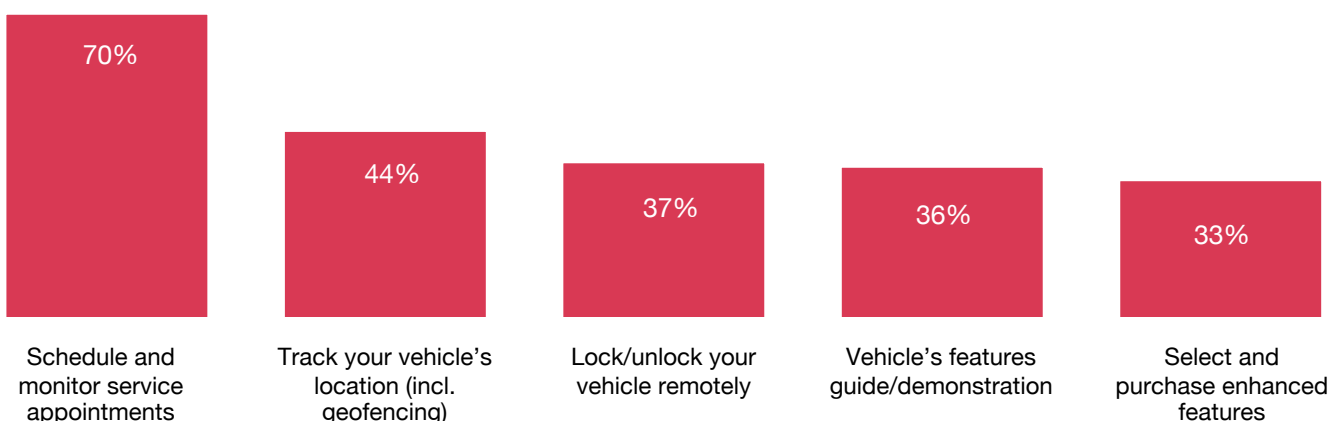
EV owners



Question:

Which are the top 5 services do you use / would you like to have in your car app?

EV prospects



Charging infrastructure and range anxiety

Overcoming challenges with EV charging

Address the critical issue of charging infrastructure and its impact on range anxiety among consumers. This section evaluates the current state of charging facilities, plans for expansion, and solutions to alleviate consumer concerns about range limitations.



Charging frequency and behaviour

Indonesian EV owners display varied charging habits depending on their driving needs and access to infrastructure. Most of the EV owners tend to charge their vehicles daily (35%) or 2-3 times per week (33%), while 23% charge them almost every day. Only 8% of owners rely on public charging less frequently, showing that most rely on daily or near-daily charging at home. This highlights the importance of at-home charging solutions for most Indonesian EV owners, especially given the current limitations of public infrastructure.

The frequency of charging an EV varies based on several factors:

Daily driving distance: If you drive short distances (e.g., commuting or running errands), you might only need to charge every few days. If you have a long commute or take frequent long trips, you may need to charge more often.

Battery range: Most modern EVs offer ranges from about 240 to over 480 kilometres per charge. Depending on your vehicle's range and your driving habits, you might find that charging every few days or weekly is sufficient.

Charging options: Having access to home charging can allow you to charge overnight, making it convenient to keep your battery topped up. If you rely on public charging, your charging frequency might depend on the availability and speed of those stations.

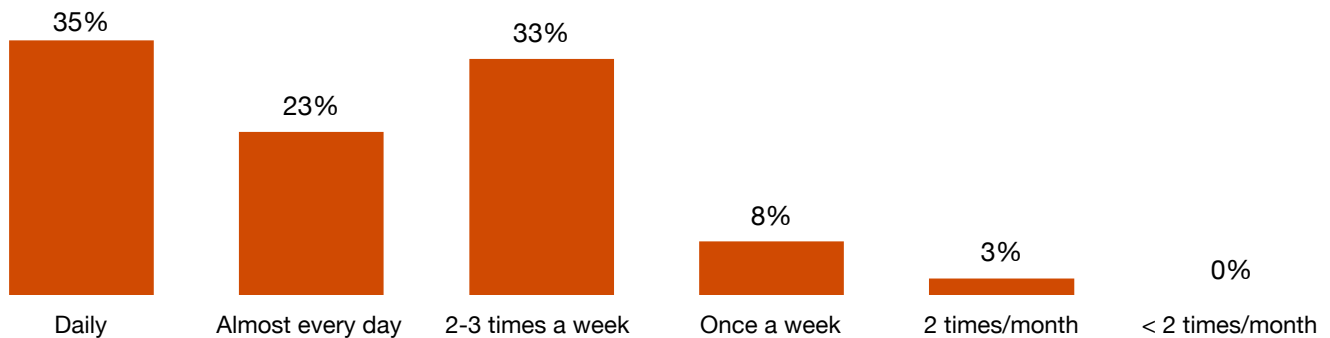
Driving conditions: Factors like terrain, weather, and driving style can impact range. For example, driving in hilly areas or using climate control can reduce how far you can go on a charge.

Concerning charging times, 16% of prospective buyers believe that a charge time of 15-20 minutes is acceptable, compared to 14% for 10-15 minutes, and 15% for a charge time of 45-60 minutes.

Question:

How often do you charge your EV?

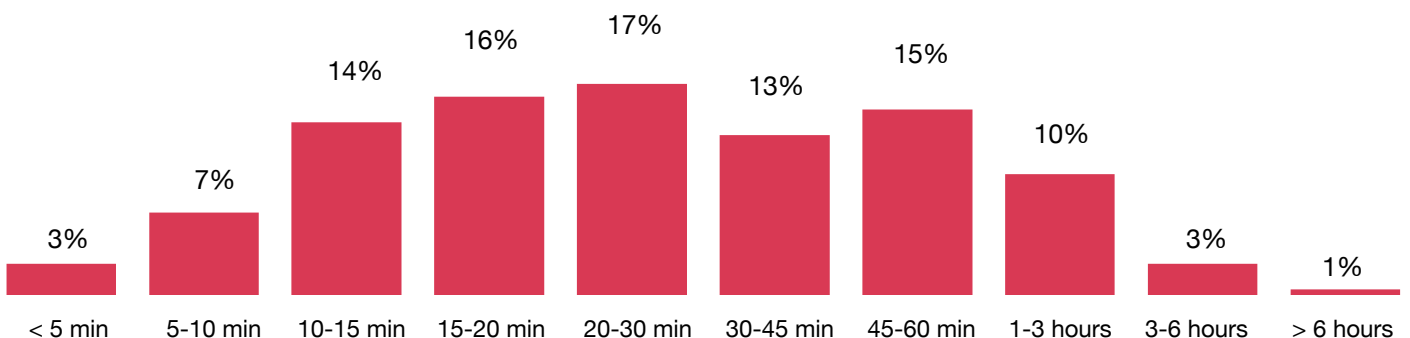
EV owners



Question:

How long would you consider acceptable to charge your car?

EV prospects



Residual value and Indonesia's emerging used EV market

The rise of the pre-owned EV market

Investigate the emerging market for used EV in Indonesia. This section looks at the residual value of EVs, consumer perceptions, and the factors contributing to the growth of the pre-owned EV segment.

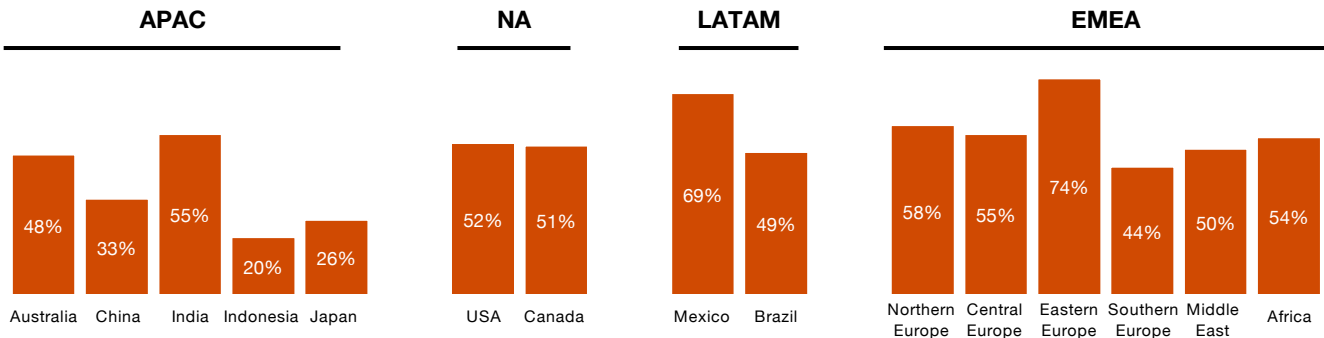


One of the more significant findings of PwC's eReadiness Indonesia study 2024 is the nascent stage of the used EV market. Unlike in more developed regions, where used EVs are gaining traction, Indonesia's used EV market remains underdeveloped, with only 20% of current owners expressing interest in purchasing a used EV.

Question:

Would you buy a used EV as your next car?

EV owners



Barriers to the used EV market

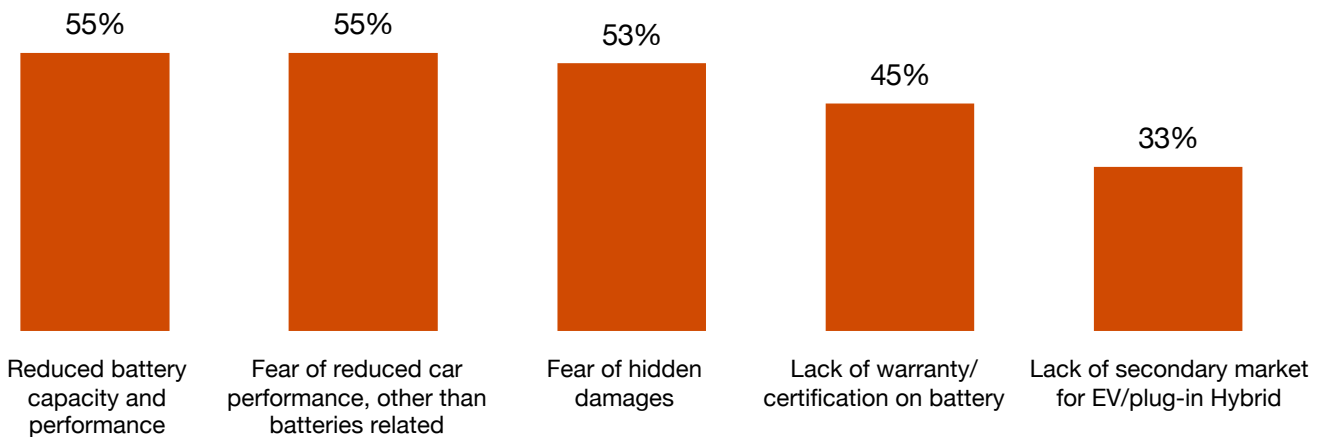
Only a small portion (20%) of Indonesian respondents are considering to purchase a used EV, the lowest percentage among Asia Pacific countries. The reluctance to purchase used EVs stems from several key concerns:

- **Battery and car performance degradation:** Over 55% of respondents cited fears of reduced battery capacity and performance as the main reason for avoiding the used EVs. With the battery being one of the most expensive components in an EV, concerns about its lifespan significantly dampen interest in the second-hand market. Similarly, 55% of respondents also fear a decline in the overall performance of the car, which is not limited to the battery alone. This includes apprehensions about the deterioration of the electric drivetrain, potential software malfunctions, and other mechanical issues that could affect the vehicle's overall functionality and driving experience.
- **Hidden damages:** Around 53% of EV owners are fear of hidden damages, which may not be immediately visible, further discourages consumers from considering the used EVs. The Indonesian market requires more robust mechanisms for inspecting and certifying the used EVs to overcome this hurdle.
- **Lack of warranty:** The absence of certified warranties on used EVs is another critical factor, with 45% of consumers hesitant due to the potential lack of warranty or certification on the vehicle's battery and other key systems.

Question:

What are the top 5 reasons for not buying a used EV?

EV owners



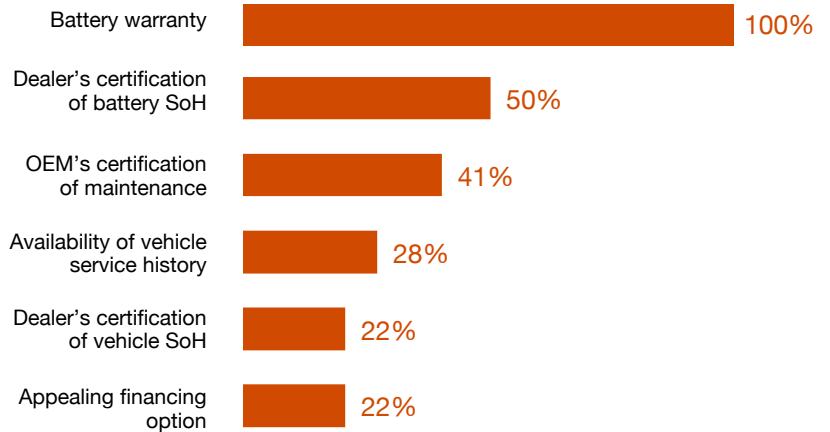
Drivers of interest

Based on the 80% of EV owners who are not willing to consider a used EV, the key incentive is the presence of a battery warranty. A guaranteed warranty on the vehicle's battery, either from the manufacturer or through a third party, would make these consumers more confident in their decision. Dealer's certification of the battery's State of Health (SoH), the OEM's certification of maintenance, and the availability of vehicle service history are also crucial factors that could drive growth in the used EV market.

Question:

Which factors would incentivise you to consider a used EV?

EV owners



Residual value

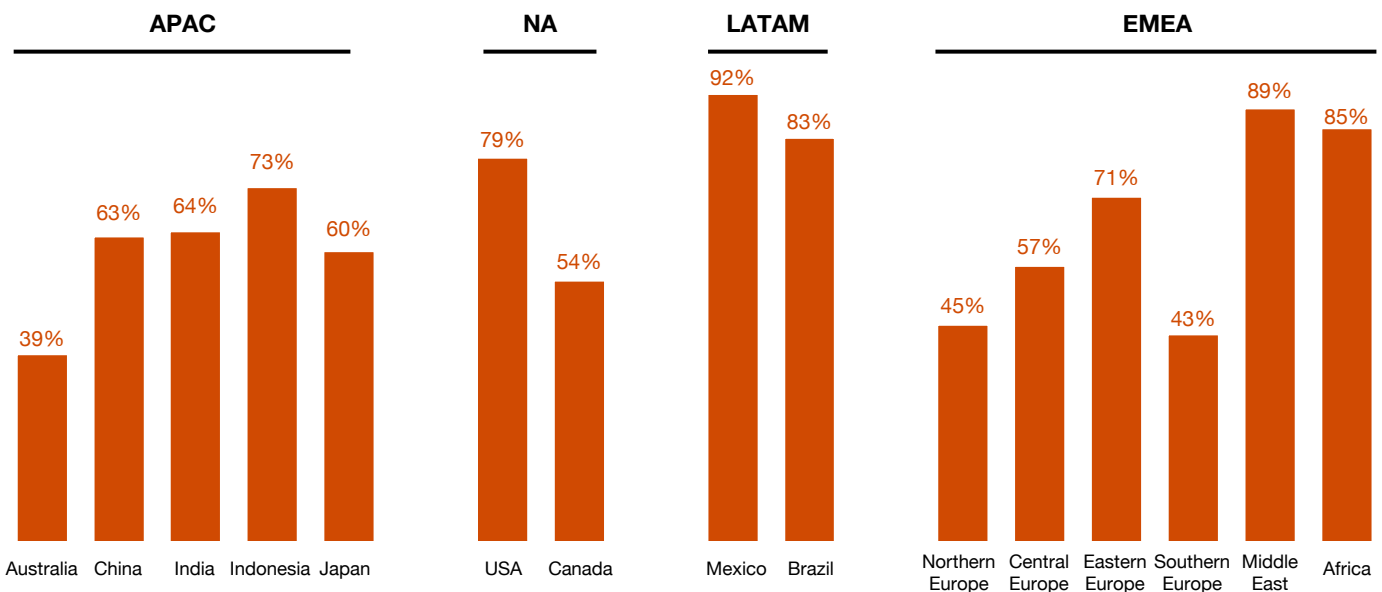
Concerning the second-hand EV market, there are opportunities in adorability with a lower cost that can attract budget-conscious buyers, increasing supply, government initiatives and ever-increasing technology. Still, challenges such as concerns about battery lifespan and replacement costs remain, limited awareness, lack of sufficient charging stations, and depreciation rates compared to traditional vehicles can hinder buyers.

Globally, 80-90% of consumers in Mexico, Brazil, the Middle East, and Africa consider the residual value a key factor when purchasing a vehicle. Within the APAC region, the residual value of a car played a critical role in Indonesia, with 73% of consumers concerned about this crucial factor, followed by India at 64%, China at 63%, and Japan at 60%.

Question:

Was the residual value of the car a key factor when choosing it? (% of yes)

EV owners



Driving range comparisons

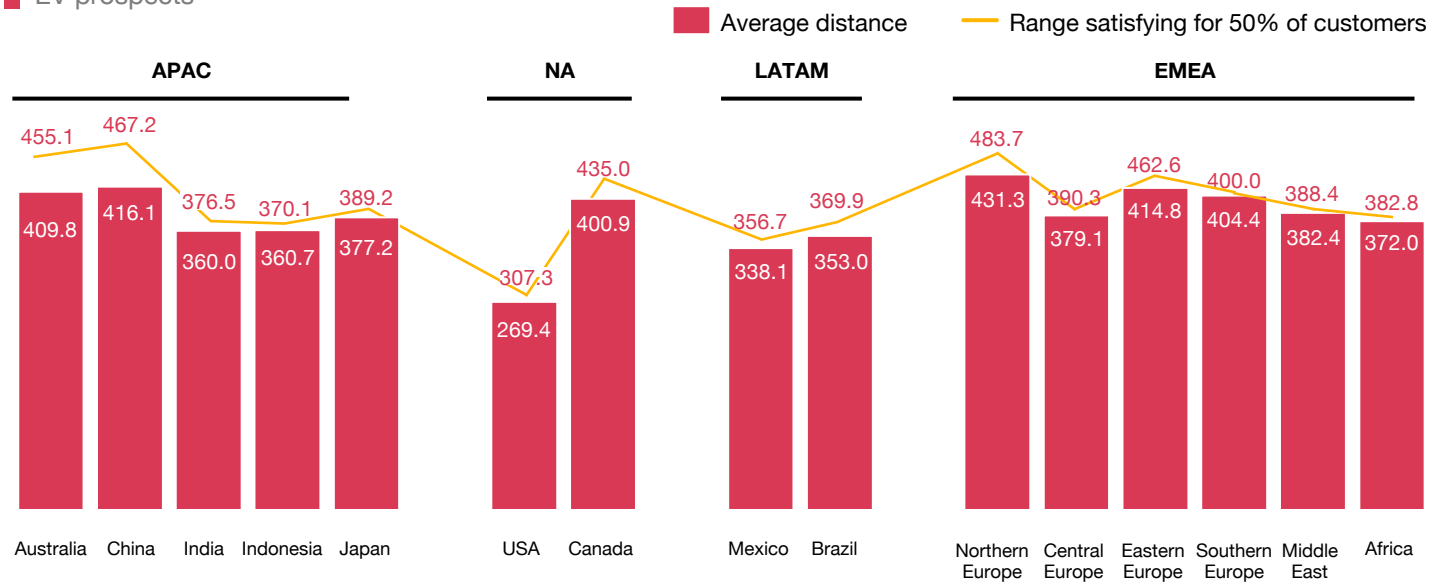
The acceptable driving range for Indonesian consumers is slightly lower than in Northern Europe, where consumers expect a range of over 480 km. However, Indonesia's expectation of 300-400 km is on par with global averages, reflecting the practical needs of daily urban commutes and occasional longer trips.

Globally, Indonesian respondents considered an acceptable driving range of 370 km, with an average distance the EV travels stands at 360 km, compared to China where respondents found an average of 467 km to be satisfying.

Question:

How long would you consider acceptable the driving range of your car?

EV prospects



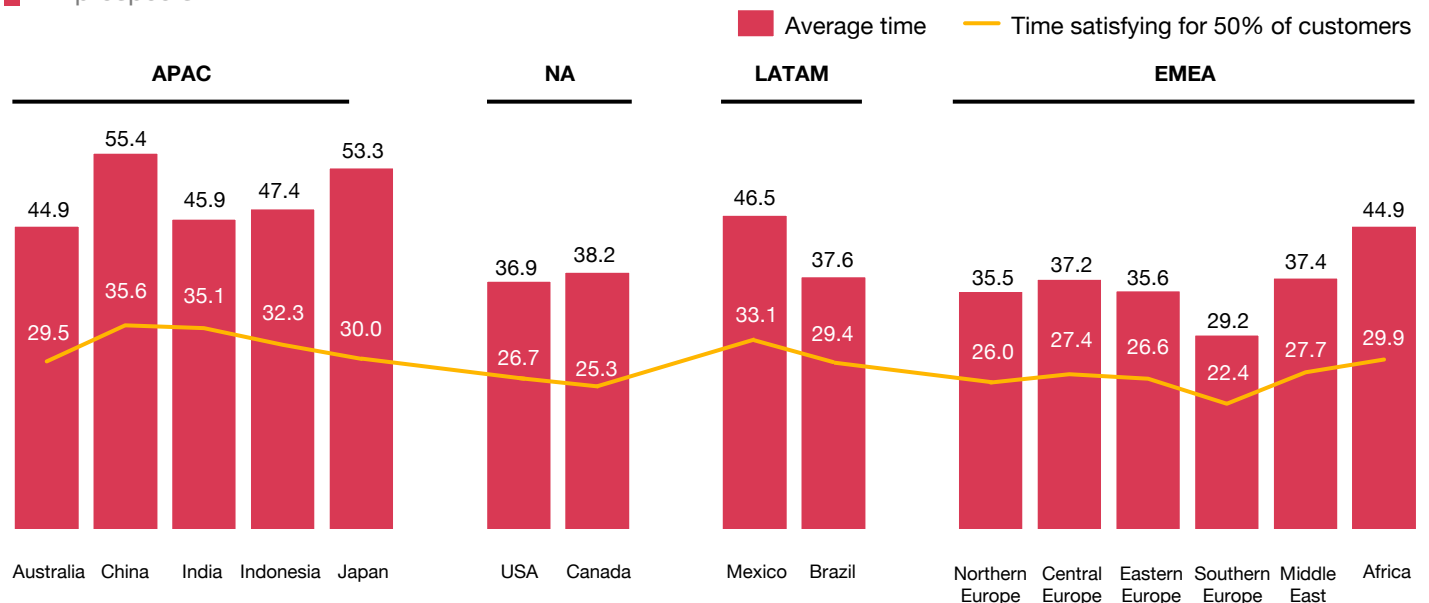
Charging time expectations

Indonesian consumers expect relatively short charging times, with 32.3 minutes being the average acceptable time. This is consistent with other countries in the APAC region, such as China (35.6 minutes) and India (35.1 minutes). However, these expectations highlight the need for faster charging solutions and the expansion of high-speed charging networks to alleviate concerns about long wait times.

Question:

How long would you consider acceptable to charge your car?

EV prospects



Government policies and incentives

Policy support for EV growth

Examine the role of government policies and incentives in promoting EV adoption in Indonesia. This section highlights key regulations, subsidies, and initiatives designed to support the EV market.



The Indonesian government has introduced various policies and incentives to promote the adoption of electric vehicles (EVs), including incentives for vehicle purchases and ownerships, as well as home charging stations.

Indonesia's Ministry of Finance issued new tax incentives to spark EV production and sales in the nation. These regulations were enacted in February 2024. Article 3 of PMK No. 9 of 2024 stipulates that the Luxury Goods Sales Tax (PPnBM) for imported electric-based vehicles, both Completely Built Units (CBU) and Completely Knocked Down (CKD) four-wheeled vehicles, will be fully covered by the government at 100%. However, this policy is applicable only for the tax period from January to December 2024. The incentive removes the PPnBM on EV for 2024 and waives import tax until 2025 (subject to possible extension). Additionally, PMK No. 8 of 2024 specifies a reduction in the value-added tax rate from 11% to 1% for certain EV in Indonesia, provided that at least 40% of the EV's components are locally sourced (Ministry of Finance, 2024).

The government is also investing in expanding the EV charging network across the nation, making it more convenient for users to charge their vehicles. Additionally, the nation is working to electrify public transportation, such as buses and ride-hailing services to demonstrate the feasibility and benefits of EVs.

At the regional level, the Jakarta Provincial Government has implemented various policies to support the adoption of EV, including an exemption on odd-even plate number traffic restriction and annual car ownership tax exemption. The odd-even plate number traffic regulation, as outlined in Governor Regulation No. 88 of 2019, exempts EV, allowing EV owners to drive freely without being restricted by the odd-even rule (Jakarta Provincial Government, 2019). Moreover, the government provides incentives such as exemptions from motor vehicle tax (PKB) and Motor Vehicle Title Transfer Fee (BBNKB) for EV, as stipulated in Governor Regulation No. 38 of 2023 (Jakarta Provincial Government, 2023). These measures aim to reduce ownership costs and encourage the public to switch to environmentally friendly vehicles. These policies not only help reduce air pollution in the region but also support the government's targets to lower greenhouse gas emissions and accelerate the transition towards sustainable transportation.



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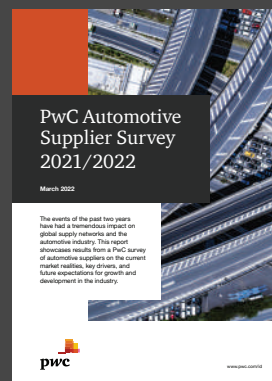


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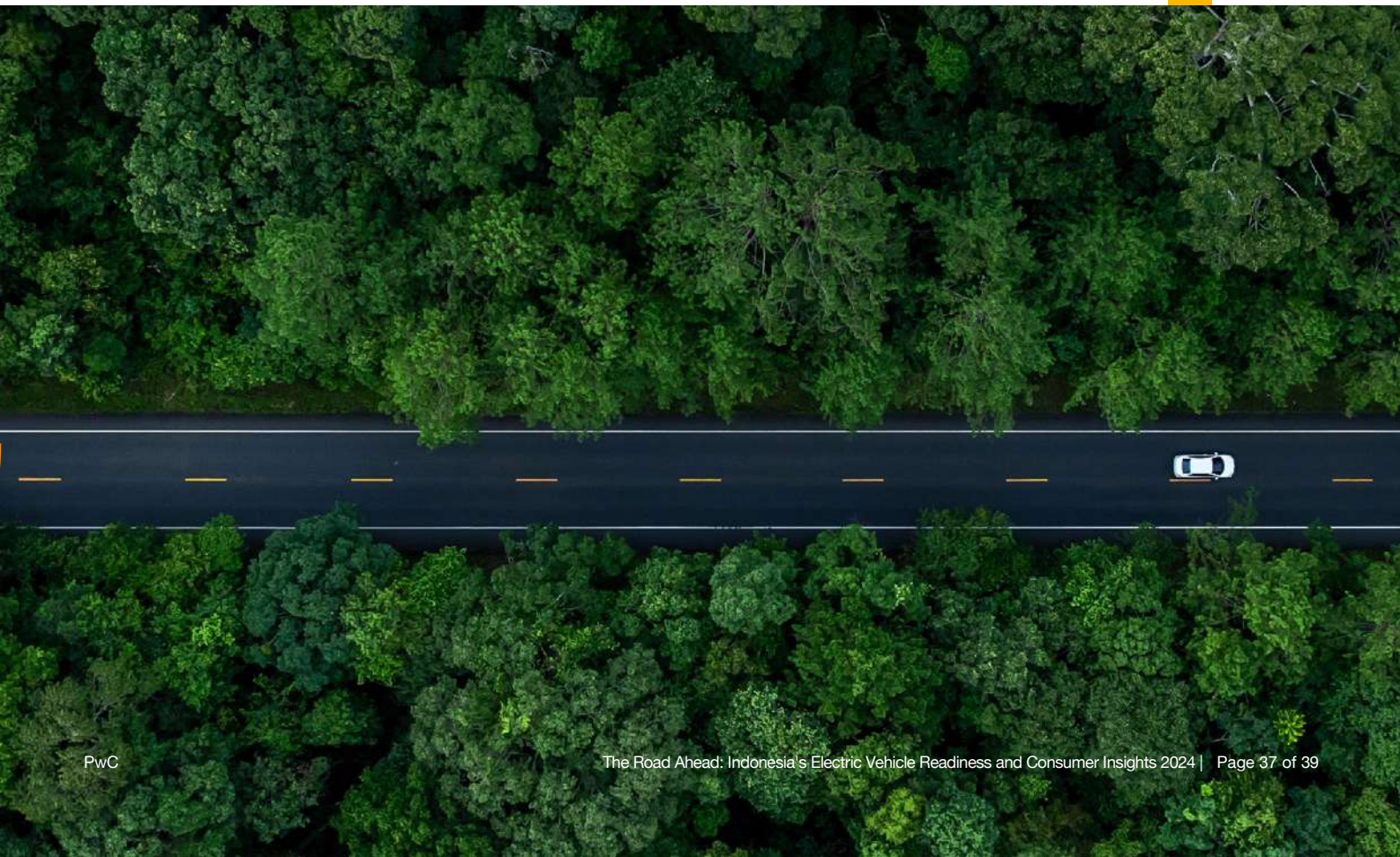
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Endnotes

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