strategy&

eReadiness Study

The e-mobility race

Market perspectives, customer needs and recommended actions for OEMs

June 2020

pwc

This study aims at providing perspectives on the short-term development of the e-mobility business in 4 major EU markets

About the Study

Context

- Over the last few years, OEMs made significant investments for the electrification of vehicles, which are not yet converted into significant revenue pools due to still limited demand for electric vehicles (EV) across the EU
- To cope with these challenges, OEMs and the whole Automotive downstream value chain need to get ready to exploit market opportunities which will ensue from the ramp up of Electric Vehicles in the short run

Survey Goals

- PwC Strategy& launched in Q1 2020 a pan-European study to capture market perspective from different angles to help OEMs understand the best viable options to ensure commercial effectiveness for the next 3 years
- The study focuses on Battery Electric (BEV) and Plug-in Hybrid Vehicles (PHEV) hereinafter jointly referred as EV
- The study focuses on **4 major EU markets**: France, Germany, Italy and Spain

Sample

- **6,400+ consumers** with a balanced sample among the 4 markets in scope of the study
- **43 mid-large sized corporations** with a vehicle fleet of 100+ units
- **13 OEMs** operating in volume, premium and luxury segments, representing **~45% of the European car parc**
- **29 dealerships** with an annual turnover of at least 10 M€, **representing 27 brands**

Methodology

- **B2C Clients**: online surveys with a representative sample of the driving population of each market in scope
- **B2B Clients**: phone interviews and online surveys with fleet & mobility managers
- **OEMs**: face-to-face interviews based on structured questionnaire with sales executives & e-mobility managers
- **Dealerships**: face-to-face interviews with Dealerships owners/ principals based on a structured questionnaire

Source: Strategy&

Executive summary

EV Market

- The EV market (BEV + PHEV) is expected to reach 8% of total new car sales by 2023 in the EU 4 major markets, mainly fueled by BEV
- The fleet (B2B) segment is growing faster than the private one (B2C), with a projected share of 60% of the total EV market in 2023

Demand

- Overall EV interest is high, with 60% of surveyed consumers and 100% of fleet companies declaring intention to buy an EV in the next two years
- Among consumers, EV Owners (2% of the panel) are high-income, middle-aged living in city centers
- EV prospects (68% of the panel) are younger with a ~50% lower income than EV Owners. Among them, *Dreamers*, *Luxurious* and *Tech Enthusiast* are the 3 personas (out of the 6 identified) with the highest intention to buy and represent 45% of next 2 years demand
- Within the fleet segment, large companies declare the highest EV penetration while mid-sized ones register the highest EV growth rate
- The majority of customers (55% consumers and 90% fleet) bought EV and recharge services or systems as a bundled offer

Supply

- Dealership is the main B2C channel, yet 50% of OEMs believe dealerships' salesforce still does not have the right skills to effectively sell EV
- EV customer satisfaction is 20% lower than ICE customer, and further lower for those that bought a private charging solution - relevance of customers' home check in the sales process is highly underestimated by OEMs, despite being one of the main customer experience pitfalls
- There is a unanimous consensus that the EV business will affect after sales profitability of dealerships
- The large majority of OEMs have defined EV-specific sales targets and bonus schemes to ensure dealerships' focus on EV sales

Source: Strategy&

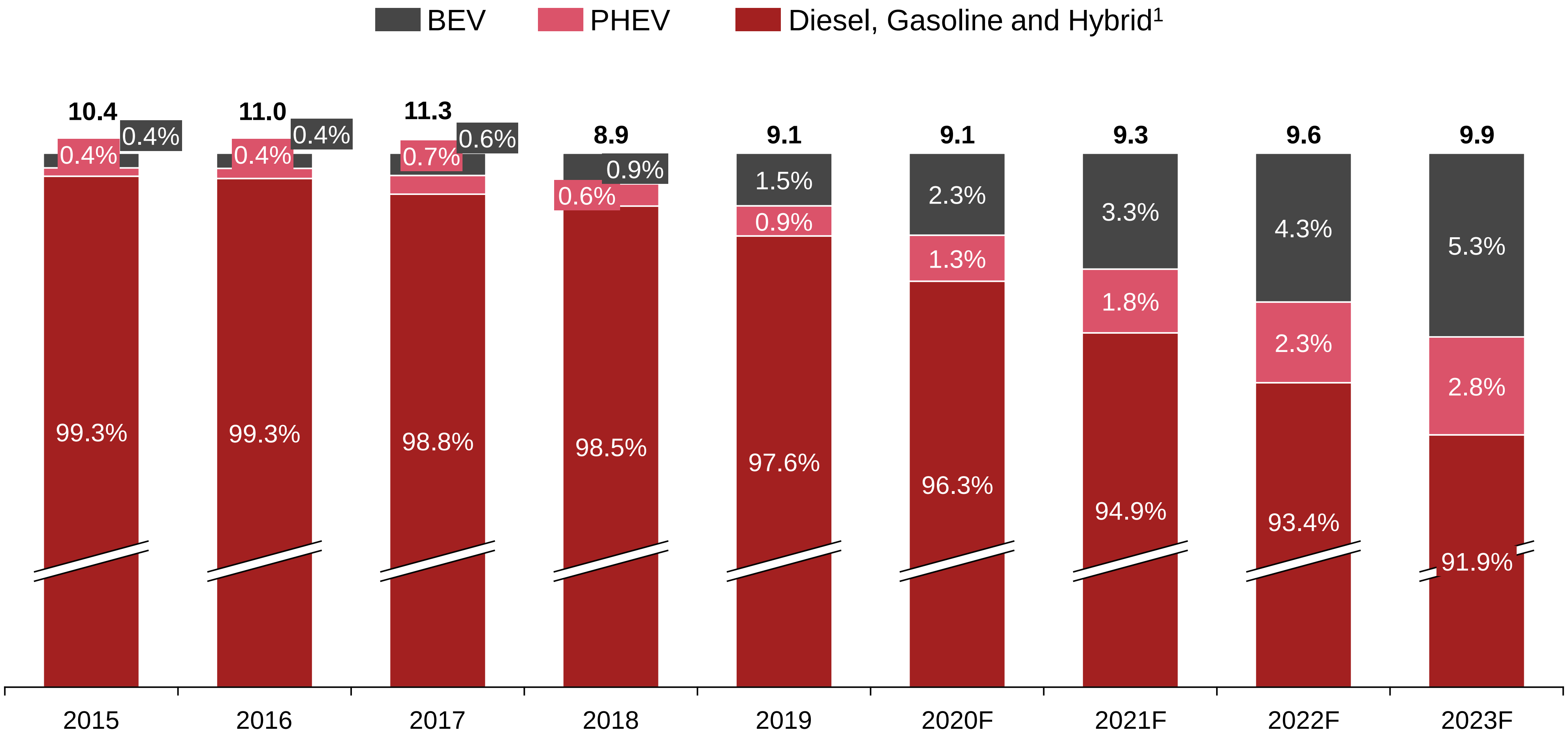
Agenda

1. **EV Market Overview**
2. Demand Side - Consumers and Fleets
3. Supply Side - OEMs & Dealerships
4. Recommendations on the way forward

EV share of new registrations is expected to reach 8% by 2023 in the EU 4 markets with an increasing share of BEV vs. PHEV

EU4 market – New car registrations outlook (m units, %)

Pre CoViD-19 forecasts



CAGR

2015-19	2020-23
+44%	+34%
+44%	+32%
+4%	+1%

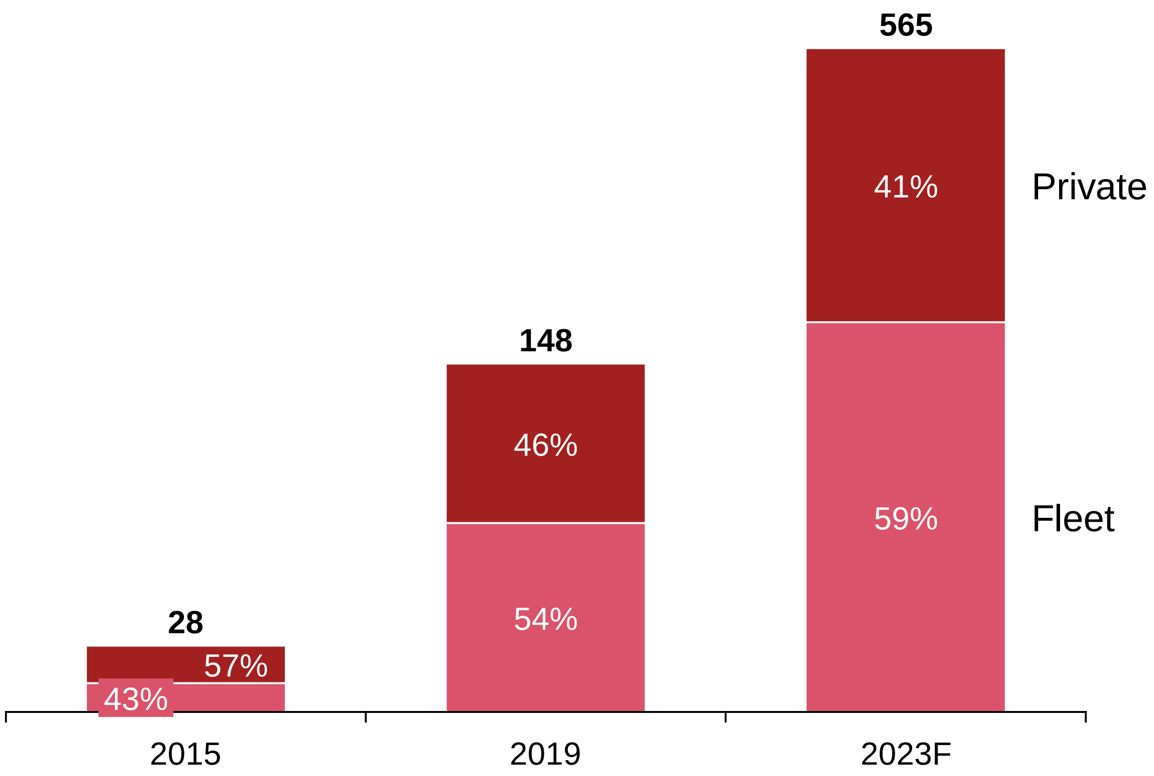
Note: 1) Hybrid includes all Non-plug-in hybrid (e.g. MHEV, HEV)
Source: Fitch Connect, Strategy& analysis

The fleet segment is growing faster than the private one, with Germany and France representing the most sizable markets

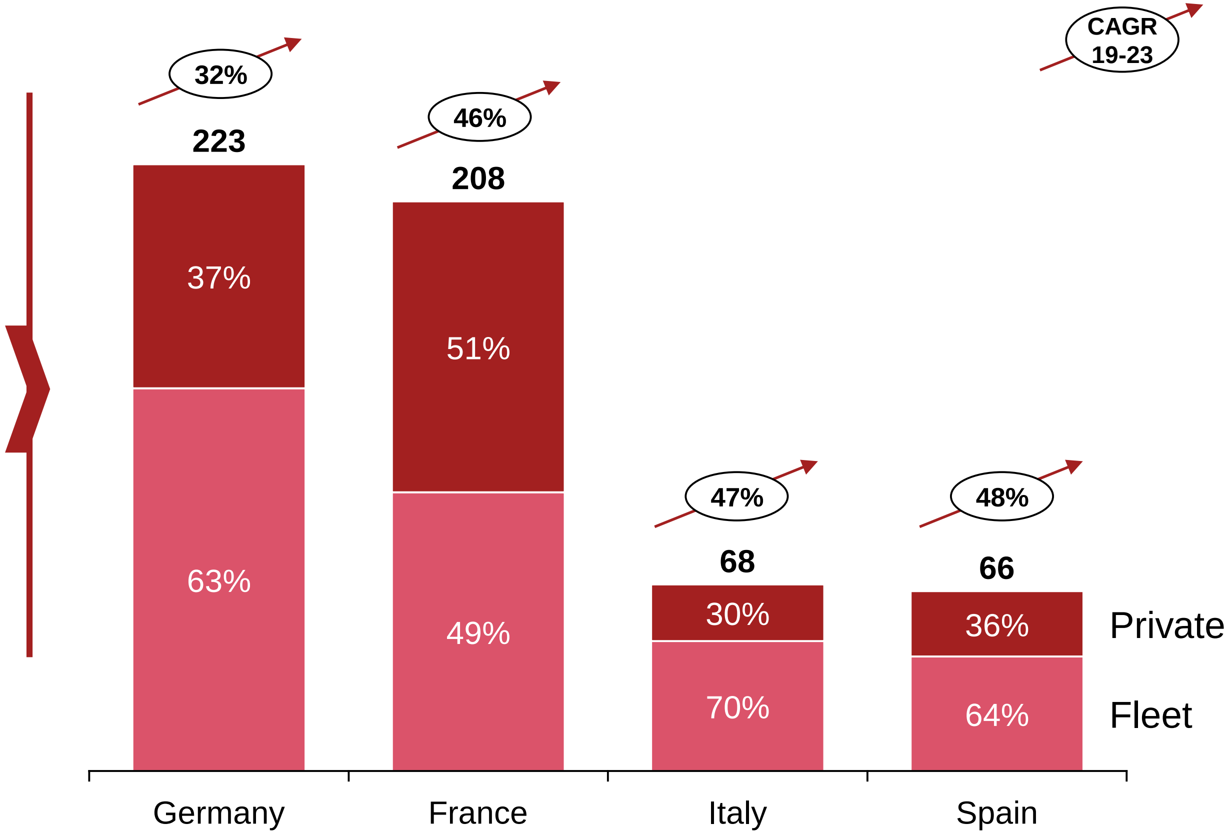
EV sales split by customer segment and market

Pre CoViD-19 forecasts

EU 4 EV sales by customer segment *(%, .000 units)*



EV sales by country *(%, .000 units at 2023)*

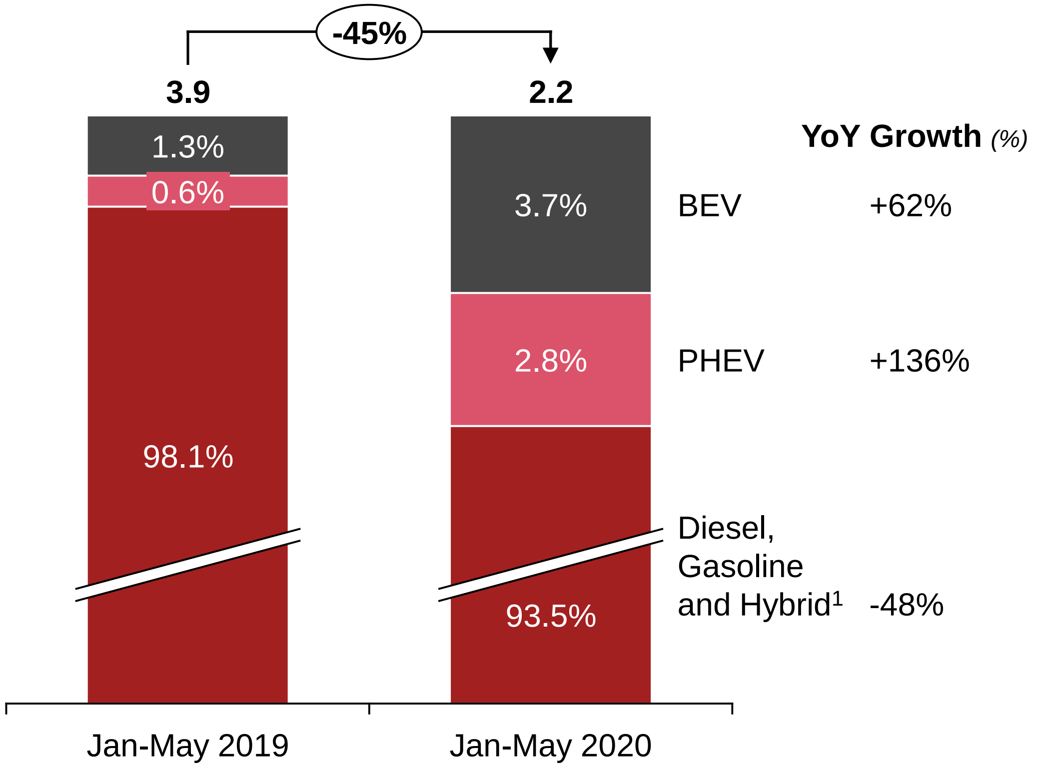


Note: Volumes exclude Demo car and RAC
Source: Fitch Connect; Strategy& analysis

COVID-19 is severely hitting new cars sales in Europe, yet EV segment is proving to be the most recession-resilient

EU4 market – New car registrations

EU 4 - New car registrations *(Jan-May, %, m units)*



Main highlights

EV have proven to be more resilient than other powertrains to the automotive crisis triggered by COVID-19, due to:

- ***Wealthier customer base –*** EV demand is mainly driven by high-income buyers, whose intention to buy is more resilient to the economic crisis
- ***State subsidies*** – Main EU governments have incentivized low emissions vehicles to stimulate car parc renewal and CO_2 emission reduction
- ***Longer delivery time*** – several EV car registrations in the first five months of 2020 refer to contracts closed before the lockdown period

Note: 1) Hybrid includes all Non-plug-in hybrid (e.g. MHEV, HEV)
Source: UNRAE, KBA, CCFA, ANFAC, Strategy& analysis

Agenda

1. EV Market Overview
2. **Demand Side**
   - Consumers (B2C)
   - Fleet (B2B)
3. Supply Side - OEMs & Dealerships
4. Recommendations on the way forward

Surveyed consumers have been grouped in 3 main clusters: EV owners, EV prospects and EV skeptics

Consumers survey – Clusters and investigation areas

% ***B2C Customers Sample**: #6,442 respondents*

1 EV owners

Description / Size

- People who currently own an EV

2%

Focus area

- Who are EV owners
- What type of EV car do they own
- What has been their customer journey

Outcome

Best practices and lessons learnt to be leveraged to define EV specific customer journey

2 EV prospects

Description / Size

- People who declared their intention to buy an EV in the next 5 years

68%

Focus area

- Who are the key personas and their distinctive traits
- What is their intention to buy an EV
- What are key reasons to buy

Outcome

Key customer profiles, with associated demographics and needs, to support OEMs targeting actions

3 EV skeptics

Description / Size

- People who declared their intention not to buy an EV in the next 5 years

30%

Focus area

- Who are EV skeptics and what are their distinctive traits
- Why they are skeptics and which are the main rejection reasons about EV

Outcome

Concerns and purchasing barriers to be addressed by OEMs communication to stimulate intention to buy

Source: Strategy& analysis on feedback from consumer survey

Current EV owners are mainly high-income, middle-aged persons, living in city centers with a private parking spot

Consumers survey – EV owners profiling

% ***B2C Customers Sample**: #99 respondents*

***How many km do you commute daily?* 35 km**

EV owners commute on average **+9 km** than ICE owners

***What is your annual income?* € 90k**

The average annual income of EV owners is **2.5x** the average income of ICE owners

***Do you have a private parking spot at home?* 83% yes**

+7% of EV owners have a **private garage** compared to ICE owners

***What is your gender?* 56% male**

Only **+2% of male** EV owners vs ICE

***What is your age?* 45 years**

The EV owners mode age is **+10 years** than ICE owners

***What is your family size?* 3.5 people**

EV owners household is on average **0.6 people larger** than ICE owners families

***Where do you live?* 56% in city centers**

+9% of EV owners live **in city centers** than ICE owners

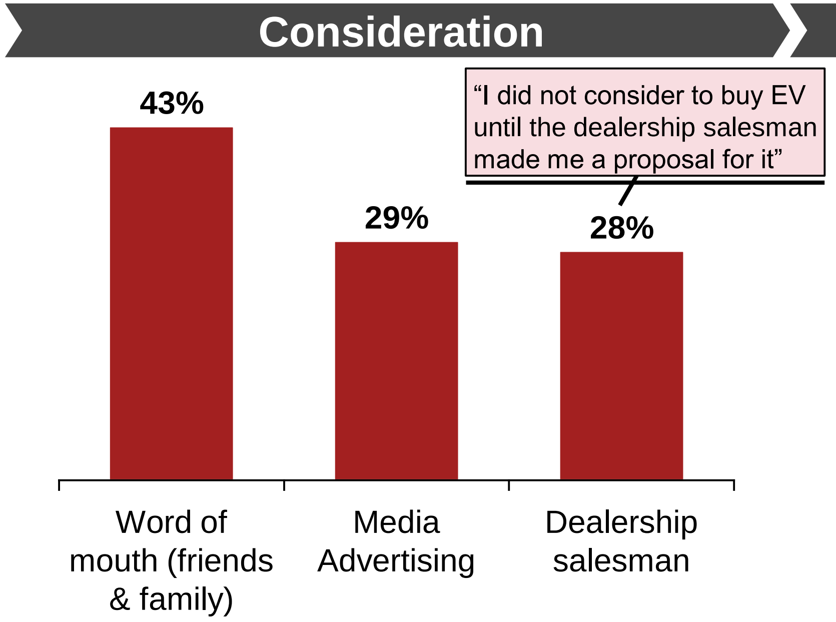
Source: Strategy& analysis on feedback from consumer survey

Word of mouth is the key reason to consider EV, test drive is the main convincing factor while buying experience needs improving

Consumers survey – EV owner customer journey

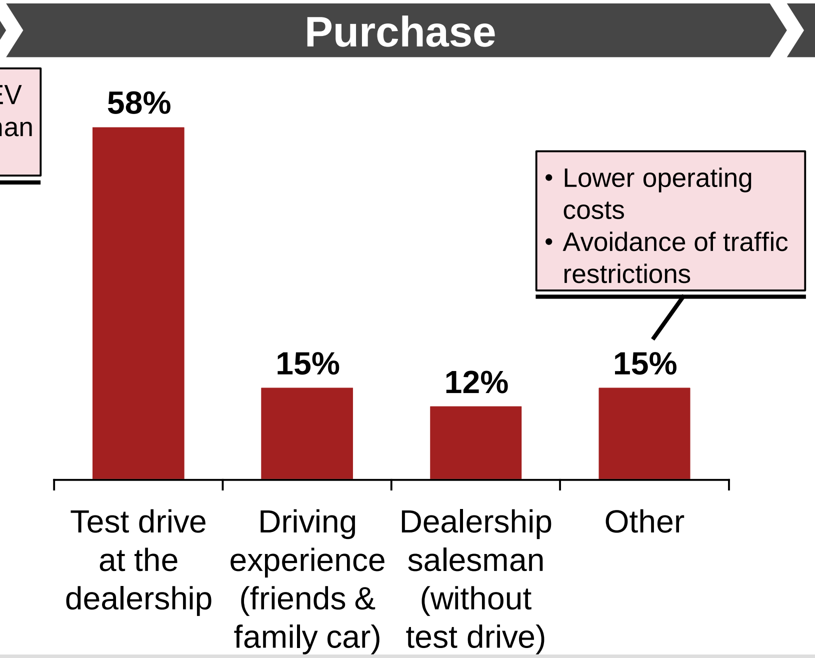
How did you begin to consider buying an EV?

% ***B2C Customers Sample**: #99 respondents*



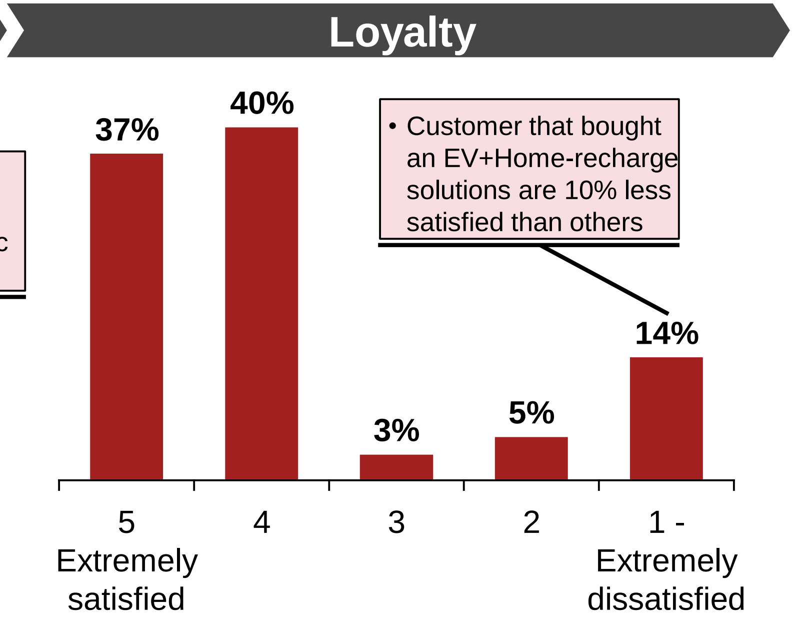
What was the convincing element that led you buying it?

% ***B2C Customers Sample**: #99 respondents*



How satisfied were you with the overall purchasing process?

% ***B2C Customers Sample**: #99 respondents*



- **Overall satisfaction of EV customers is 20% lower than those who buy ICE. Therefore, it is critical to re-design current customer experience to strengthen brand advocacy and increase consideration through word of mouth**

Note: percentages may not total 100% due to rounding
Source: Strategy& analysis on feedback from consumer survey

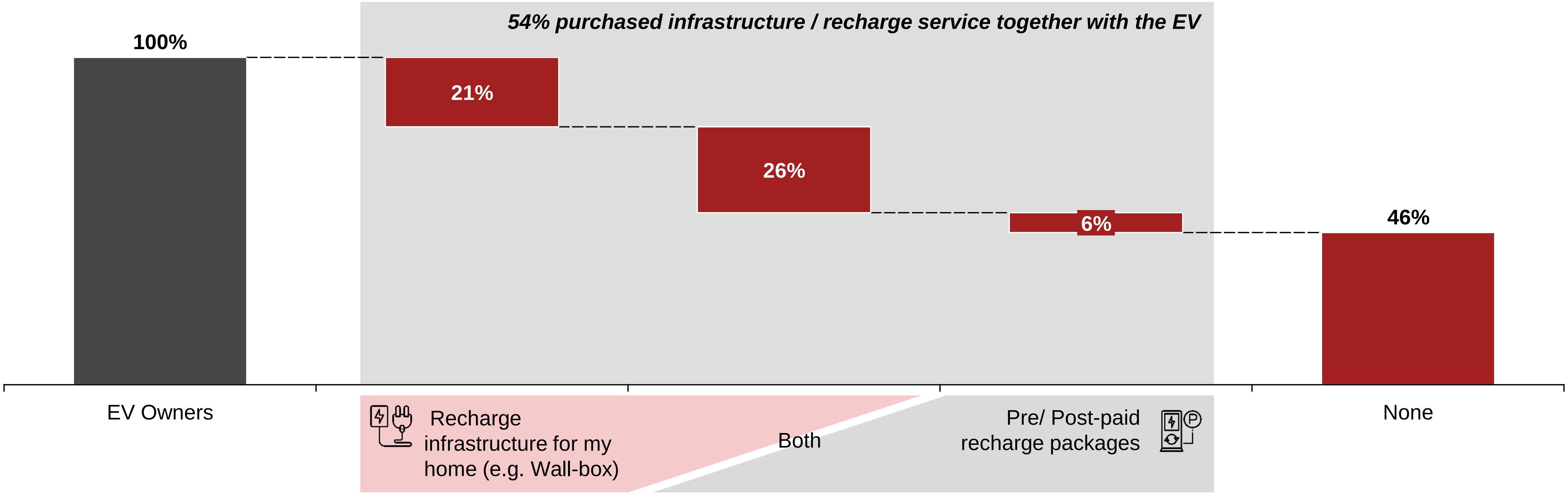
1 EV owners

More than half of the EV owners have purchased a recharge infrastructure/ service with their EV

Consumers survey – Buying drivers

What additional recharging infrastructure / services did you buy together with your EV?

% ***B2C Customers Sample**: #99 respondents*



Source: Strategy& analysis on feedback from consumer survey

EV prospects are younger than current EV owners and dispose of a ~50% lower income

Consumers survey – EV prospects profiling

% ***B2C Customers Sample**: #4,421 respondents*

***How many km do you commute daily?* 26 km**

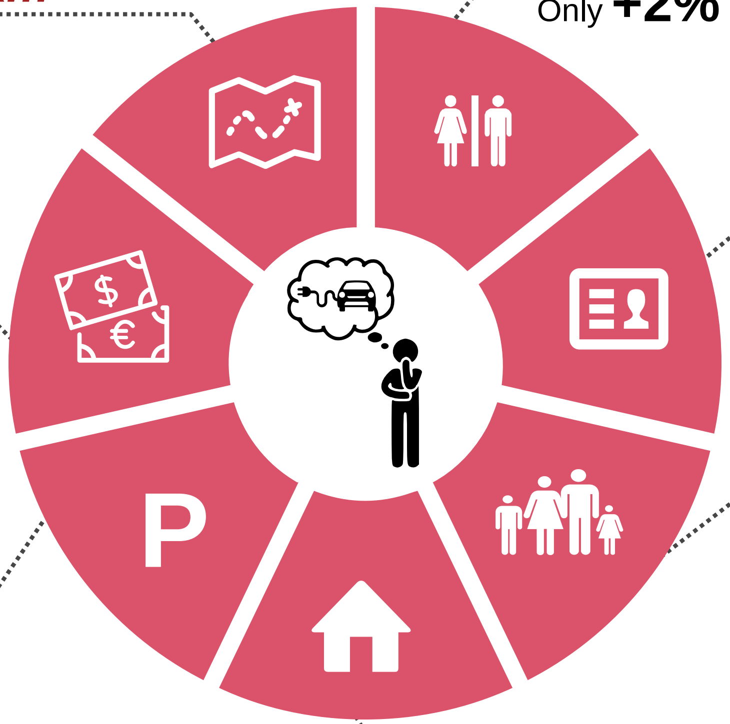
EV prospects commute on average **-9 km** than EV owners

***What is your annual income?* € 48k**

The average annual income of EV prospects is about **-50%** of EV owners' income

***Do you have a private parking spot at home?* 70% yes**

-13% of EV prospects have a **private garage** compared to EV owners



***What is your gender?* 58% male**

Only **+2% of male** EV prospects vs EV owners

***What is your age?* 40 years**

The EV prospects are on average **-5 years old** than EV owners

***What is your family size?* 3 people**

EV prospects households size is **0.5 people smaller** than EV owners families

***Where do you live?* 54% in city centers**

-2% of EV prospects live **in city centers** than EV owners

Source: Strategy& analysis on feedback from consumer survey

Dreamer, Luxurious and Tech Enthusiast, about 40% of the market, showed the highest intention to buy in the near future

Consumers survey – EV prospects key personas

***B2C Customers Sample**:*
#4,421 respondents

	Dreamers	Luxurious	Tech Enthusiast	Pragmatic	Conventionalist	Frugal
Environmental Conscience	Environment and climate change are top priorities	Environment is among the lowest priorities	Careful about the environment, yet not the first priority	Environment is crucial but not worth to go the extra mile	Not particularly careful about the environment	Careful about the environment yet it is not the first priority
Technology Confidence	Digital native, feels comfortable with technology	Buys mainstream technology, yet uses basic functionalities	Early adopter has high confidence with technology	Digital native, feels comfortable with technology	Uses basic technology once they are popular	Not technology addicted, uses it to find opportunities
Price Sensitivity	Is willing to pay higher price for a good cause	Price is not a concern	Willing to pay extra to gain early access to technologies	Important but not a priority, seeks good price/quality ratio	Saving is important, but "you get what you pay for"	Price conscious, always looking for bargains
Car Usage	Doesn't use car whenever possible	Uses car as primary transportation	Combines the car with other transpor-tation means	Combines the car with other transpor-tation means	Uses car as primary transportation	Minimize car usage preferring cheaper alternatives
Cluster size	12%	2%	24%	37%	23%	2%
Intention to buy EV in the next 5 years	88%	85%	82%	69%	61%	55%

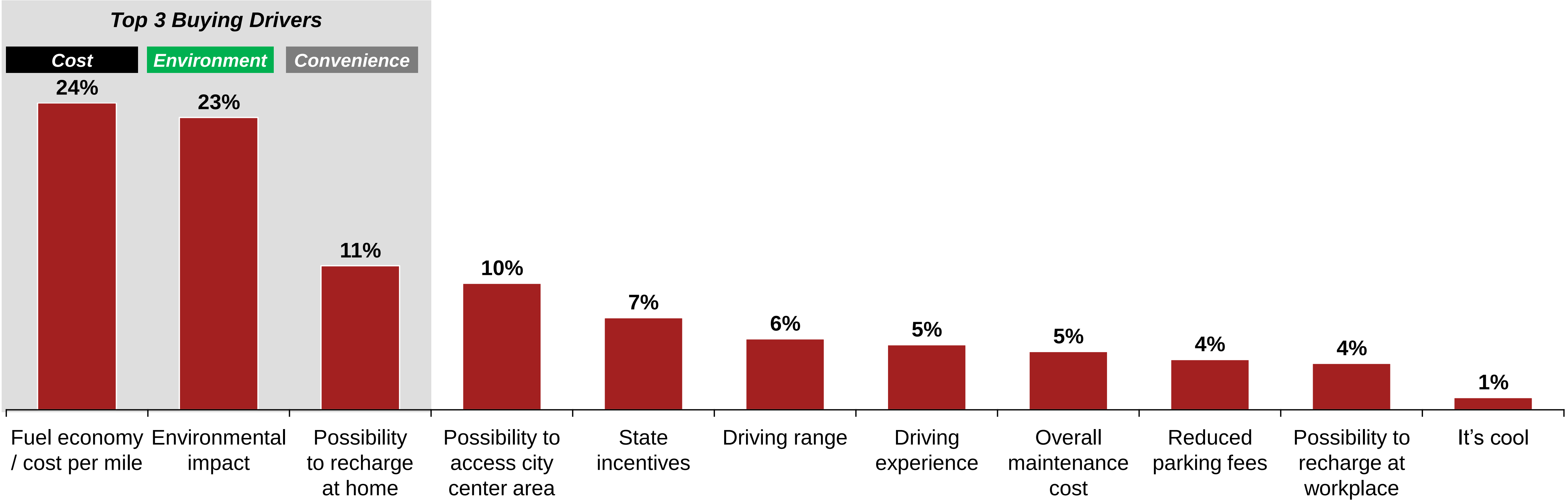
Source: Strategy& analysis on feedback from consumer survey

Key purchasing drivers are mainly fuel economy, environmental impact and possibility to recharge at home

Consumers survey – Buying drivers

What are main reasons driving you to buy an EV?

% ***B2C Customers Sample**: #4,384 respondents*



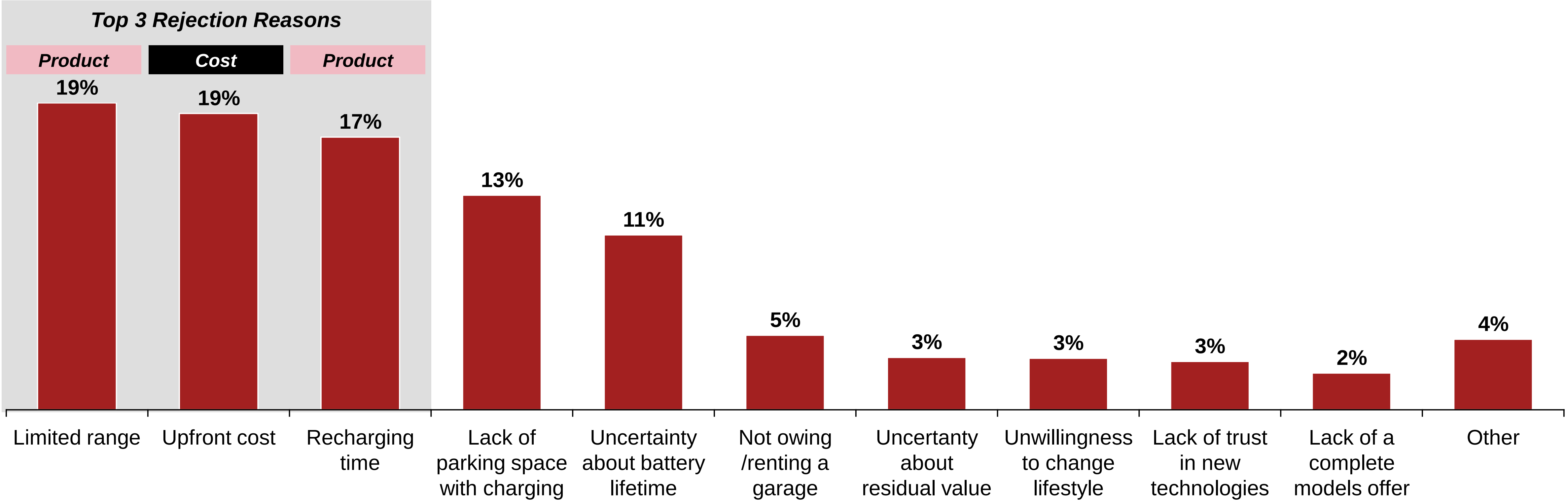
Note: percentages may not total 100% due to rounding
Source: Strategy& analysis on feedback from consumer survey

Key inhibitors to buy an EV relate to upfront cost, limited range and recharging time

Consumers survey – Main rejection reasons

In your opinion, what are the main factors discouraging Customers to buy an EV?

% ***B2C Customers Sample**: #1,889 respondents*



Note: percentages may not total 100% due to rounding
Source: Strategy& analysis on feedback from consumer survey

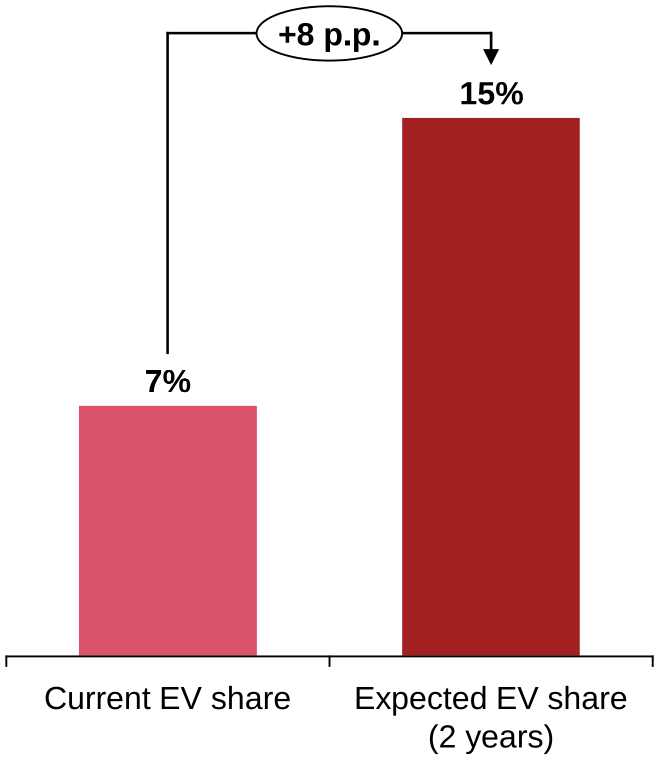
Agenda

Within company fleets, EV penetration is expected to double in the next two years, with medium companies driving this growth

Fleet Survey - EV penetration increase by company size

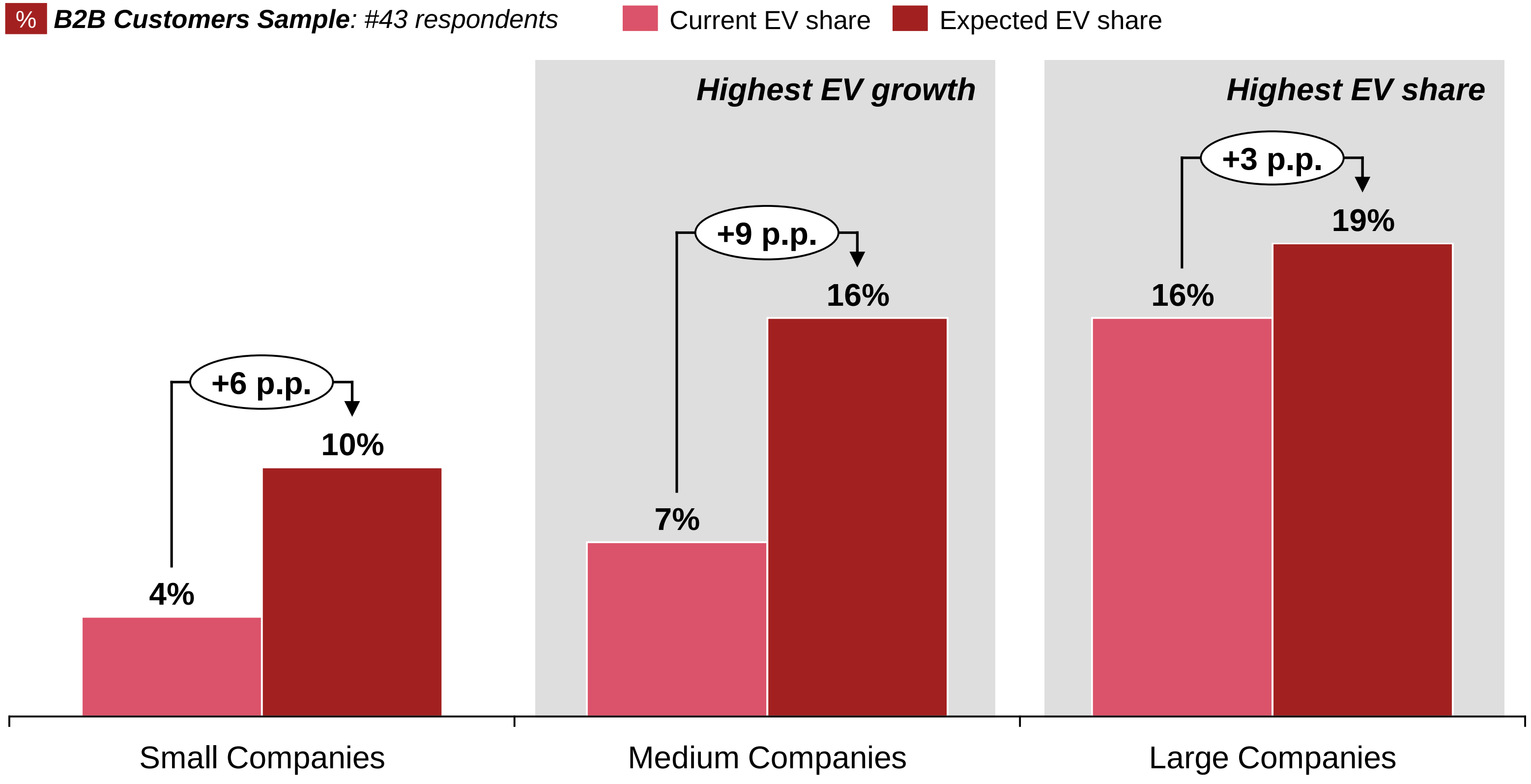
Current vs projected EV share of total company's fleet

% ***B2B Customers Sample**: #43 respondents*



How much do you expect to increase the EV share of your company's fleet in the next 2 years?

% ***B2B Customers Sample**: #43 respondents*



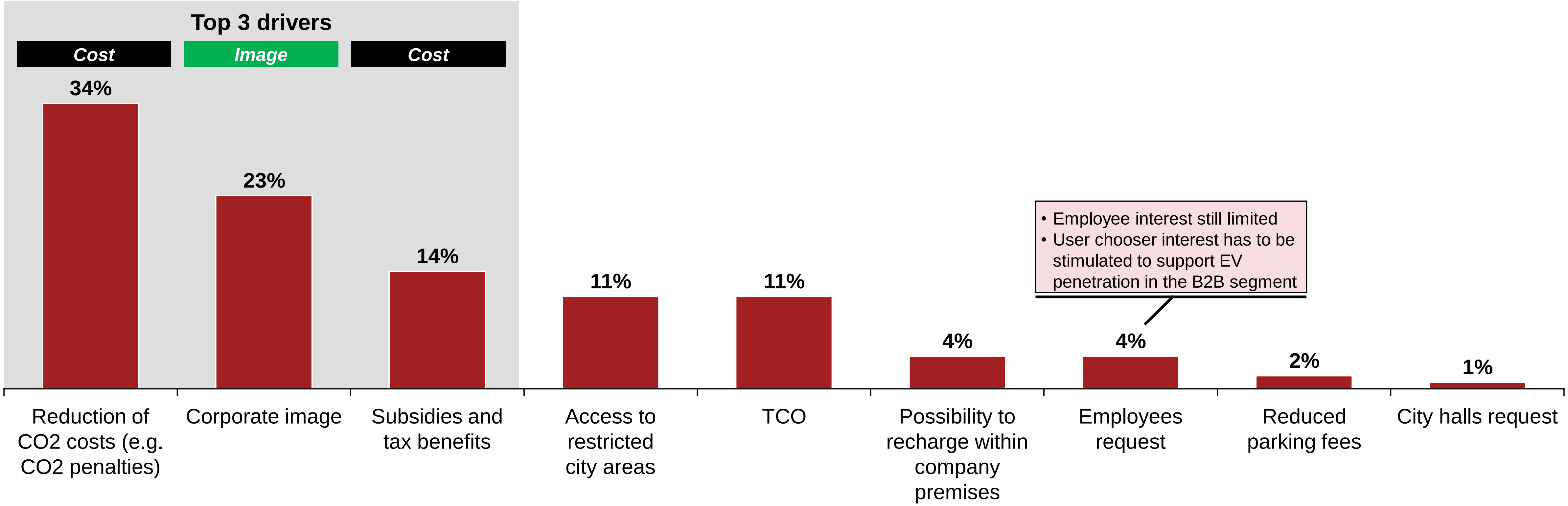
Note: Small companies: <250Mn€ turnover, medium companies: 250Mn€-1Bn€ turnover; Large companies: >1Bn€ turnover
Source: Strategy& analysis on feedback from consumer survey

Key purchasing drivers are mainly related to EV costs and customers' corporates image

Fleet Survey - Buying drivers

What are main reasons <u>driving</u> you to select EV in the company fleet?

% ***B2B Customers Sample****: #43 respondents*



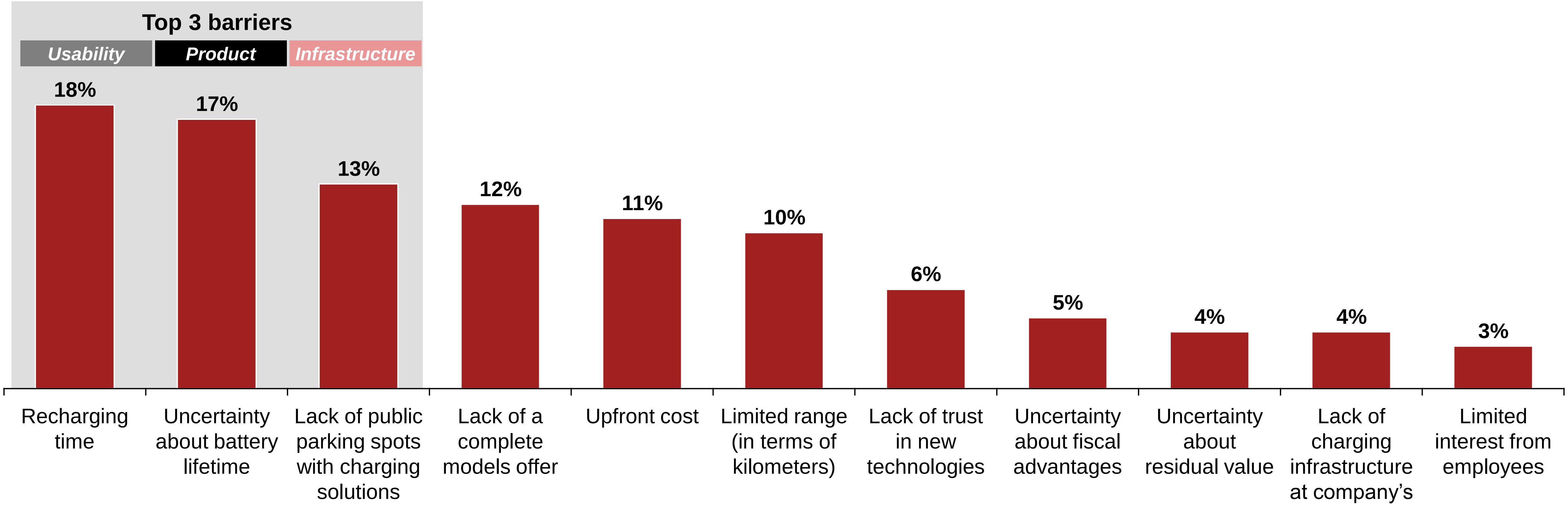
Note: percentages may not total 100% due to rounding
Source: Strategy& analysis on feedback from consumer survey

Main purchasing concerns relate to EV products and lack of public recharging infrastructure

Fleet Survey - Rejection reasons

What are the main factors discouraging you to select EV in the company fleet?

% ***B2B Customers Sample**: #43 respondents*



Note: percentages may not total 100% due to rounding
Source: Strategy& analysis on feedback from consumer survey

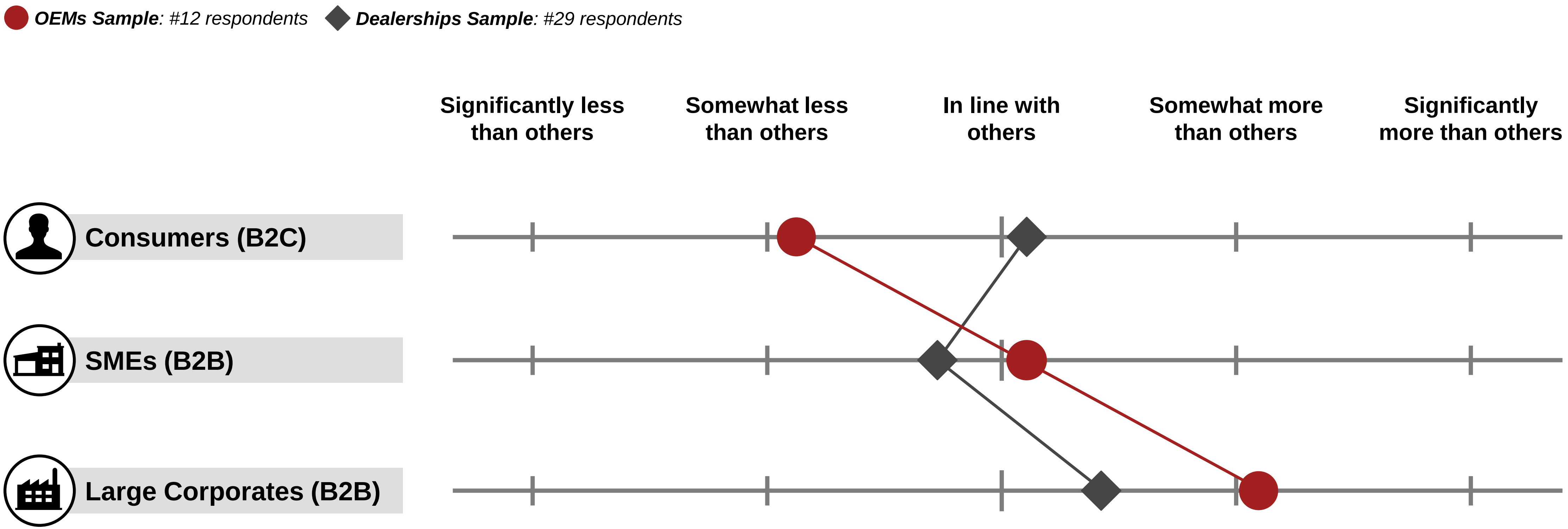
Agenda

1. EV Market Overview
2. Demand Side - Consumers and Fleet
3. **Supply Side - OEMs & Dealerships**
4. Recommendations on the way forward

Both OEMs and dealerships consider large corporates as the most attractive segment for EV sales in next 3 years

Market view – Segmentation & Targeting

In your view, how attractive are these segments for the EV sales in the next 3 years?

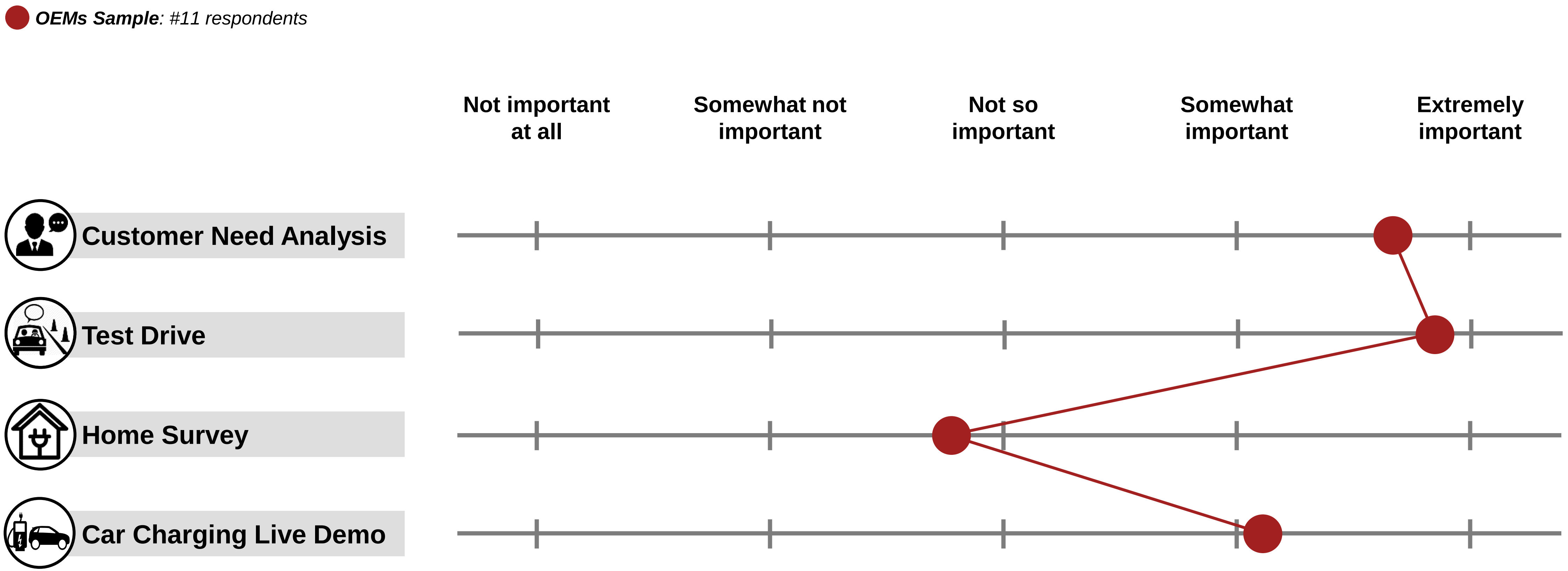


Source: Strategy& analysis on feedback from OEMs and Dealerships interviews

Customer Needs Analysis and Test Drive execution are seen by OEMs as the most relevant customer touchpoints for EV sales

Sales channel – Retail sales process & Standards (1/2)

What are the most important customer touchpoints throughout the EV-specific sales process?



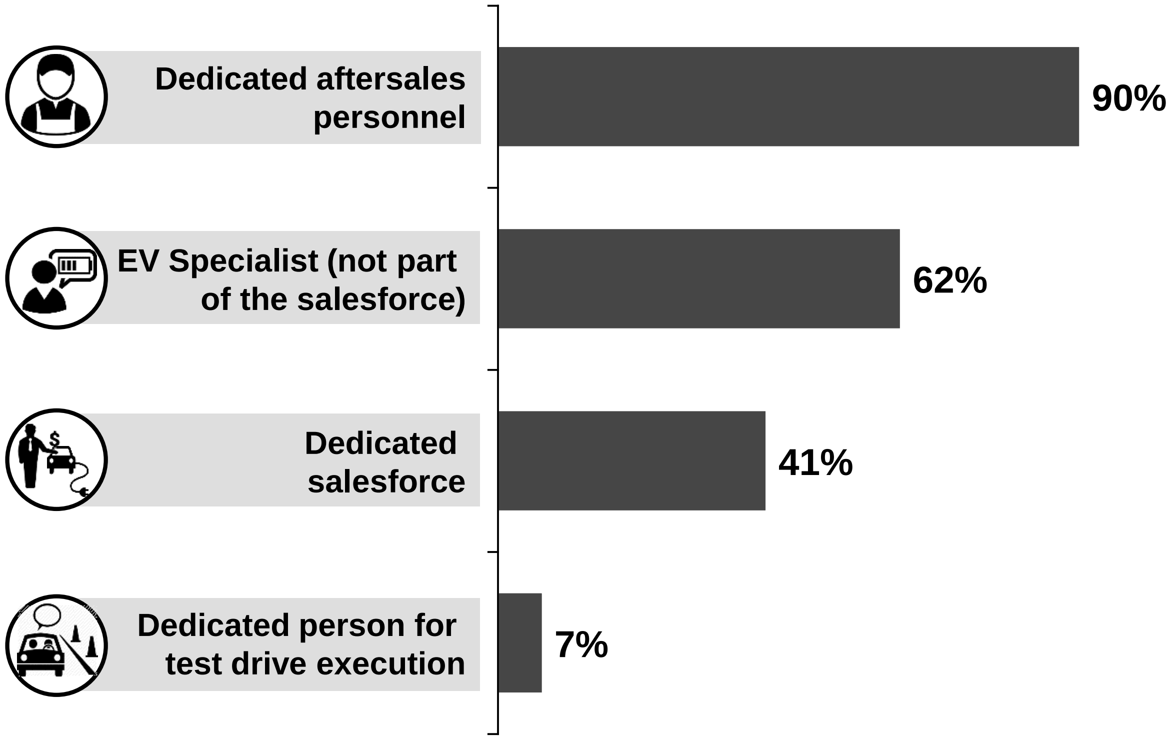
Source: Strategy& analysis on feedback from OEMs interviews

OEMs are defining new organizational standards as well as new sales process to ensure a tailored EV customer experience

Sales channel – Retail sales process & Standards (2/2)

What additional organizational requirements OEMs ask you (as a Dealership) for EV sales?

% ***Dealerships Sample***: *#29 respondents*



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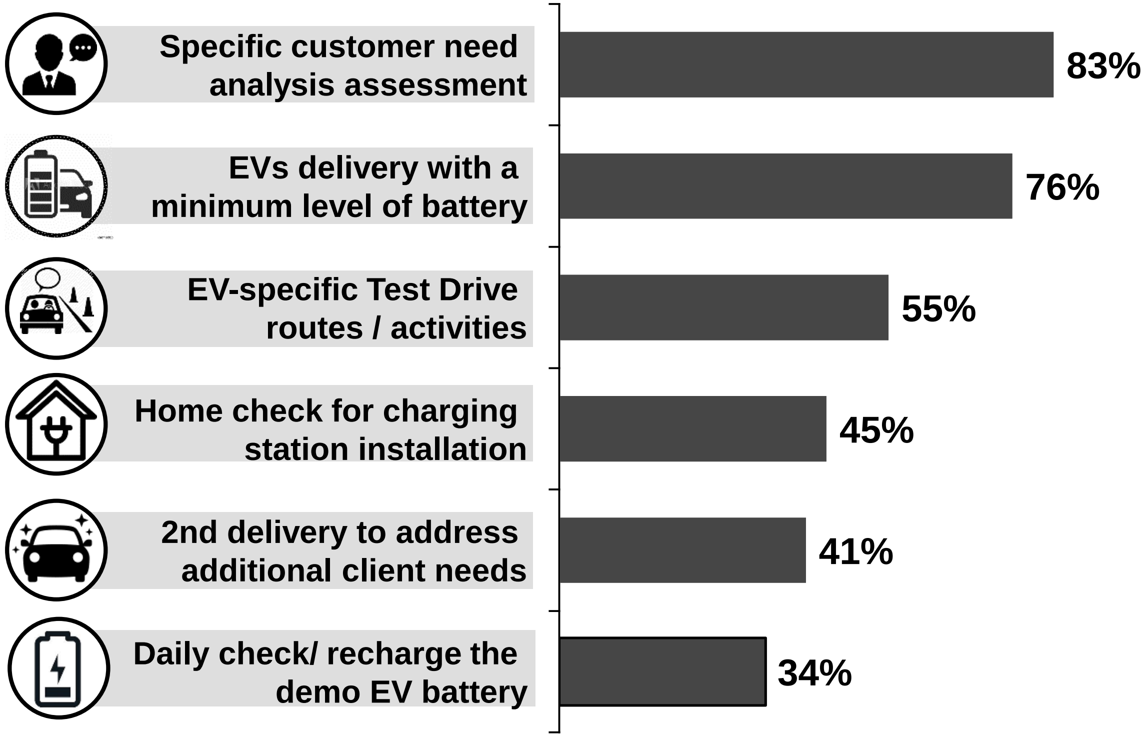


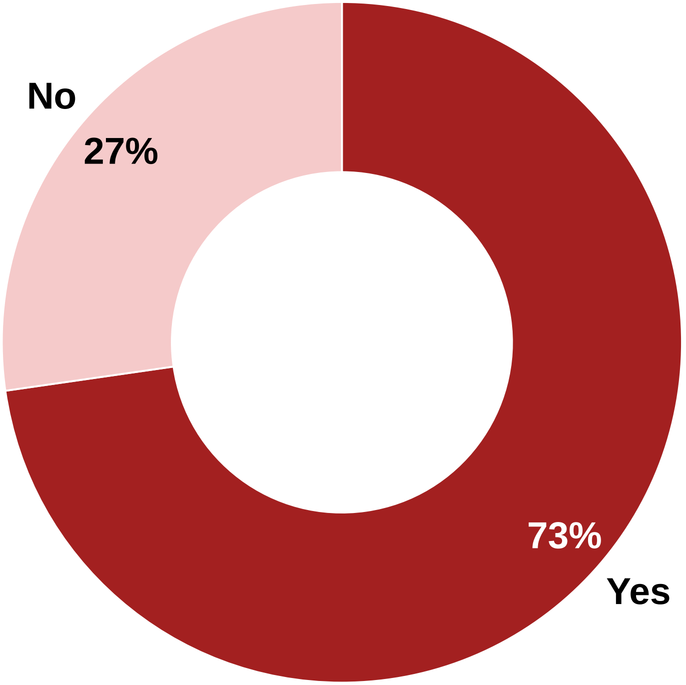
Note: percentages may not total 100% due to rounding
Source: Strategy& analysis on feedback from Dealerships interviews

The large majority of OEMs have introduced / will adopt EV-specific sales targets and bonus schemes for the dealerships

Sales channel – Sales incentives

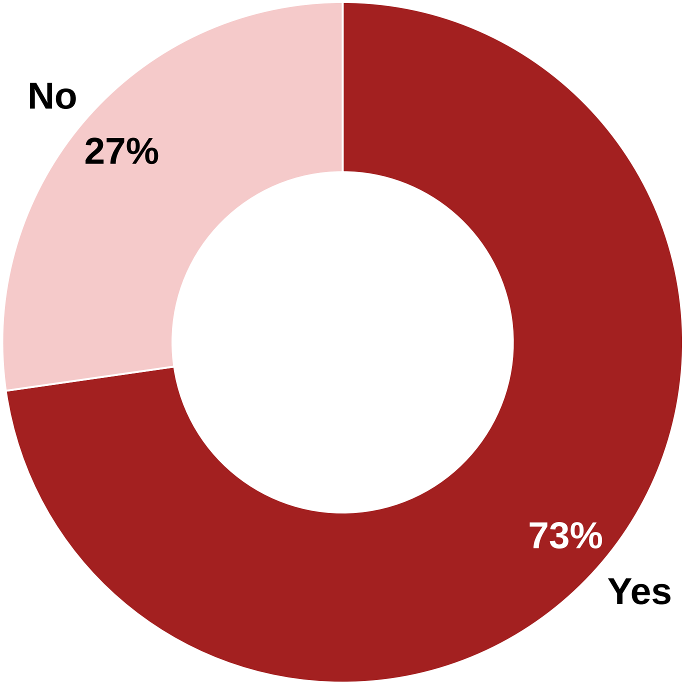
Do you (as OEM) have / do you expect to introduce a specific sales target for EV?

% ***OEMs Sample**: #11 respondents*



Do you (as OEM) have / do you expect to introduce a specific incentive scheme for EV?

% ***OEMs Sample**: #11 respondents*



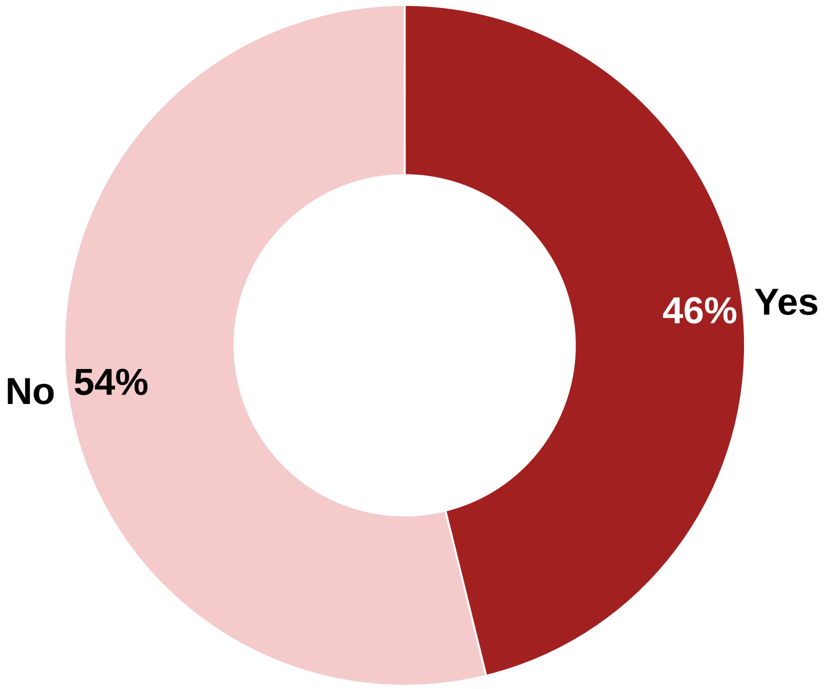
Source: Strategy& analysis on feedback from OEMs interviews

The minority of OEMs think dealership salesforce is ready to sell EV, confirmed by dealerships' demand for OEMs support

Sales channel – Sales skills & Capabilities

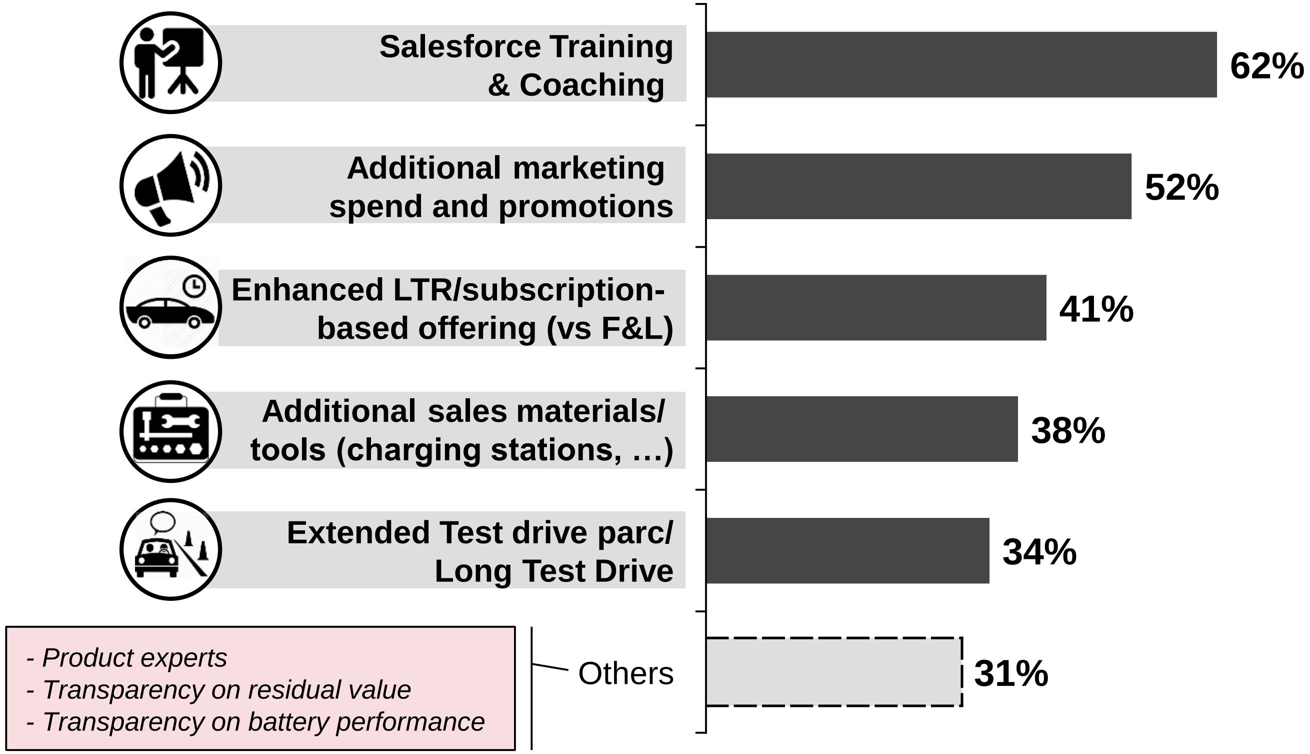
Do you (as OEM) think dealerships' salesforce has the right skills and capabilities to sell EV?

% ***OEMs Sample**: #13 respondents*



As a Dealership, what support from OEM would be needed to better drive EV sales?

% ***Dealerships Sample**: #29 respondents*



Source: Strategy& analysis on feedback from OEMs and Dealerships interviews

Agenda

1. EV Market Overview
2. Demand Side - Consumers and Fleet
3. Supply Side - OEMs & Dealerships
4. **Recommendations on the way forward**

To win the e-mobility race, OEMs have to define tailored selling propositions that can be articulated in 5 focus areas

Recommended approach to succeed in the EV market

Sales Strategy

Segmentation & Targeting	***Decide where to play at first*** *… by focusing on demand segments with highest buying potential*
Value Proposition	***Define tailored product and service offering*** *… by matching specific needs of high-potential EV targets*
Sales Channels	***Enhance direct sales and dealerships*** *… by developing sales force capabilities and by tailoring remuneration scheme*

Sales Operations

Marketing & Communication	***Stimulate intention to buy*** *… by addressing customers concerns which inhibit purchase intention*
Customer Experience	***Convert intention to buy into sales*** *… by delivering a EV-specific customer experience*

Source: Strategy&

We can help OEMs to fully exploit the EV market potential, from strategy design to the implementation of commercial operations

How PwC Strategy& can help

	Our support to OEMs	*Our distinctive value proposition*
Segmentation & Targeting	• Assess B2B/B2C market potential • Understand key demand drivers • Prioritize targets based on brand positioning	• In-house market research team • Detailed forecasts on the EV markets by geography, segment, powertrain
Value Proposition	• Establish partnerships with utilities/vendors • Design combined EV offering • Identify alternative pricing schemes	• Trusted relationships with international utility firms and charging systems vendors • In-depth knowledge of customer preferences
Sales Channels	• Design EV-specific rewarding schemes • Define new corporate identity and organizational standards for retail EV sale	• Benchmarks and best practices for each market segment (volume, premium, luxury) • Strong track record in retail standards design
Marketing & Communication	• Optimize marketing spend and ROI • Define segment-specific communication plan • Design commercial campaigns for EV clients	• In-depth knowledge of EV customer journey • Extensive social media analysis capabilities • Understanding of demand drivers/ inhibitors
Customer Experience	• Design tailored sales process for EV sale • Enhance CX for EV customers • Launch dealerships professionalization programs	• Detailed benchmarks and best practices • Extensive track record in CX improvement • International teams with coaching expertise

Source: Strategy&

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