

Excerpt

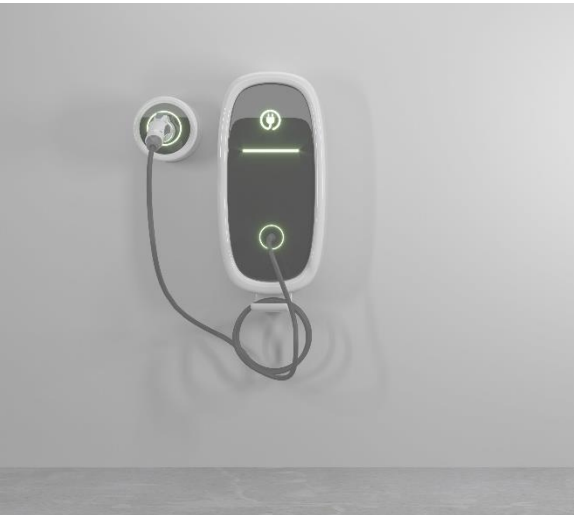
(Total length of the
study: 98 pages)

Decision-making process driving current

Data instead of opinions: Personas for provider selection of driving current at home

Decision-making process driving current

Initial situation



Initial situation

- So far, offers for e-car drivers have mostly focused on technical equipment for charging at home and driving current offers for public charging.
- The market for driving current at home is still largely in the hands of the often regional suppliers.

Objective

- Relevant decision situations and criteria for selection of driving current supplier.
- Identifying optimal driving current offer for e-car shoppers and owners.
- Criteria for optimally addressing individual target customer segments.

Decision-making process driving current

Challenges for domestic electricity suppliers

Numerous touchpoints in the info process

- Generally high demand for information on the part of the customer. Interaction with a large number of different providers.

Dynamic competition

- Large number of established and new players in the electricity market with a strong connection to eMobility.
- 95% of all home chargers also charge publicly and conclude several eMSP contracts for this purpose - high risk for regional suppliers.

Moments of Truth during use

- Critical moment, e.g. in the case of annual billing with high additional payment of household electricity for home chargers.



Sample

Target group

Sample:

- Total sample: N = 2,424
of it:
 - e-car owners: N = 2,163
 - People interested in e-cars: N = 261
- Sub-sample for analysis of sales: N = 1,512
(Criterion: e-car owners with charging possibility at home)

Survey:

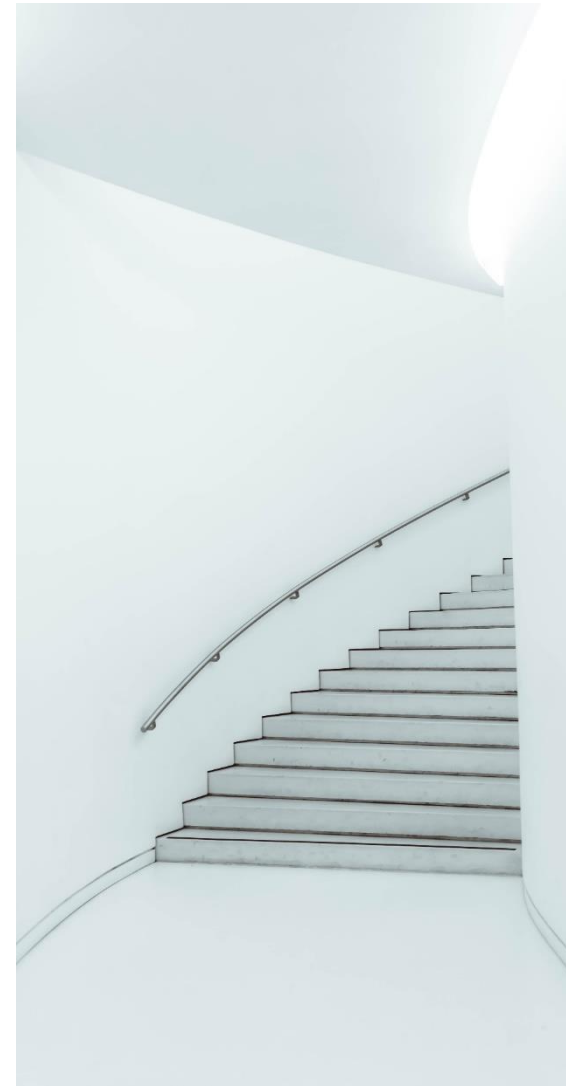
- Survey: online
- Countries: German-speaking countries (DACH)
- Recruitment: Social Media
- Interview duration: 15 - 20 min
- Implementation: September 2021



Decision-making process driving current

Content

- ▶ (1) Management summary
- (2) Sample
- (3) Results across the entire sample
 - 1. Driving behaviour and housing situation
 - 2. Charging behaviour and habits
 - 3. Decision criteria for driving current providers for charging at home
- (4) Persona-building
 - 1. User segmentation (persona formation)
 - 2. Persona profiles



Decision-making process driving current

Management summary

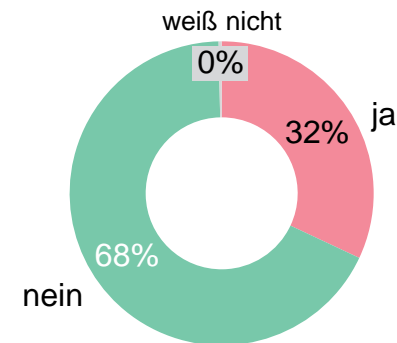
1

Every third person changes their electricity supplier.

One third of e-car buyers with home charging change their electricity provider in connection with the purchase of the car.

The market ramp-up of eMobility offers great opportunities for new providers in the eMobility ecosystem and thus becomes a risk for energy suppliers.

Change of electricity supplier:



Decision-making process driving current

Content

(1) Management summary

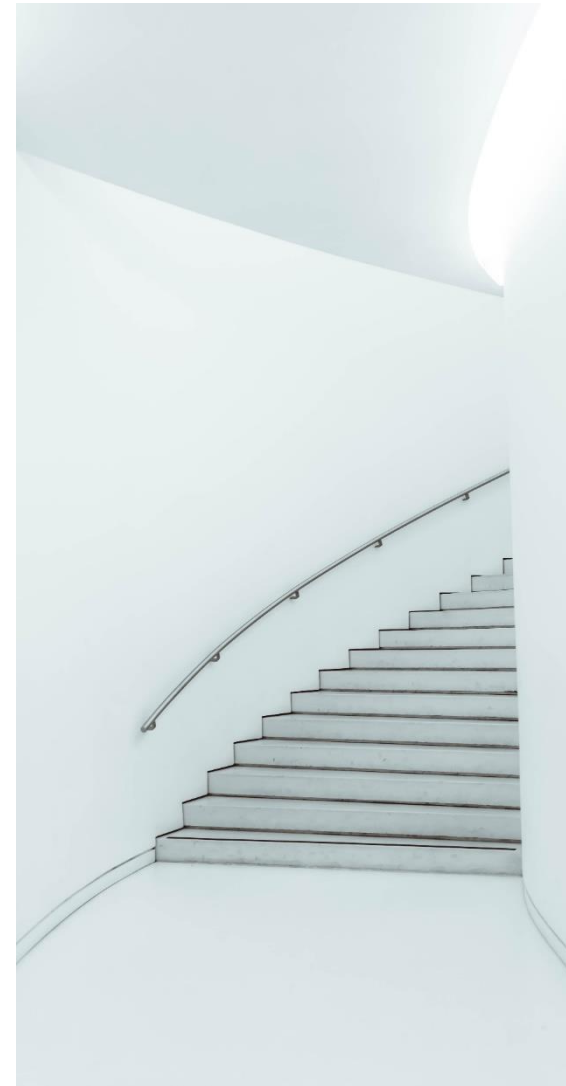
▶ (2) Sample

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Sample

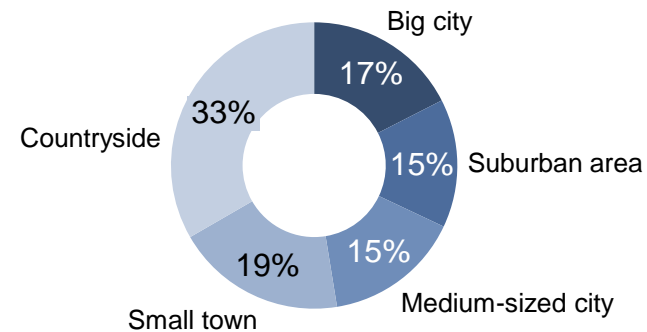
Place of residence and educational attainment

*Every third e-car driver from the countryside.
50% academics.*

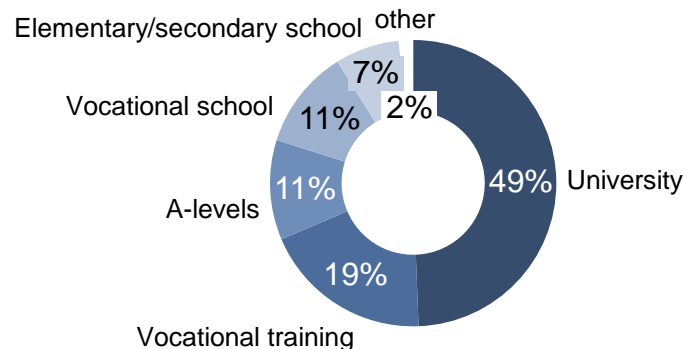
Respondents from rural areas are equally represented in the study as e-car drivers from large cities and their surrounding areas.

About half of the respondents have a university degree. This means that the highest level of educational attainment of the respondents is significantly higher than the average for Germany as a whole (approx. 21% with a university degree*).

"How do you live?"



"What is your highest educational qualification?"



* Institute for Employment Research of the Federal Employment Agency, 2017

Sample

Occupation and net household income

Sample size: 1000

What is your professional position?

What is your monthly household net income?

Source: USCALE survey

"What is your professional position?"



"What is your monthly household net income?"



Sample

Motives for eMobility

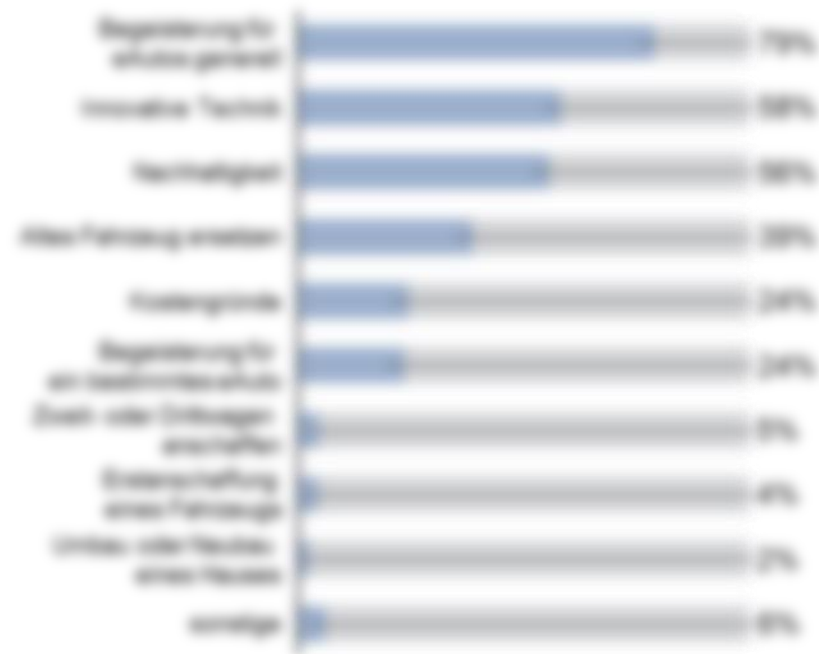
Begeisterung für Technologie und Nachhaltigkeitsthemen

Nach immer stärkerer Begeisterung für die ethische und Nachhaltigkeitsalternative der Last der Hauptgründe aktueller e-Mobility-Käuferinnen.

Diese Motive beschreiben typisches Innovations- und Early Adopter Verhalten.

Zur Vergleich:
 Auch 2018 spielte die Begeisterung für Innovation und Technologie bei den e-Mobility-Käufern eine wichtige Rolle. Die technologischen Motive lagen 2018 noch bei 19% und sind aber nicht zurückgegangen.

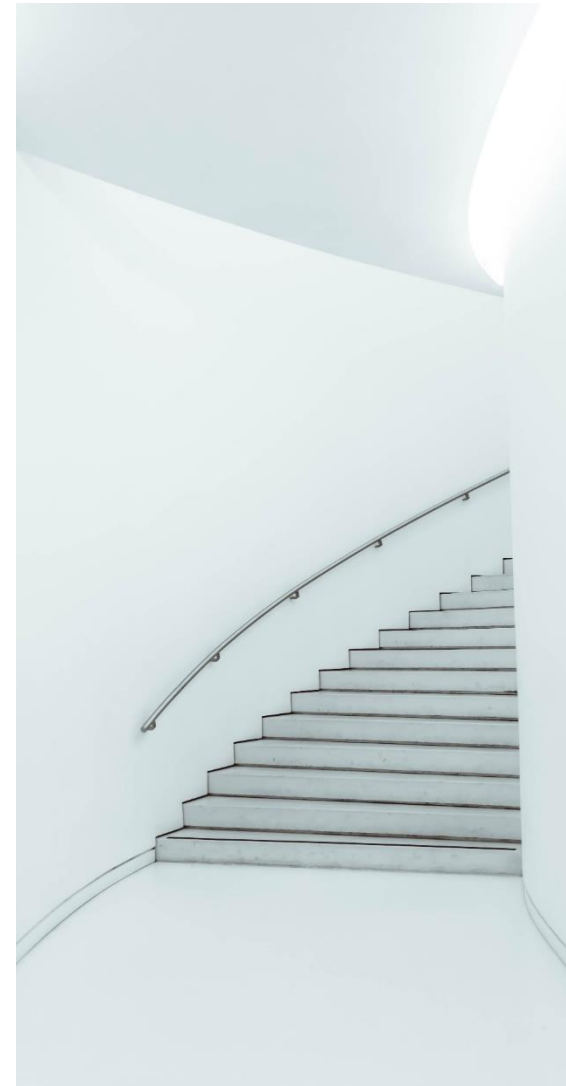
*"What was the main reason for you to get involved with eCars?
 (Multiple answers possible)"*



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Descriptive analysis

Preliminary remark**Do user groups differ in all aspects of behaviour?**

The characteristics of e-car drivers and the criteria for choosing an electricity supplier differ significantly in some criteria and not at all in others.

The following descriptive analysis shows the results for all e-car drivers who participated in the study. Characteristics in which there are differences for user segments are marked.

Questions for providers:

- We drive and charge the e-car drivers?
- Which criteria are relevant for the choice of driving current provider and driving current tariff?



Driving behaviour and housing situation

Driving performance

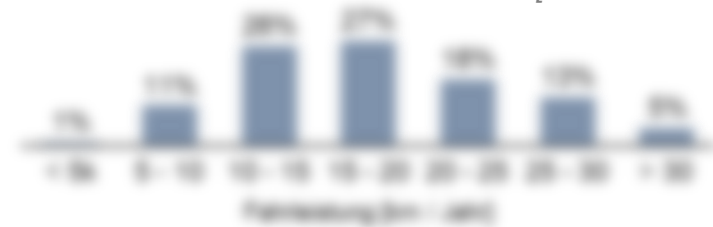
Wahlergebnis mit überdurchschnittlichen Fahrleistungen.

Mehr als 60% der eAuto-Fahrerinnen fahren mehr als 15.000 km pro Jahr. Damit liegen die durchschnittlichen jährlichen Fahrleistungen über denen von Verbrennerfahrern (ca. 13.700 km/ Jahr).

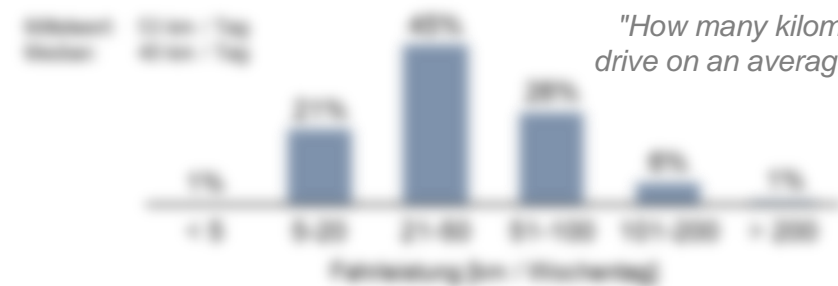
Im Durchschnitt fahren die Befragten 52 km pro Tag.

Nur 40% fahren mindestens einmal im Monat eine Strecke, auf der sie zuschalten müssen.

"Approximately how many kilometres do you drive your [make + model] per year?"

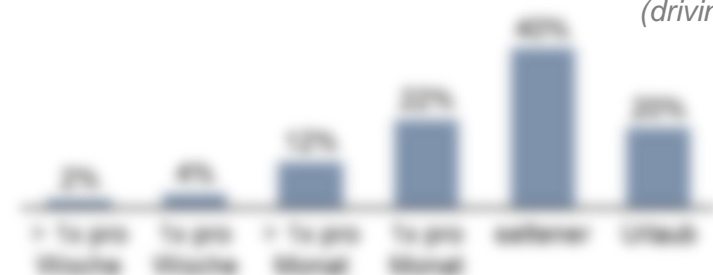


"How many kilometres do you drive on an average weekday?"



"How often do you drive long distances where you have to charge your e-car?"

(driving distance > range)



* 2017 basierend auf den Befragten mit einem eAuto in der jeweiligen Wohnstadt.

Driving behaviour and housing situation

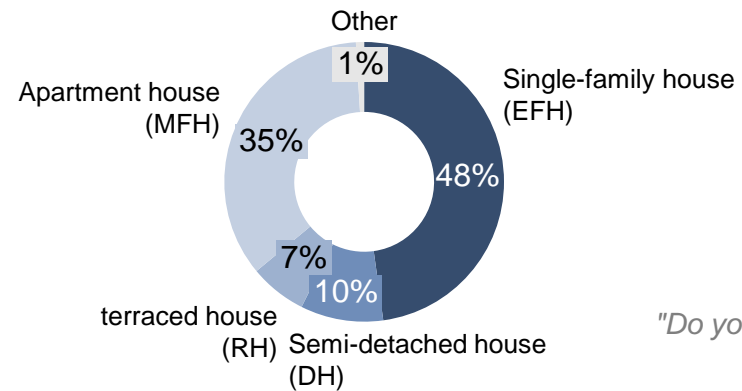
Housing situation and parking

Two thirds live in their own house.

Around half of the respondents live in a single-family house, a good third in an apartment building. One in six lives in a semi-detached or terraced house.

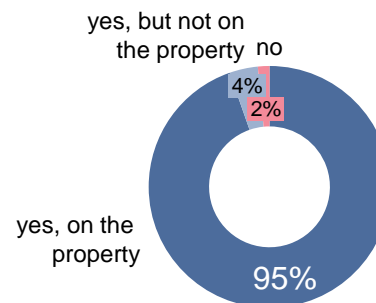
Across all respondents, 90% have their own (garage) parking space.

"What is your housing situation?"

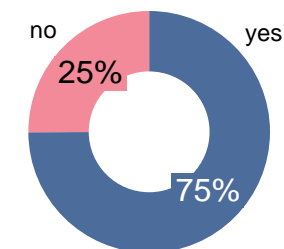


"Do you have your own garage / parking space?"

EFH / RH / DH



MFH



Decision-making process driving current

Content

(1) Management summary

(2) Sample

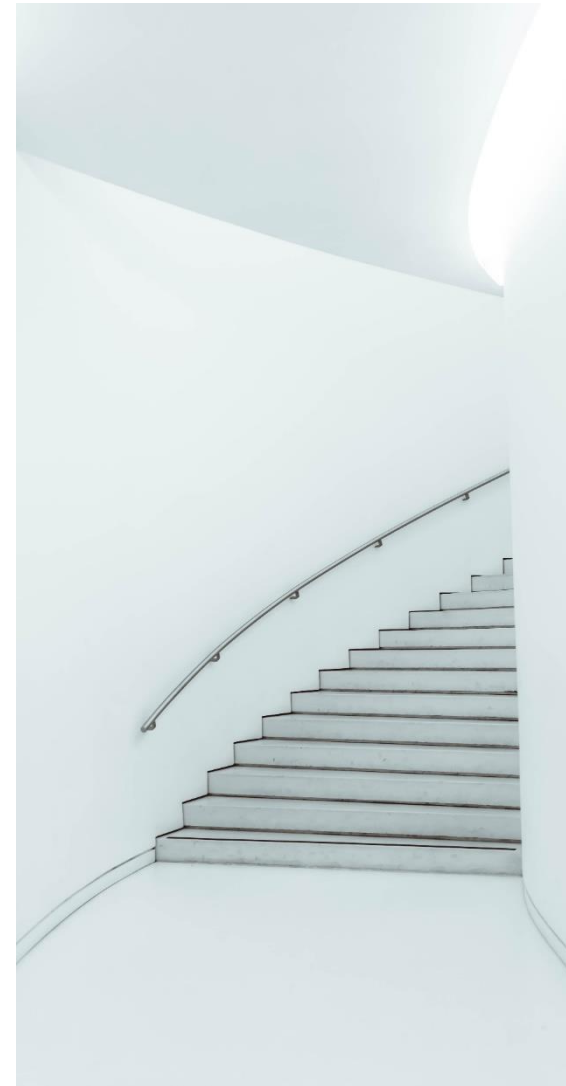


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Charging behaviour and habits

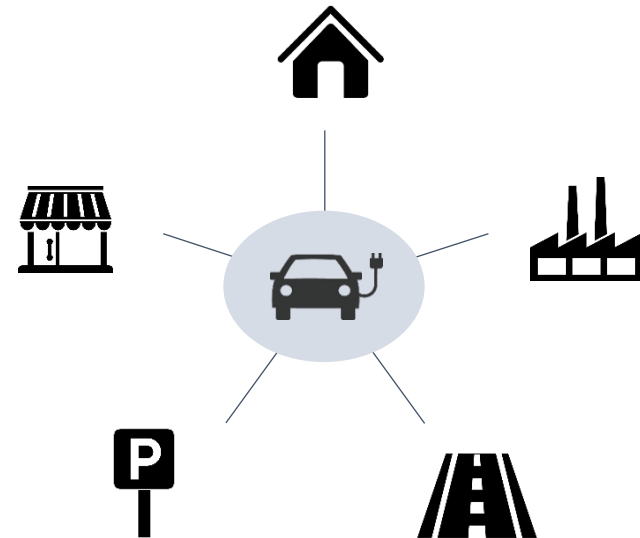
Preliminary remark

Why is knowledge about charging behaviour important?

In the public discussion it is often assumed that e-car drivers mainly charge at home. The rest is divided between employers and charging at motorways. These assumptions are no longer tenable.

Questions for eMSP:

- Where do which e-car drivers charge?
Where do your own customers charge?
- Which cooperations are necessary to be represented at the relevant charging locations?



Charging behaviour and habits

Charging options*

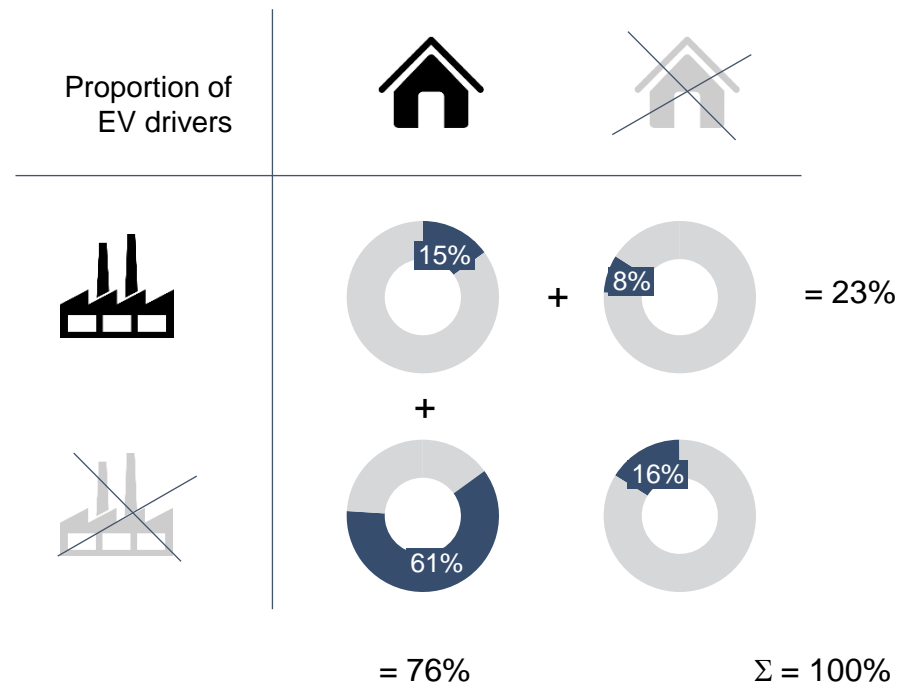
76% with a charging option at home.

Three quarters of the respondents have a charging option at home. Among them 15% with an additional charging offer at the employer.

23% have an option to charge at the employer.

16% of e-car drivers are completely dependent on the public charging infrastructure.

Proportion of respondents with charging facilities at home and / or at the employer:



* This question is asked in several UScale surveys. For the sake of a larger sample, responses from several surveys were combined for this analysis.

Charging behaviour and habits

Loading locations*

(Fast-)Öffentliche Ladungsbereiche sind ein wichtiger Bestandteil im Lade-Ökosystem.

Drei Viertel der Befragten können zuhause laden und knapp ein Viertel hat eine Lademöglichkeit beim Arbeitgeber.

In der Gesamtheit der Befragten (mit Zuhause- und Arbeitgeberladen) laden im Durchschnitt 31% an öffentlichen AC-Ladestationen.

Die Befragten nennen durchschnittlich 2,1 Ladorte, an denen sie üblicherweise laden.

* Diese Frage wird in mehreren Umfragen gestellt. Gezeigt wird immer die jeweils aktuelle Anzahl an Ladestellen. Informationen zu den Umfragen sind unter [www.uscale.com](#) verfügbar.

"Where do you usually load your [brand]?"



Legende: 31% der Befragten laden an öffentlichen AC-Stationen

Charging behaviour and habits

Loading locations

Abhängig von den individuellen Lademöglichkeiten ergeben sich unterschiedliche Nutzungsmuster für privat-öffentliche Lademöglichkeiten.

"Where do you usually load your [brand]?"

Legend:
 - Blue: Private charging location
 - Red: Public charging location

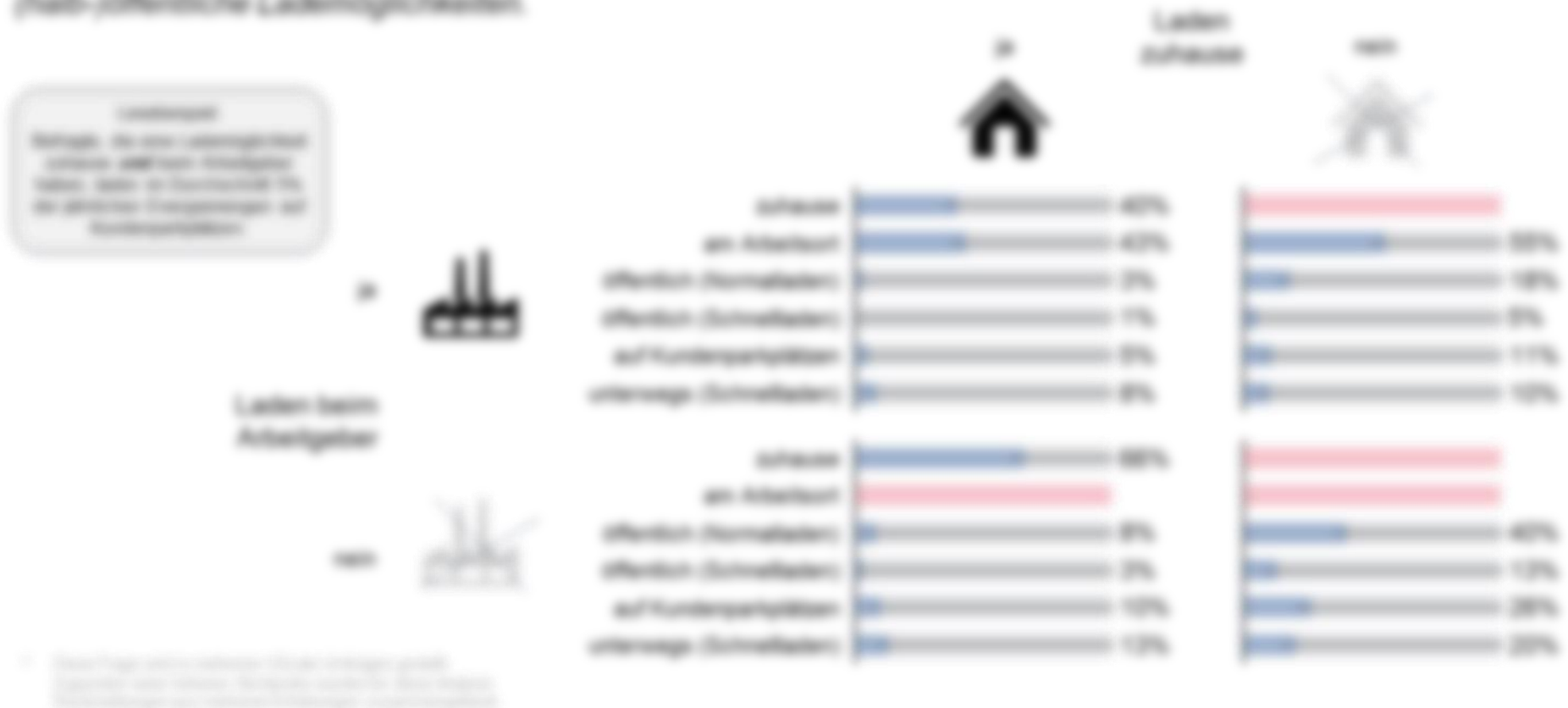


Charging behaviour and habits

Energy quantities per charging location

"Approximately what proportion of your annual charging power do you charge where?"

Abhängig von den individuellen Lademöglichkeiten ergeben sich unterschiedliche Nutzungsmuster für (halb-)öffentliche Lademöglichkeiten.



Charging behaviour and habits

Charging occasions*

Pragmatisches Ladeverhalten

Es überrascht nicht, dass in vielen Fällen immer nur längere Fahrten oder bei Unterschreiten eines bestimmten Batteriefüllstands (SoC) laden.

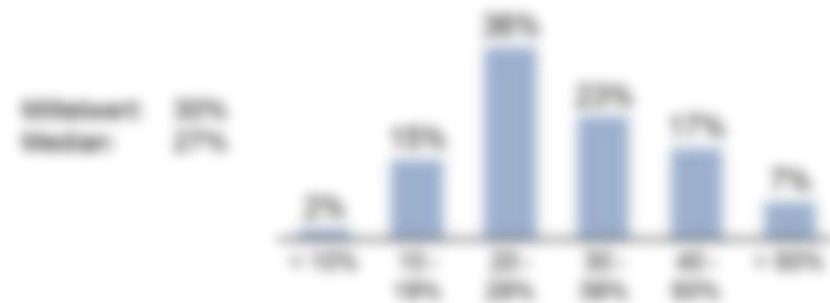
Überraschend dagegen ist, dass auch 40% der Befragten zufällige Gelegenheiten zum Laden nutzen, selbst wenn der SoC noch kein Laden erforderlich machen würde.

Nur wenige laden bei einem SoC unter 10%. Die Mehrheit der Befragten ladet bei einem Füllstand zwischen um die 30%.

"When do you usually load your [badge]?"
(Multiple answers possible)



for charging at a certain level:
"At what battery level do you usually charge?"



* This question is asked in several UScale surveys. For the sake of a larger sample, responses from several surveys were combined for this analysis.

Charging behaviour and habits

Charging technology at home: expansion requests

Do you plan to further expand your charging technology at home?

Do you plan to further expand your charging technology at home? = yes

Do you plan to further expand your charging technology at home? = no



Charging behaviour and habits

Charging requirements

Hohe Bereitschaft zu adaptivem Verhalten

aktive Fahrerinnen zeigen sich flexibel. Der Wunsch, möglichst regelmäßig & 80% geladelt zu werden, ist gering. Auch der Anspruch, immer volle Leistung zu erhalten, ist nur bei einem Viertel vorhanden.

Zwei Drittel sind bereit, ihre Ladeanforderung bei Engpässen anzupassen, solange das evtl. in der Früh-Ladung geladelt ist und der Preis stimmt.

"How would you rate the following statements when charging at home?"



Charging behaviour and habits

Loading fears

Keine Sorge mit neuer Batterie IngenieurInnen

Nur gut 1% der Befragten stimmen bei allen genannten Aussagen „gar nicht zu“.
57% der Befragten stimmen mindestens einer der genannten Aussagen zumindest teilweise zu.

Über 10 der Angestellten stellt die Sorge, auf kaputte oder fehlende Stellen zu stoßen. Die wenigsten Sorgen machen sich die Befragten, mit neuer Batterie legen zu werden oder gar keine Ladestelle zu finden.



Für verschiedene Personals ergeben sich signifikante Unterschiede bei den Vertrauensratings. Hierzu siehe Kapitel „Personal“.

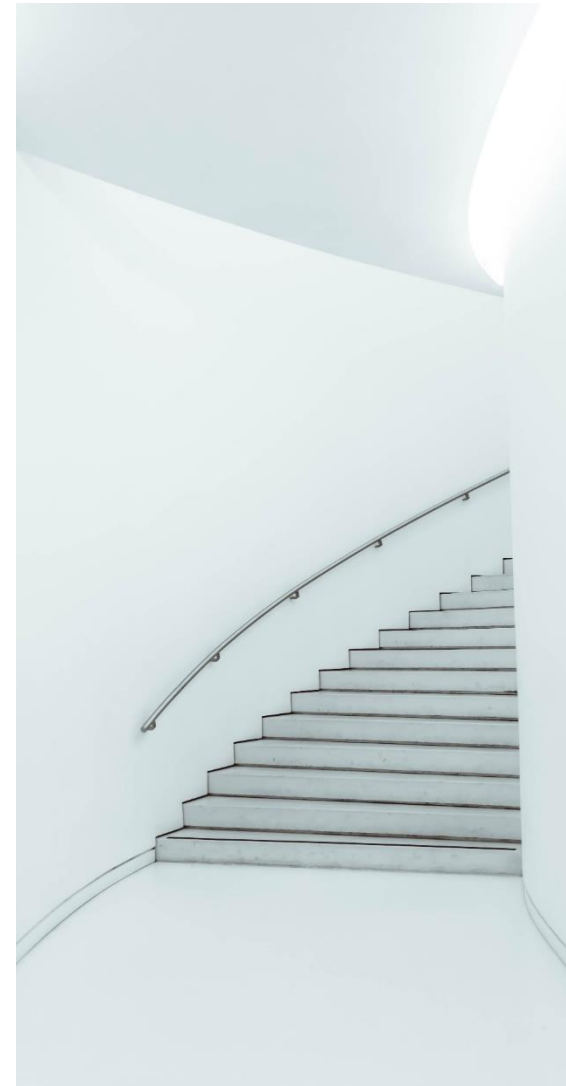
"How would you rate the following statements?"



Decision-making process driving current

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Choice of electricity supplier

Preliminary remark

How heterogeneous are the identified customer segments and what do they have in common?

The persona groups were formed based on their statistically significant differences in terms of their criteria when choosing their electricity tariff and supplier.

The results presented below have been summarised across all segments.

Characteristics with significant differences between the personas are marked.



Selection of electricity suppliers

Change of electricity supplier

Change of supplier usually directly when buying a car.

One year after buying the e-car, around one third have switched electricity providers.

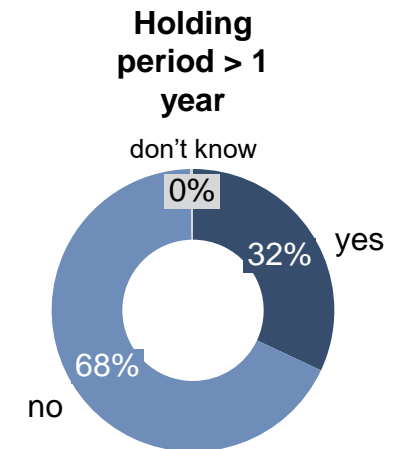
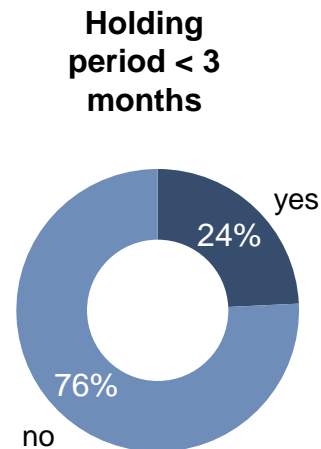
Shortly after taking delivery of their e-car, a quarter have already changed their electricity supplier.

When e-car drivers change their electricity supplier in connection with the switch to an e-car, they do so in close temporal connection with the purchase of the e-car.



For different personas, there are significant differences to the change of supplier. For more information, see the chapter "Personas".

"Have you changed your electricity supplier in connection with charging at home?"



Selection of electricity suppliers

Change of electricity supplier

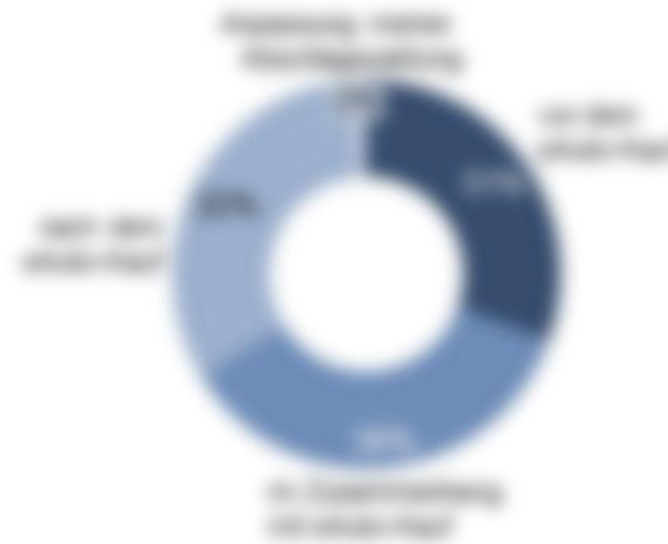
How often do you change your electricity supplier?

How often do you change your electricity supplier?

How often do you change your electricity supplier?

Holding period e-car > 1.5 years
and change = yes

"When did you first consider taking out a separate electricity contract for charging electricity?"



Selection of electricity suppliers

Change of electricity supplier (reasons)

Preis und Umwelt auf Ökostrom als ausschlaggebende Gründe

Rund die Hälfte der Wechselverurteilte wichtige Gründe

Die übrige knappe Hälfte nennt den Wechsel auf ein Ökostromangebot oder die Kopplung mit der eigenen PV-Anlage als ausschlaggebenden Grund

Change = yes
"Why did you change your electricity supplier?"




Selection of electricity suppliers

Criteria for choice of provider

Preis und Nachhaltigkeit vorne

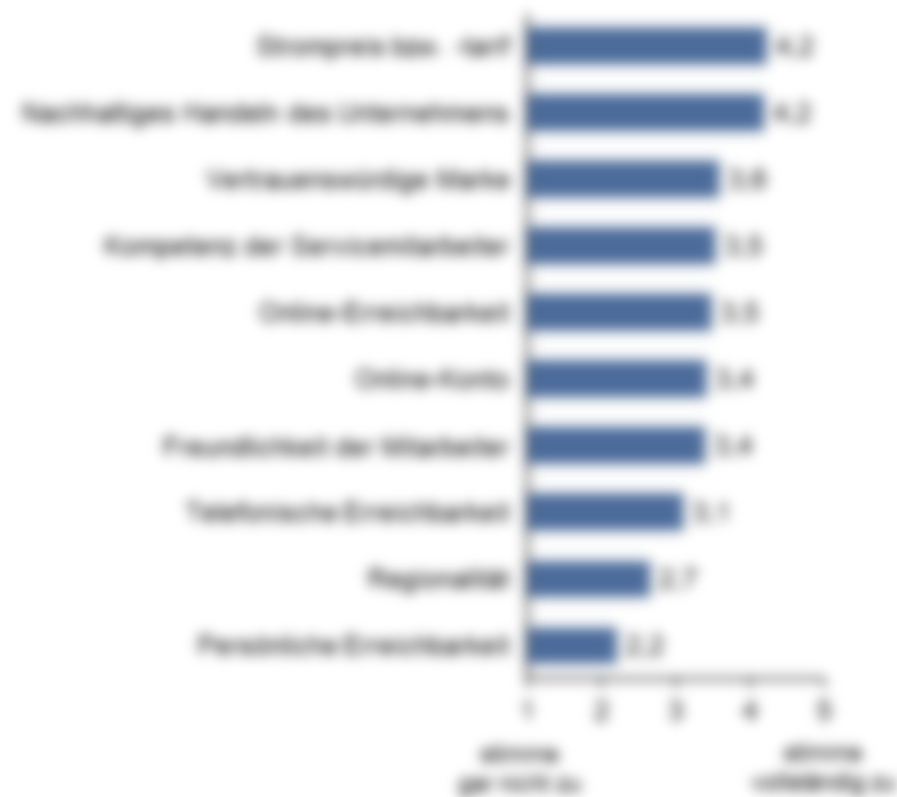
Über alle Befragten legt das Kriterium Preis am Preis und Nachhaltigkeit vorne

Als wichtigster Kanal zur Kontaktaufnahme hat die Online-Kommunikation den telefonischen und persönlichen Kontakt abgelöst

 Für verschiedene Personals ergeben sich signifikante Unterschiede bei der Bedeutung der Kriterien für die Wahl ihres neuen Energieversorger

"To your electricity supplier for charging power at home:

How important are the following criteria to you when choosing your provider?"



Selection of electricity suppliers

Criteria for tariff selection

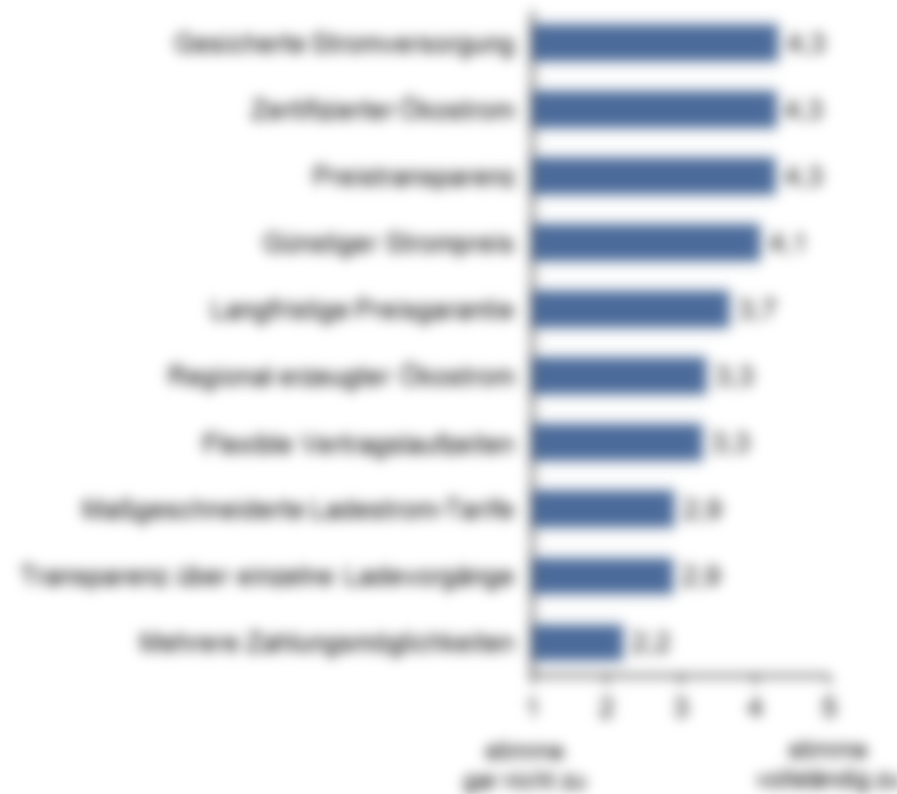
Übersicht und Preis vorne

Über alle Befragten liegt das Kriterium Preis aus Sicherheit, Übersicht und Preis (Transparenz) vorne

Aus diesen Kriterien fallen dagegen deutlich zurück



Für verschiedene Personennennungen ergeben sich signifikante Unterschiede bei der Bedeutung der Kriterien für die Tarifwahl. Hierzu siehe Kapitel „Personen“



"To your electricity supplier for charging power at home:
How important are the following criteria to you when choosing your Home and **charging electricity tariff** at home?"

Selection of electricity suppliers

Trust in electricity suppliers

Regionale und Spezialanbieter vorne

Über alle Befragten gemittelt gesehen regionale und spezielle Anbieter das mit Abstand höchste Vertrauen

Überregionale Versorger und Dritte fallen dagegen deutlich zurück

Außenanbieter stehen auch bei den Marken auf schlechtem, die heute bereits Angebote im Markt haben



Für verschiedene Personals ergaben sich signifikante Unterschiede bei den Vertrauensratings. Hier: siehe Kapitel „Personen“

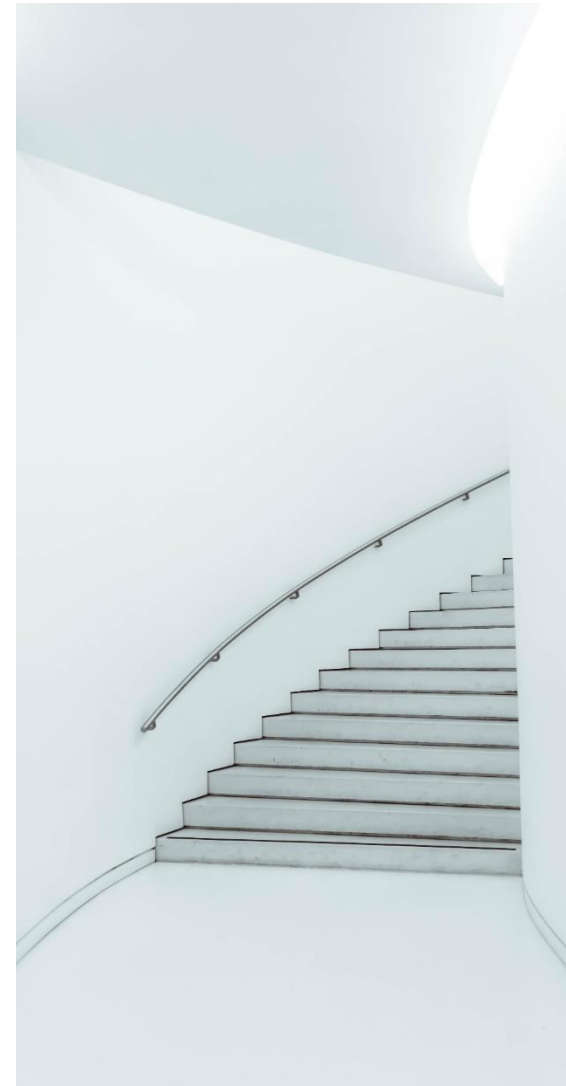
"What is or would be your level of trust in the following electricity providers?"



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User segmentation (persona formation)

Preliminary remark

Why should customers be segmented, i.e. grouped together?

The characteristics of e-car drivers and the criteria for choosing an electricity supplier differ significantly in some criteria and not at all in others.

For the providers to be as successful as possible, the differences must be understood and the different user groups must be addressed with their own offers.

Questions for providers:

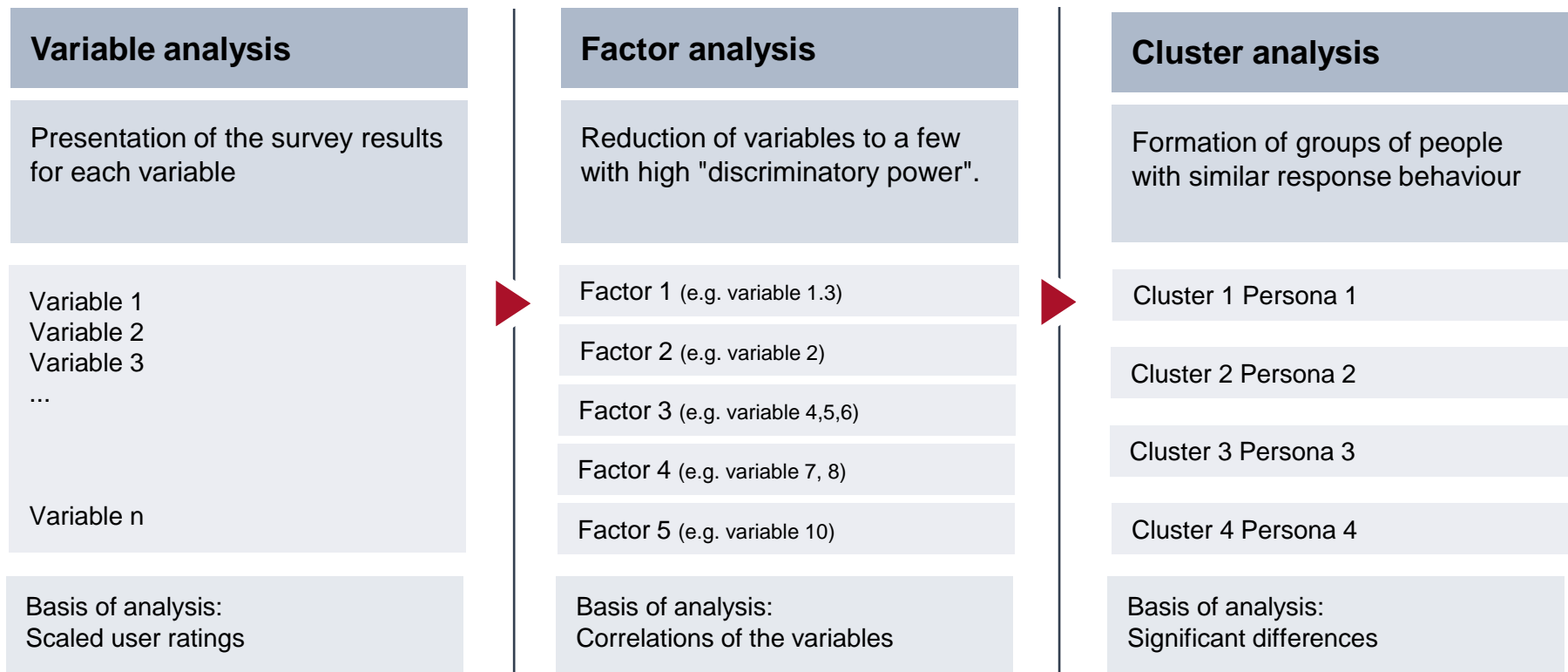
- Which user groups can be distinguished? How did they differ?
- With which messages do the different groups have to be addressed?



User segmentation (persona formation)

Methodology: Factor and cluster analysis

Three steps to a persona.

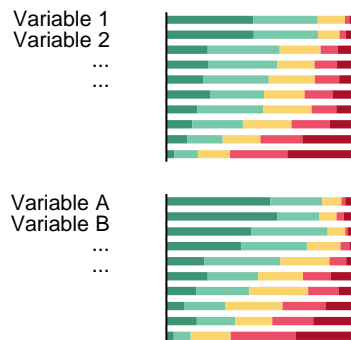


User segmentation (persona formation)

Methodology: Factor and cluster analysis

Preparation of the results

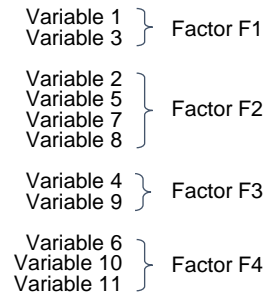
Descriptive user ratings



Descriptive analysis of all criteria.

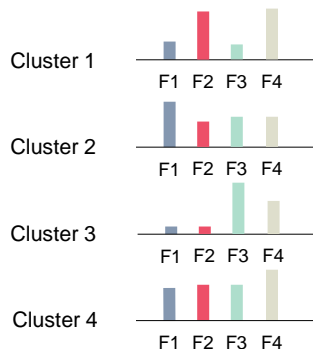
Which are the same for all segments, i.e. personas?
For which ones are there significant differences?

Factor formation



How can variables be summarised in terms of content? Which "umbrella terms" (= factors) can be derived?

Clustering

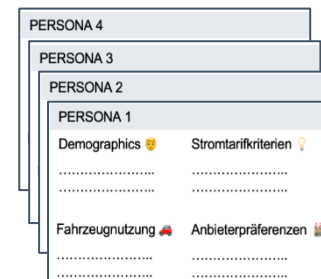


Which respondents have similar ratings for the factors?

What do the respondents have in common? Where do the respondent groups differ?

Which personas can be derived?

Persona interpretation



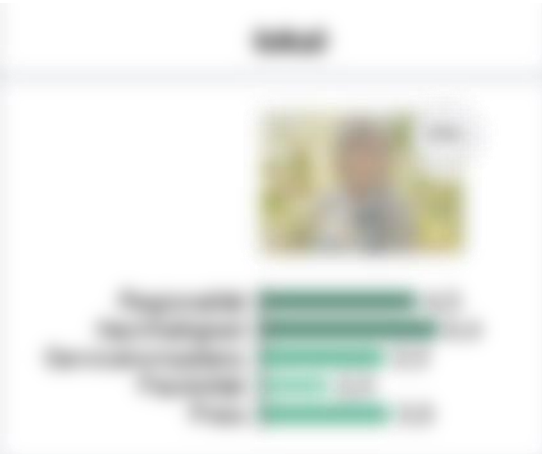


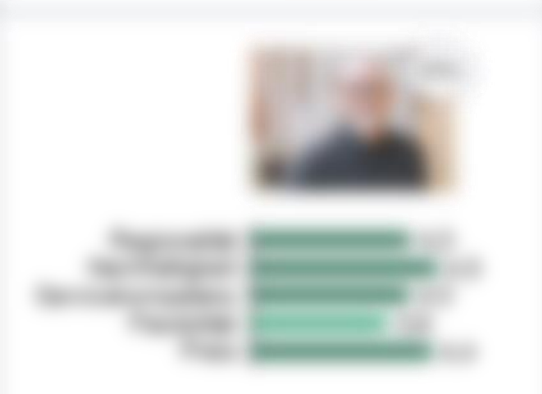
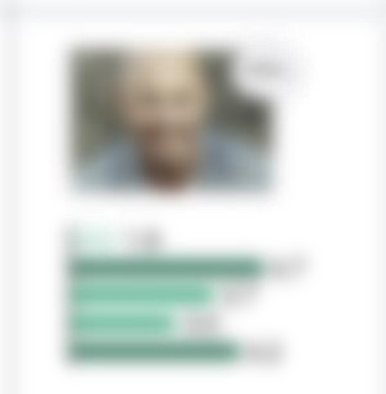

In which market characteristics do the personas differ (descriptive analysis according to personas)?

How does their behaviour differ?

User segmentation (persona formation)

Possible supply dimensions

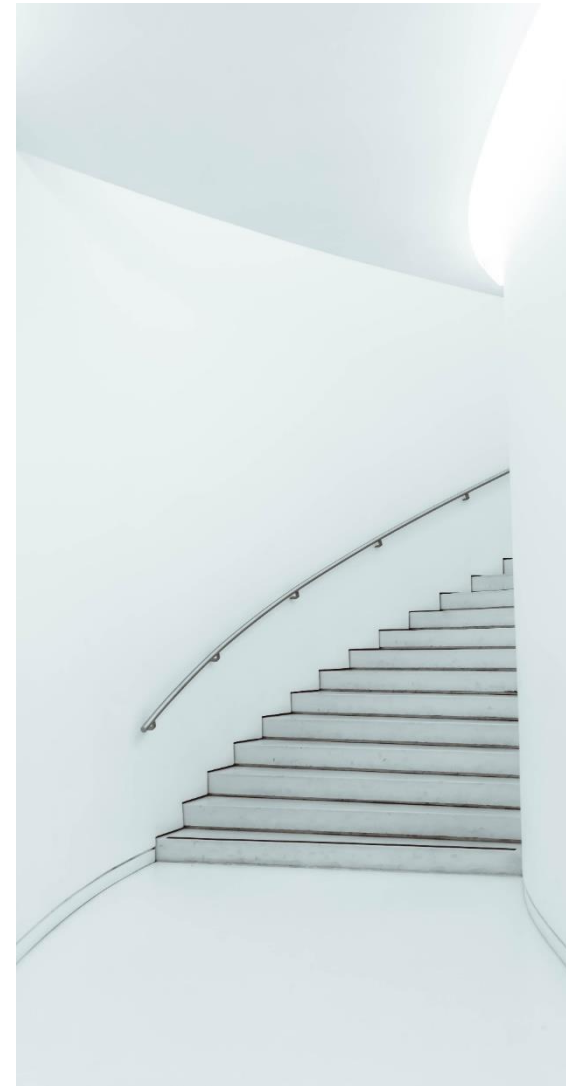
The 5 personas essentially differ in the criteria of aspiration, regionality and price.

		Regionality		Price
Claim	High			
	Low			

Decision-making process driving current

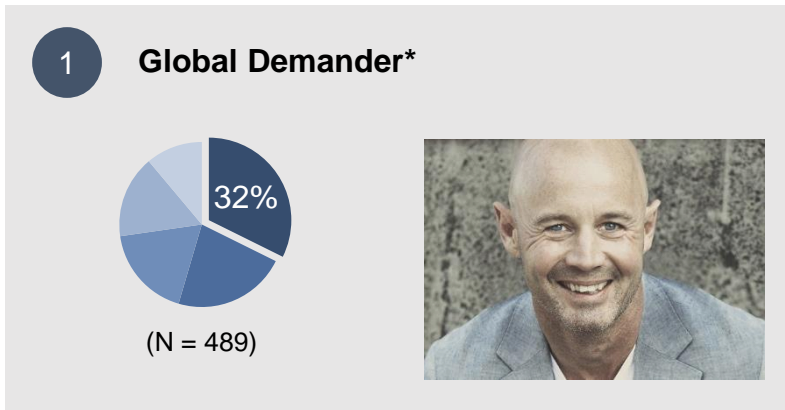
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 - 2. **Persona profiles:**
 - Global demander
 - Local demander
 - Local ecos
 - Global ecos
 - Price-conscious



Persona Profile Global Demander

Socio-Demographics



Housing situation



Occupation



Net household income (in €)



* Age and gender show no differences to the other segments.

Persona Profile Global Demander

Electricity suppliers: Criteria

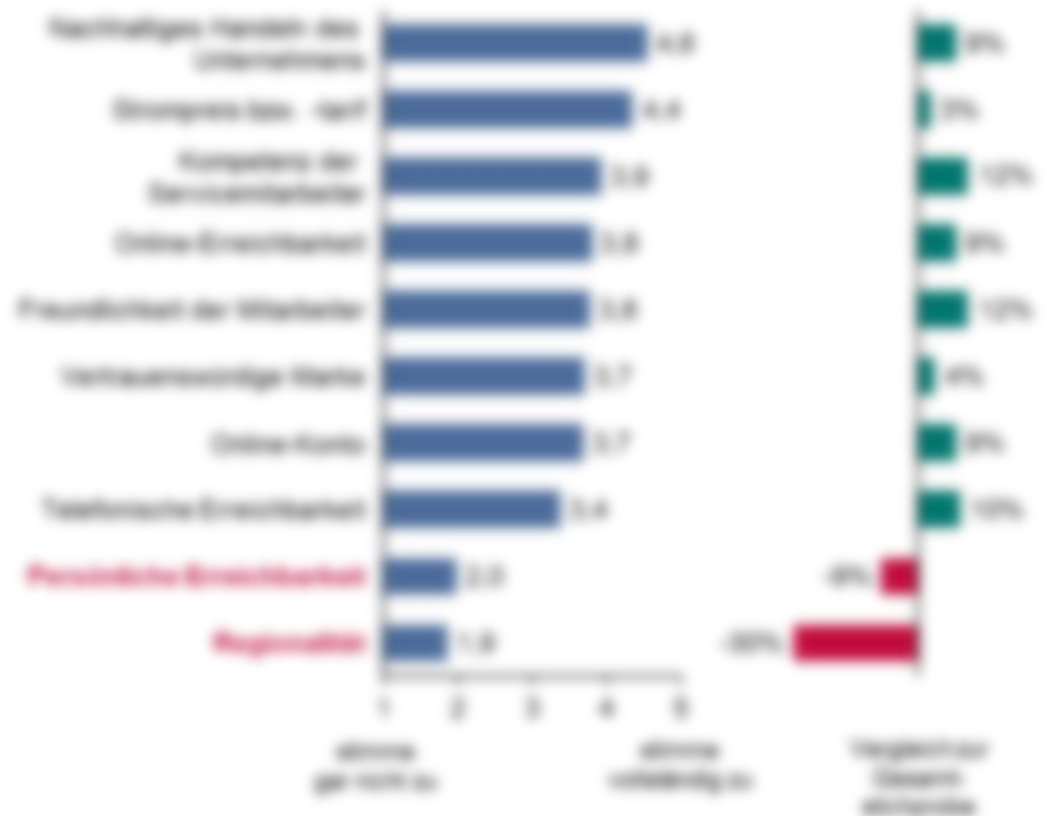


Höher Anspruch an (fast) alle Kriterien.

Die Globalen Demander legen sich in den meisten Kriterien anspruchsvoller als der Durchschnitt.

Eineg auf Regionalität und die persönliche Erreichbarkeit der Service-Mitarbeiter legen sie weniger Wert.

Wie wichtig sind Ihnen folgende Kriterien bei der Wahl Ihres Lieferanten?



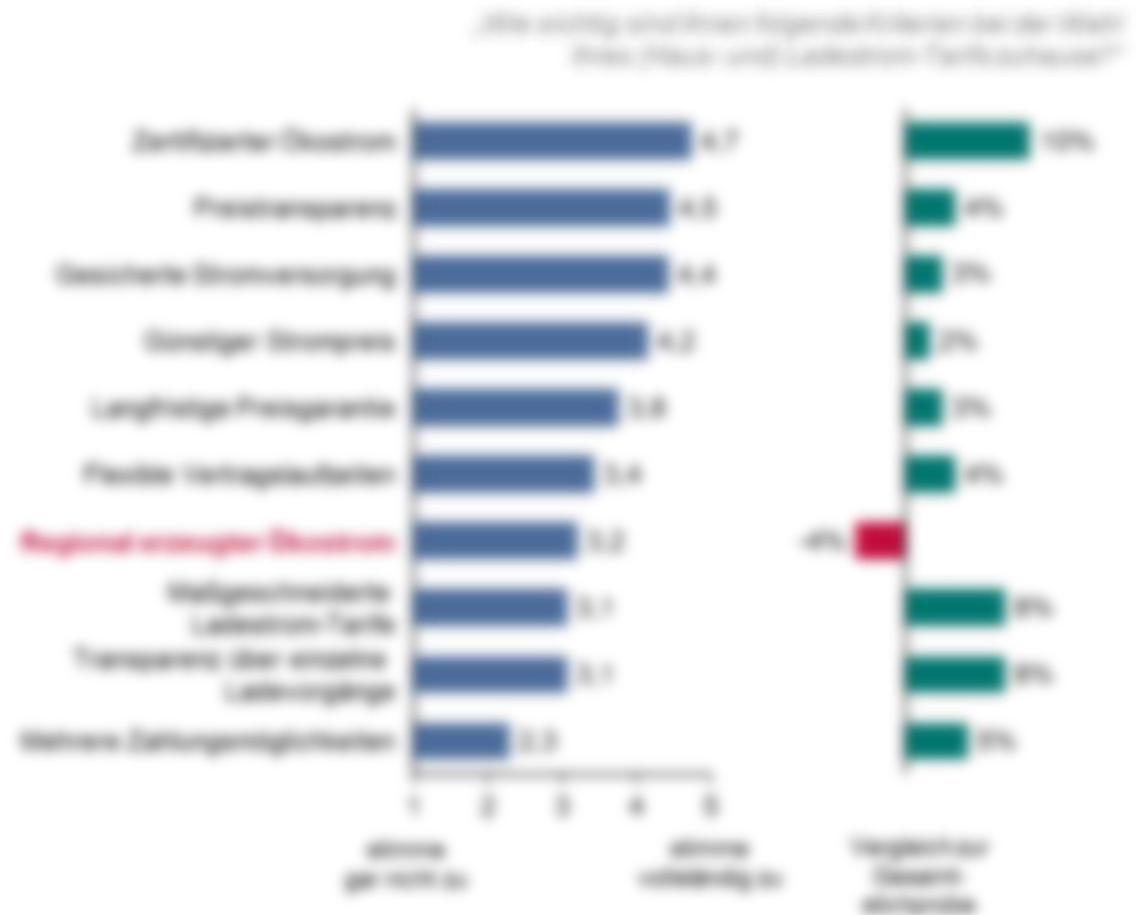
Persona Profile Global Demander

Choice of tariff: Criteria



Höher Anspruch an (fast) alle Kriterien.

Auch bei der Auswahl des passenden Tarifs messen die Globalen Demander mit Ausnahme der Regionalität allen Kriterien höhere Bedeutung bei als der Durchschnitt aller Befragten.



Persona Profile Global Demander

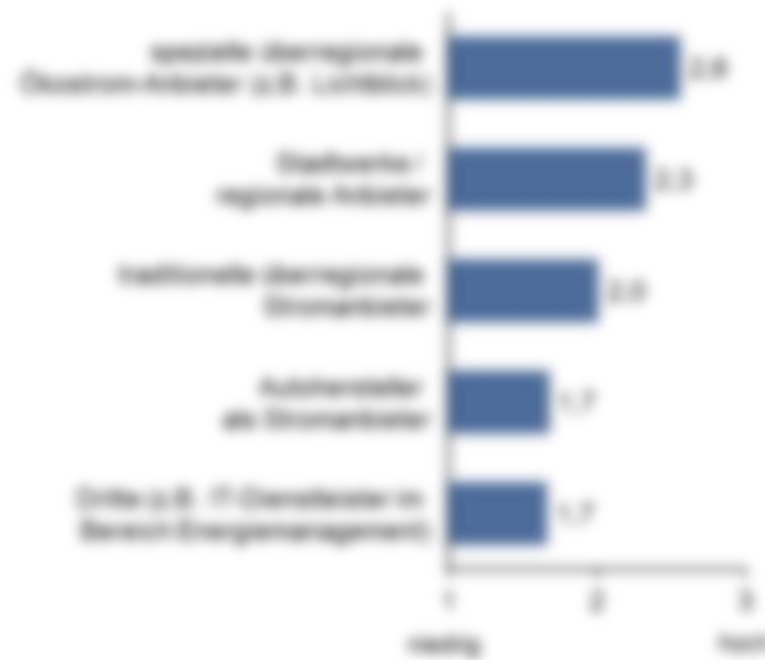
Trust in charging power providers



Präferenz für Spezialanbieter: Offenheit für Dritte

Erwartungsgemäß ist das Vertrauen in regionale Anbieter geringer als beim Durchschnitt

Höheres Vertrauen besteht in spezielle Anbieter und Dritte



Wie hoch ist das Vertrauen in folgende Anbieterkategorie?



About UScale

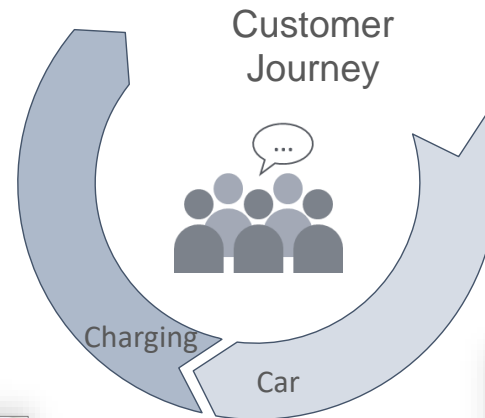
- UScale advises car manufacturers, energy suppliers and service providers on the customer-oriented design of offers and the development of KPI systems for customer perception.
- UScale's work is based on customer insights studies on all aspects of eMobility and an evaluation procedure for the acceptance of digital services from the customer's point of view.



- UScale is the only provider of a panel specialised in eMobility with over 5,000 panellists in German-speaking countries.
- UScale makes the customer perspective tangible for managers, engineers and IT'ers.
- UScale has extensive industry knowledge of the eMobility ecosystem.
- UScale combines extensive experience with the challenges of corporates with the agility of a start-up.

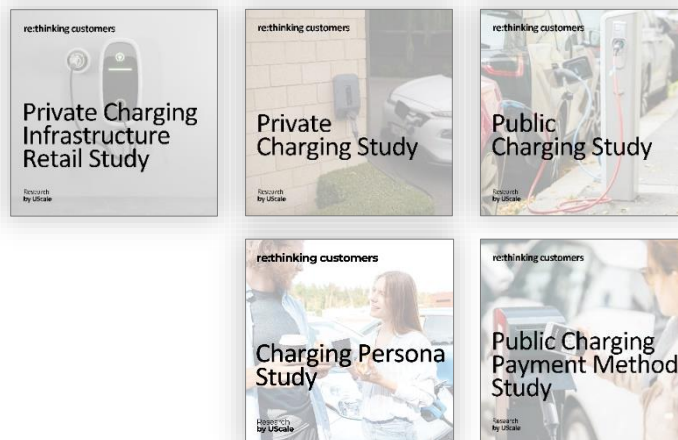
UScale focus studies

Business models



Buying and driving

charging





SCALE YOUR USER
SCALE YOUR BUSINESS



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