



Norsk **elbil**forening

# The Norwegian EV Success - Reaching mass market

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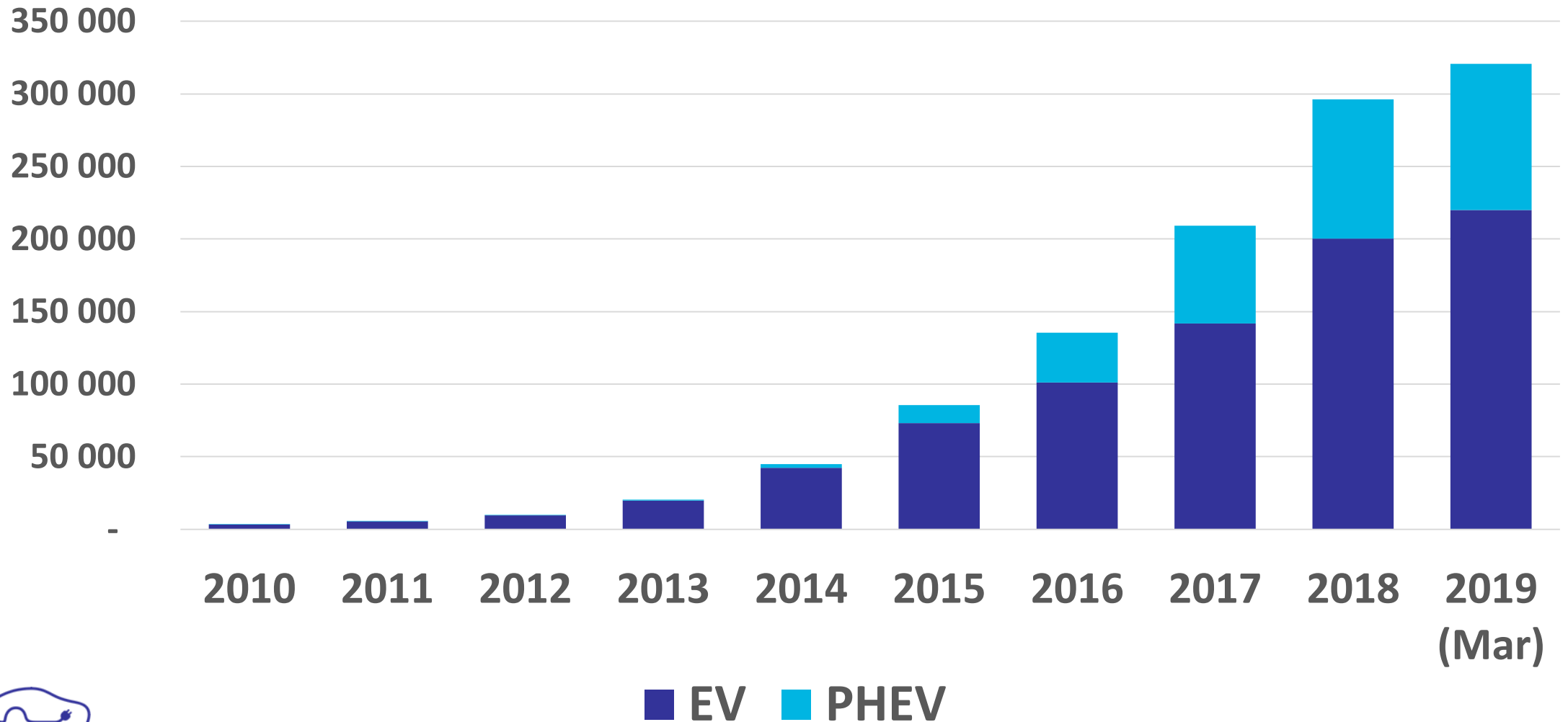


# The Norwegian EV Association

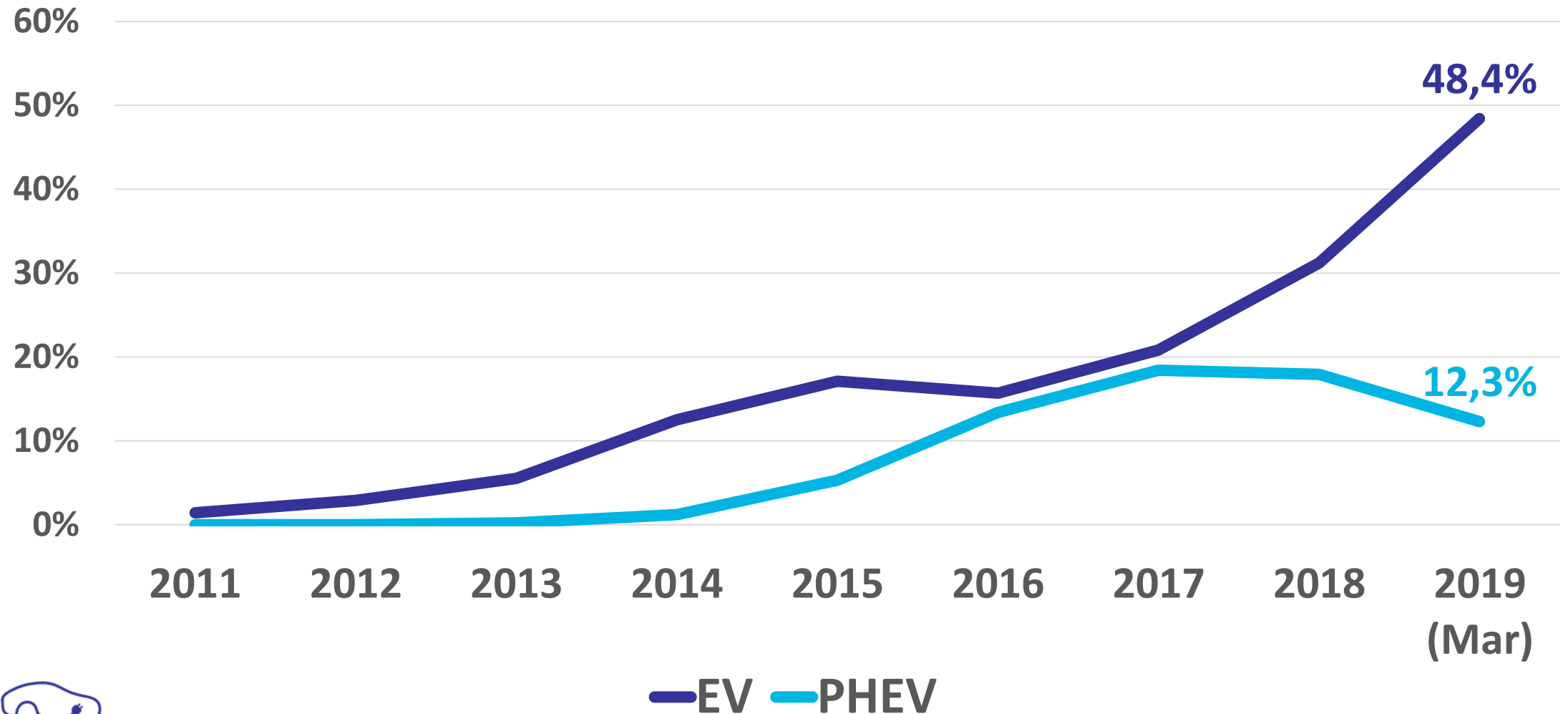
- World's largest
- Non-profit
- 70.000 members
- 30 employees



# Over 200 000 EVs in Norway! (+PHEV)

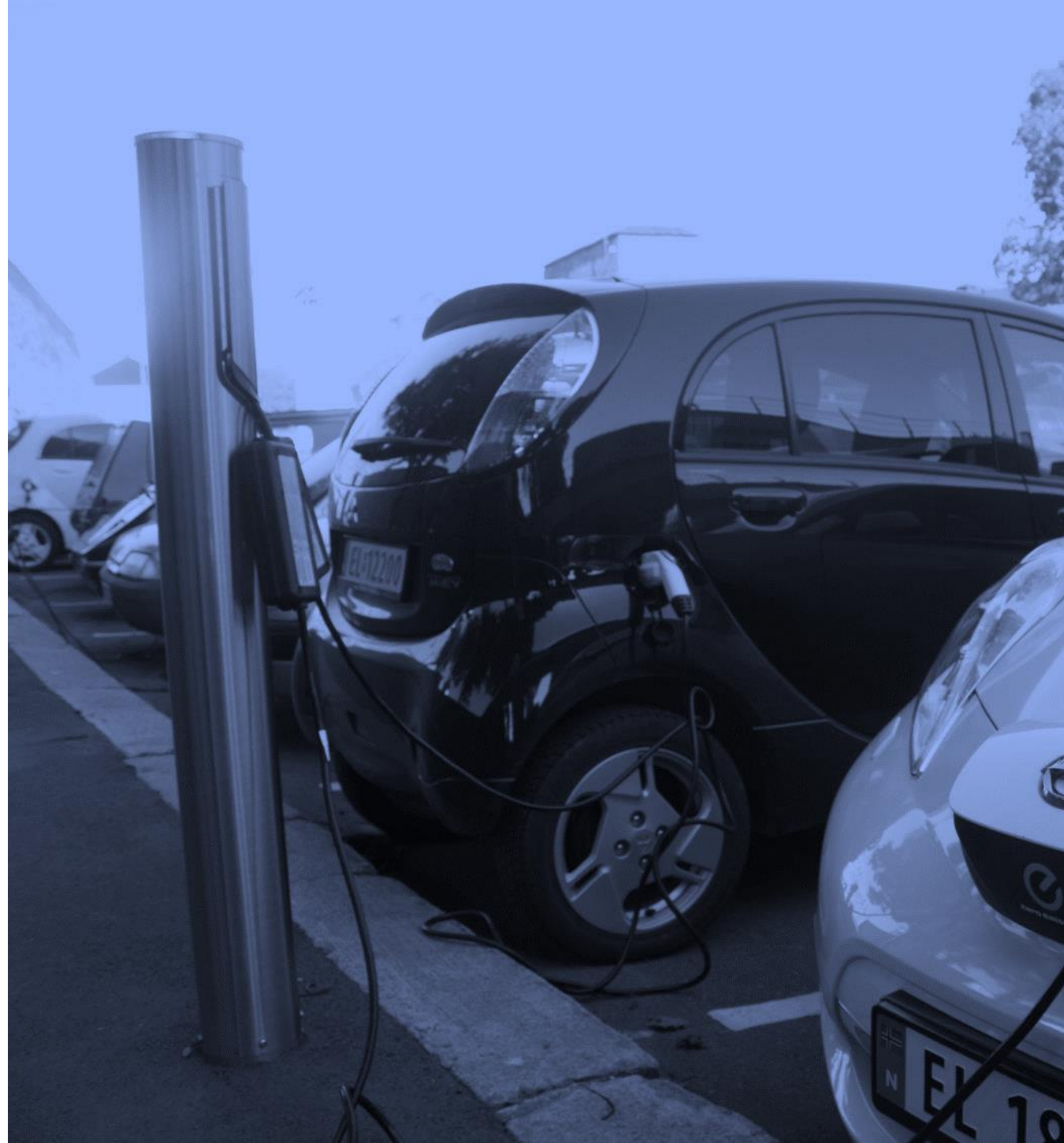


# Market shares EVs and PHEVs



# Support is key

- Buying or leasing:
  - No purchase tax
  - Zero VAT
- Owning:
  - No annual road tax
  - 60% company car tax
- Using:
  - Toll roads, ferries, parking
    - Max 50%
  - Bus lanes





# How?



	Golf (highline, 115 hp)	e-Golf
Price before taxes	23 434	34 600
25% VAT	5 858	-
CO2 tax (112 g/km)	4 330	-
NOx tax	243	-
Weight tax	1 830	-
Scrapping fee	250	250
<b>Retail price</b>	<b>35 945 €</b>	<b>34 850 €</b>

# Norway's 2025-goal

- We will stop selling diesel and petrol cars from 2025.
- National Transport Plan 2018–2029:  
*“All new passenger cars and light vans sold in 2025 shall be zero-emission vehicles. All new urban buses sold in 2025 shall be zero emitters or use biogas”.*

## Meld. St. 33

(2016–2017)

Melding til Stortinget

Nasjonal transportplan 2018–2029



# Challenges going forward

- Policy measures
- Cars
- Consumers
  - Ethics
- Charging





**Larger cars (54%)**

**Smaller cars (46%)**



**11%**



**47%**

- More than 30 000 consumers are waiting on more than 40 000 cars

## Nordmenn har betalt over 400 millioner vente på elbil

Over 30.000 nordmenn står i kø for å kjøpe en av de nye elbilene som er på vei ut i markedet, og mange har betalt for å stå der. Bilprodusentene må få opp farten, mener Norsk elbilforening.



Over 30.000 nordmenn har betalt mellom 3000 og 20.000 kroner for å stå på venteliste for en av de mange elbilene som kommer den neste tida. Tesla, Audi, Hyundai og Kia har trolig de lengste køene.

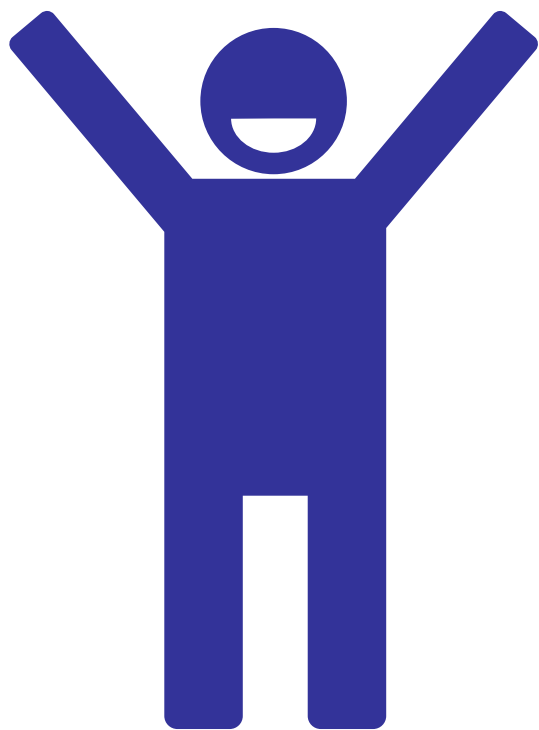
FOTO: OLE ANDREAS BØ / NRK



**Mari Rollag Evenstad**  
@mariroll  
Journalist

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Oppdatert i går kl. 12.00





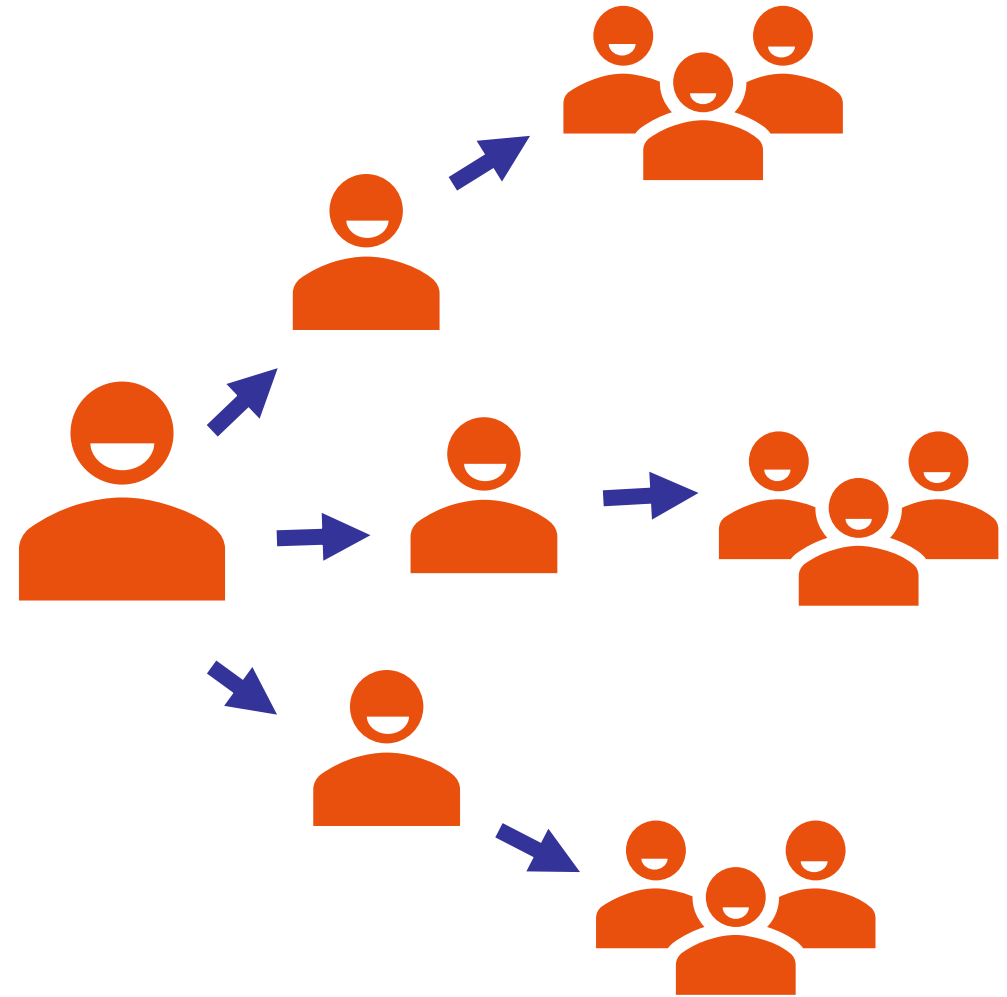
**92%**

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ARE SATISFIED OR VERY SATISFIED  
WITH BEING A BEV OWNER

# 73%

HAVE INSPIRED ONE OR MORE PEOPLE  
IN THEIR SOCIAL CIRCLE TO BUY A BEV

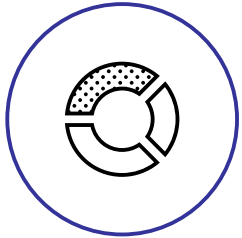




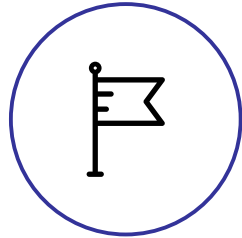
# If you had to replace your electric car tomorrow, would you get a...



# The EV Barometer 2019



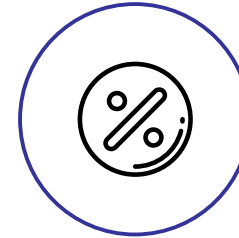
**Web-based  
questionnaires**



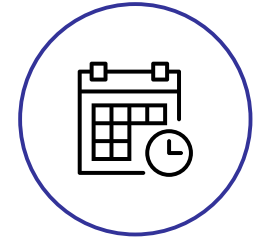
National  
**representative**  
samples,  
weighted by **age**,  
**gender** and  
**geography**



**Total: 4798**  
Norway: 1000  
Sweden: 1004  
Denmark: 1000  
Finland: 1000  
**Iceland: 794**



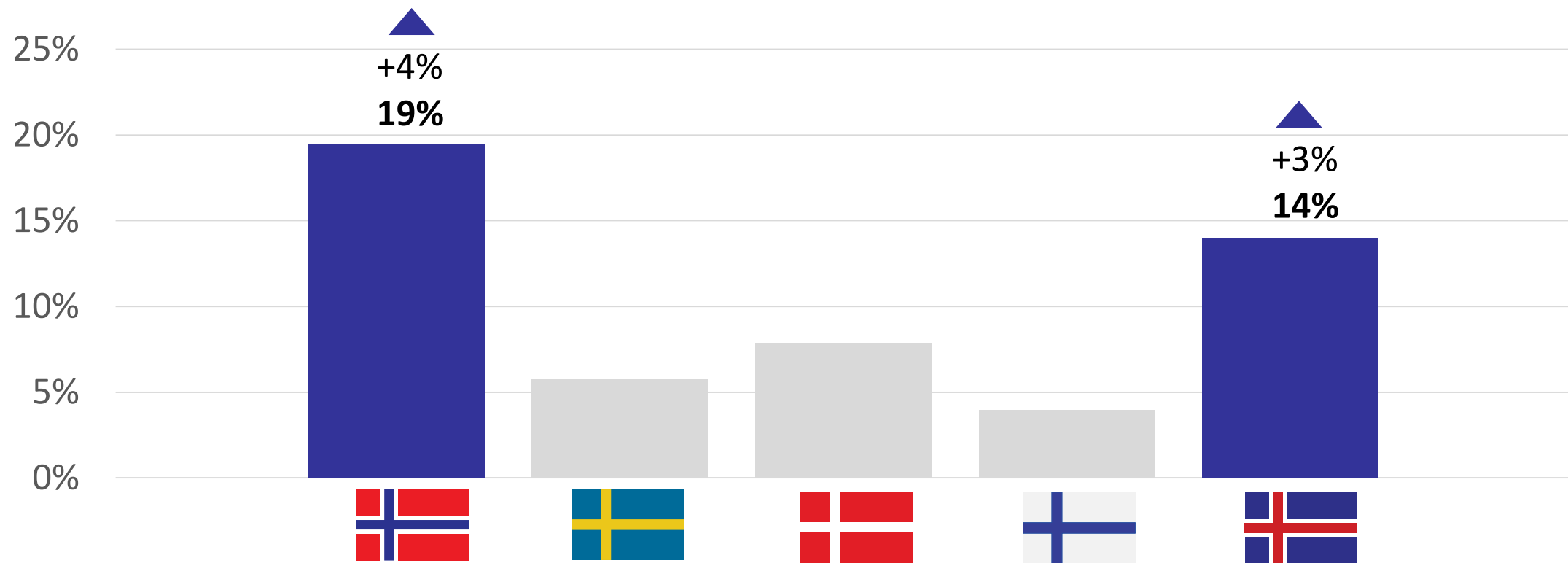
Margins of  
error:  
**+/- 1,1 -  
3,2%**  
at n=1000



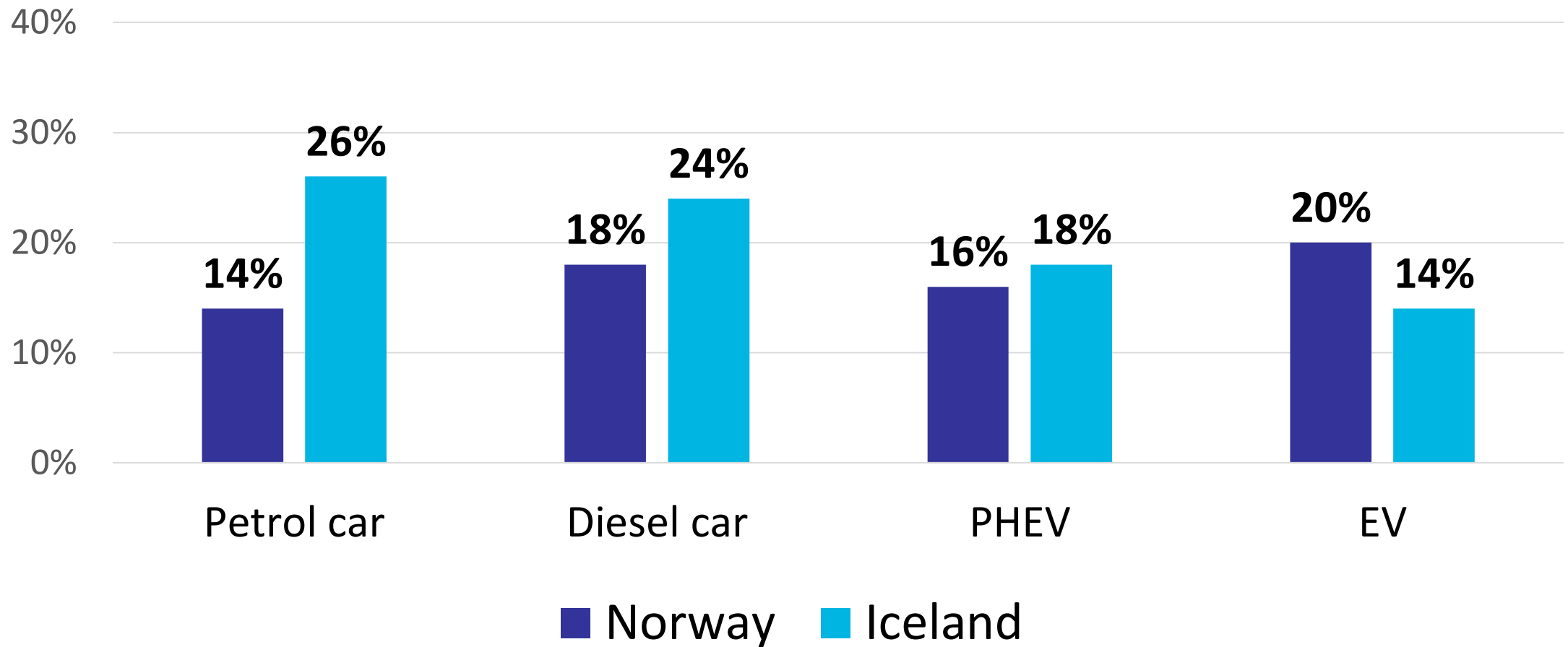
Conducted  
**February/March  
2019**



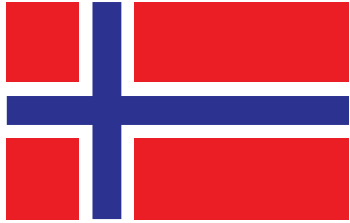
# EV as next car



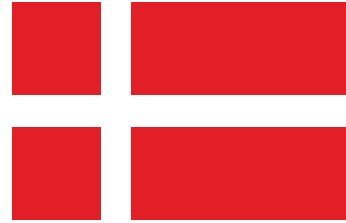
# What type of car are you most likely to choose?



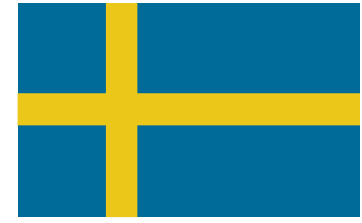
# Number one barrier



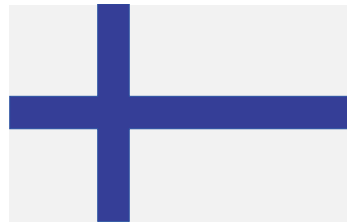
**LACK OF RANGE**



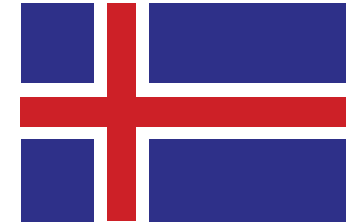
**PRICE**



**PRICE**

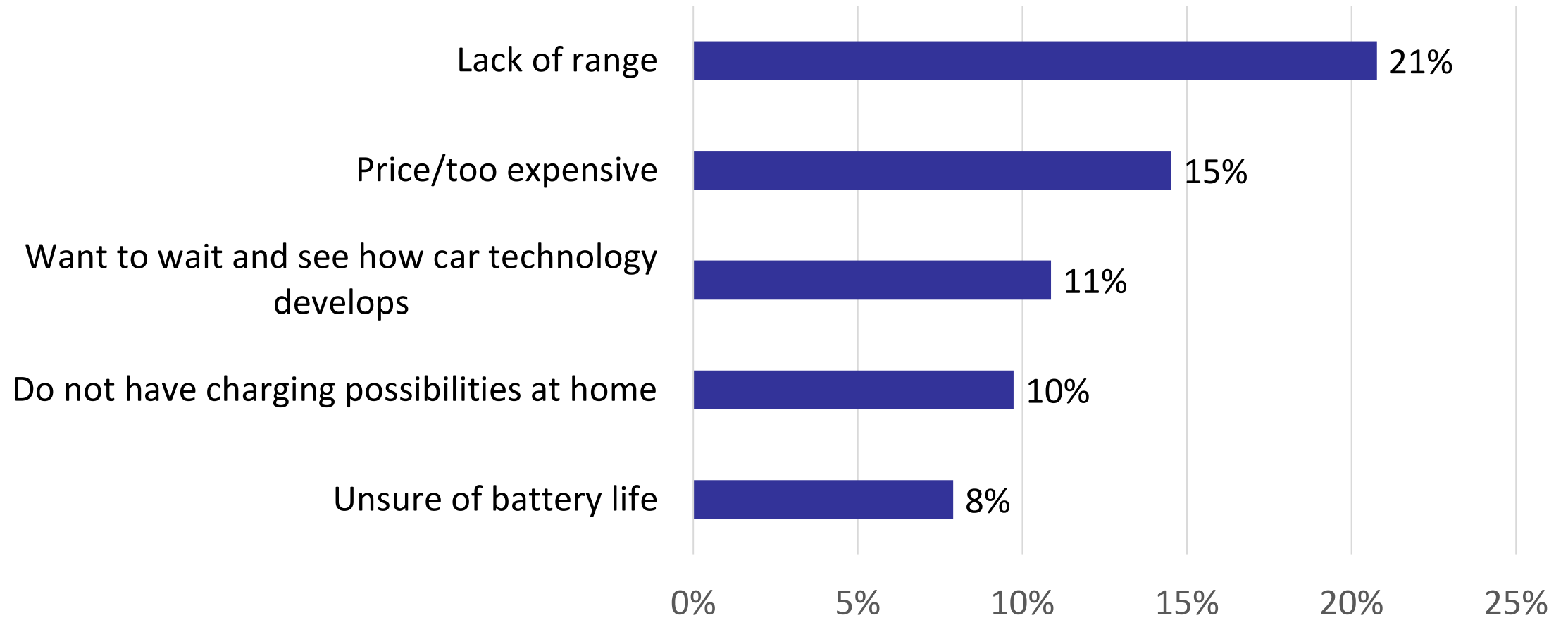


**PRICE**



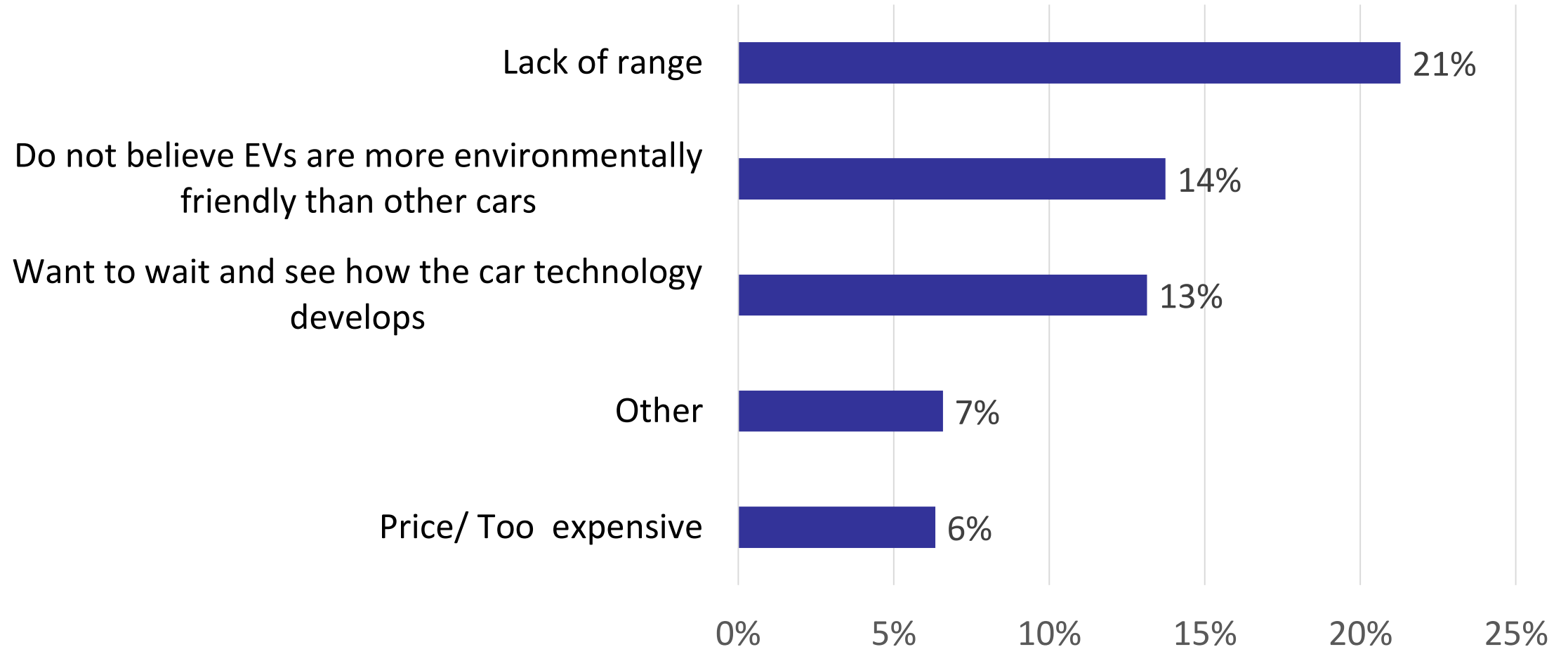
**LACK OF RANGE**

# 5 biggest barriers - Iceland





# 5 biggest barriers - Norway



# EVs and human rights

## We believe:

- Green AND ethical
- Change a «dirty industry»
- Reuse and recycle

## We do:

- Consumer work
- Policy work
- Cooperation



**“THIS IS WHAT WE DIE FOR”**

HUMAN RIGHTS ABUSES IN THE DEMOCRATIC REPUBLIC  
OF THE CONGO POWER THE GLOBAL TRADE IN COBALT





neighbourhood. Since the discovery, hundreds of mines have been dug by artisanal miners in the neighbourhood. Cobalt is used to power mobile phones, laptop computers, and other portable electronic devices.

© Amnesty International



Photo: Helge Brekke





# 64 %

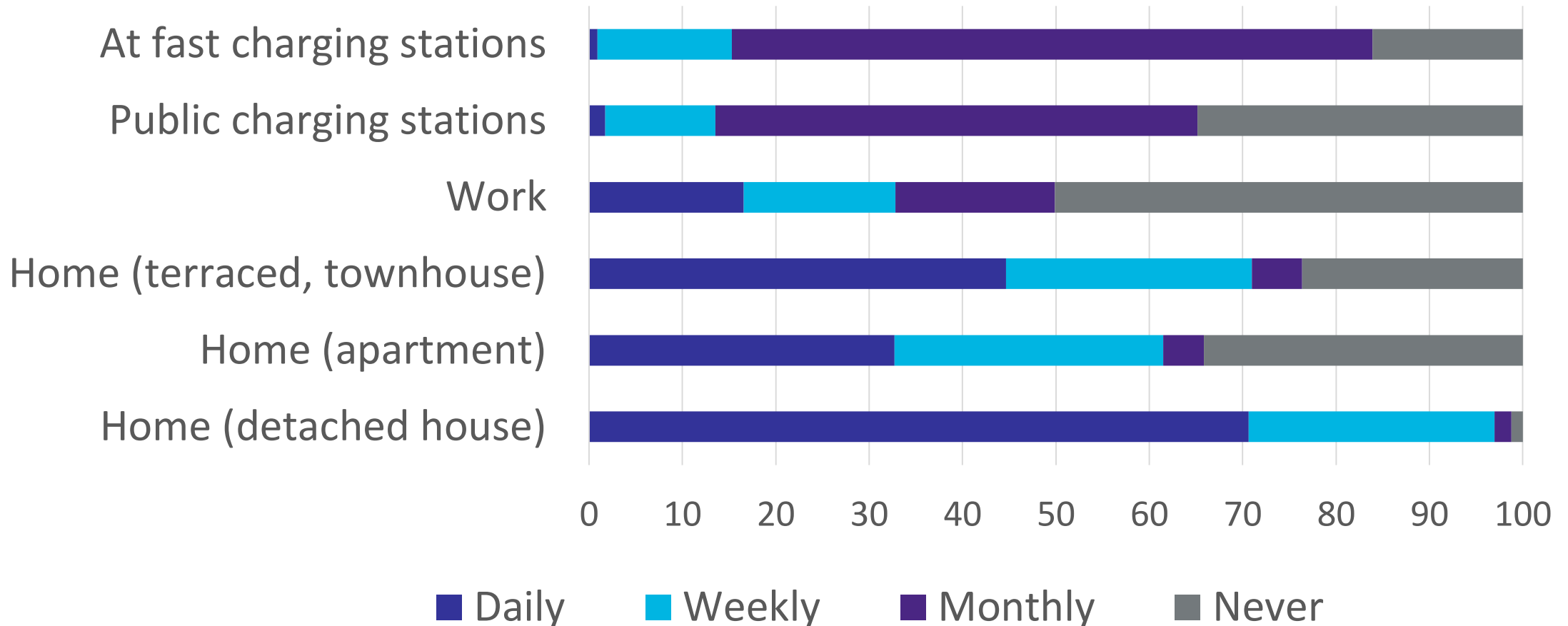
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WANT A CERTIFICATION BODY TO  
ENSURE A **SUSTAINABLE** EV BATTERY  
PRODUCTION





# How often do you charge...





# Development of fast charging

- **From 2011-2014**
  - Around 50 million NOK (~6 M EUR) in governmental funding
  - Up till 100 % support for installation costs
  - No support for operating costs
- **Locations**
  - To a large degree selected by operators
  - Some areas prioritized when giving support



# 2015: A national plan

- Public tenders for national fast charging network by Enova
- Fast charging stations every 50 km on all main roads (7 500 km)
- Finished by end of 2017





# 2017...

- Support scheme for charging stations in municipalities with less than two multi standard fast chargers (Enova)
- Limited to 40% / 200 000 NOK per charger
- Limited impact so far
- Will be changed



# Where are we today?

- 11 337 publicly accessible charging points, still a lot Schuko
  - 1180 CHAdeMO points
  - 1182 CCS points
  - 616 Tesla Superchargers
- Around **1.800** cars can fast charge at the same time

Source: nobil.no, April 3 2019





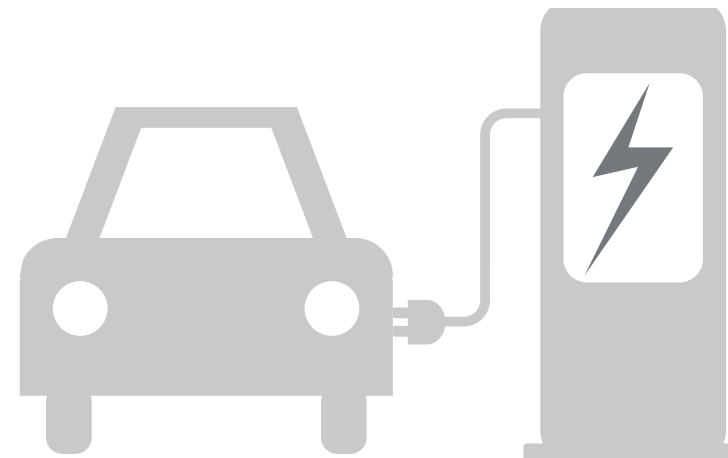
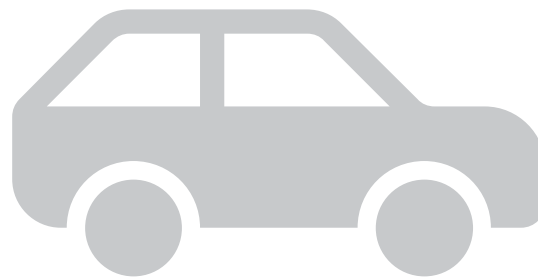
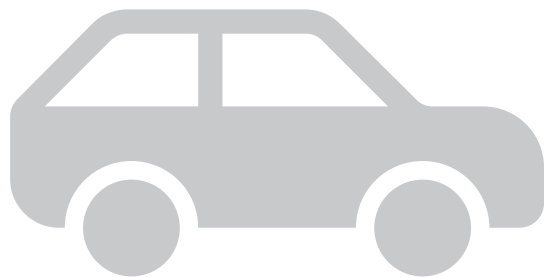
**Do you experience  
queues at the fast  
charging stations?**

**Always/Often**

**Occasionally**

**Rarely**

**Never**





## Do you experience queues at the fast charging stations?

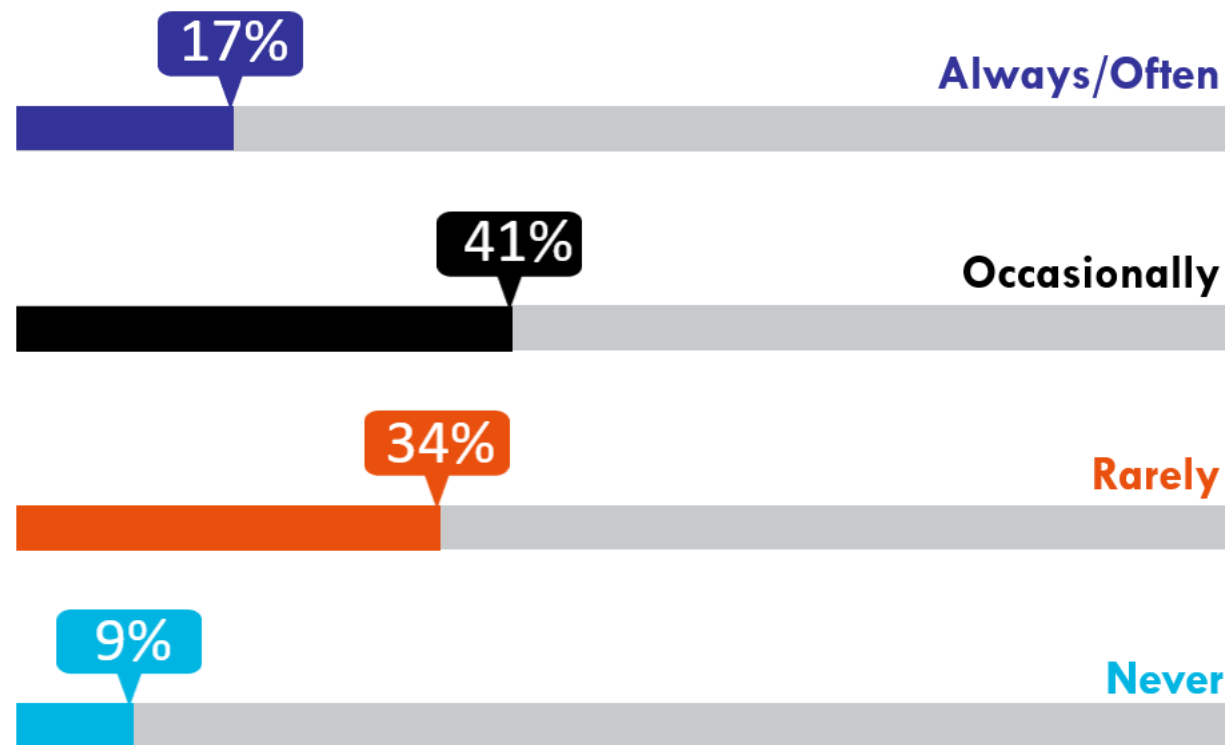








Photo: Fortum Charge & Drive







# Hver tredje bilist som stopper for å fylle her, skal *ikke* ha bensin eller diesel

Han frykter ikke at suget etter strøm skal true Shell-stasjonenes eksistens.

– Elbilister må også ha mat, toalettfasiliteter og spyelvæske. Folk stopper ikke bare for å fylle drivstoff eller strøm, de tar i bruk hele stasjonen, forklarer Rød.

## Ladekø

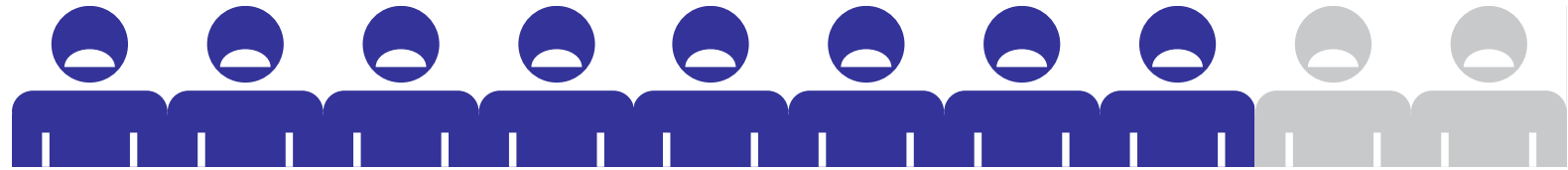
Fredag ettermiddag var alle



Skjermdump fra tv2.no: <https://www.tv2.no/a/10354492/>

# *Have you experienced fast chargers being out of order when trying to charge?*

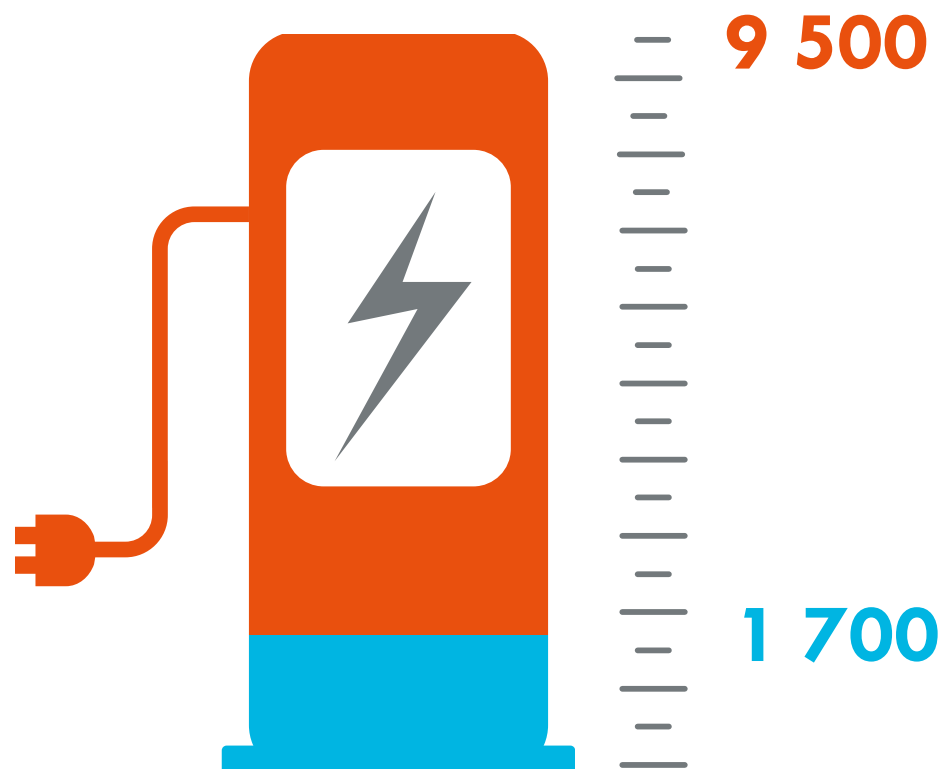
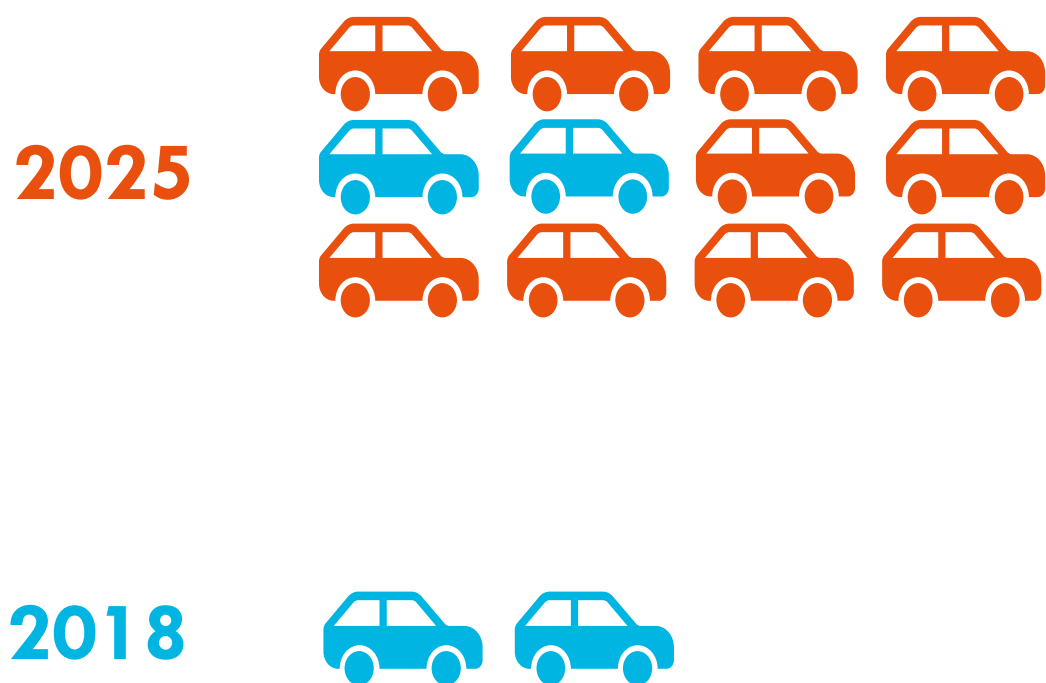
**Experienced  
charger being out  
of order  
80%**



**Occasionally or  
often  
60%**



# Towards 2025





# Next step: Larger and faster





**We will be charging more than a million cars in 2025...**  
**...then another 200,000 more every year**









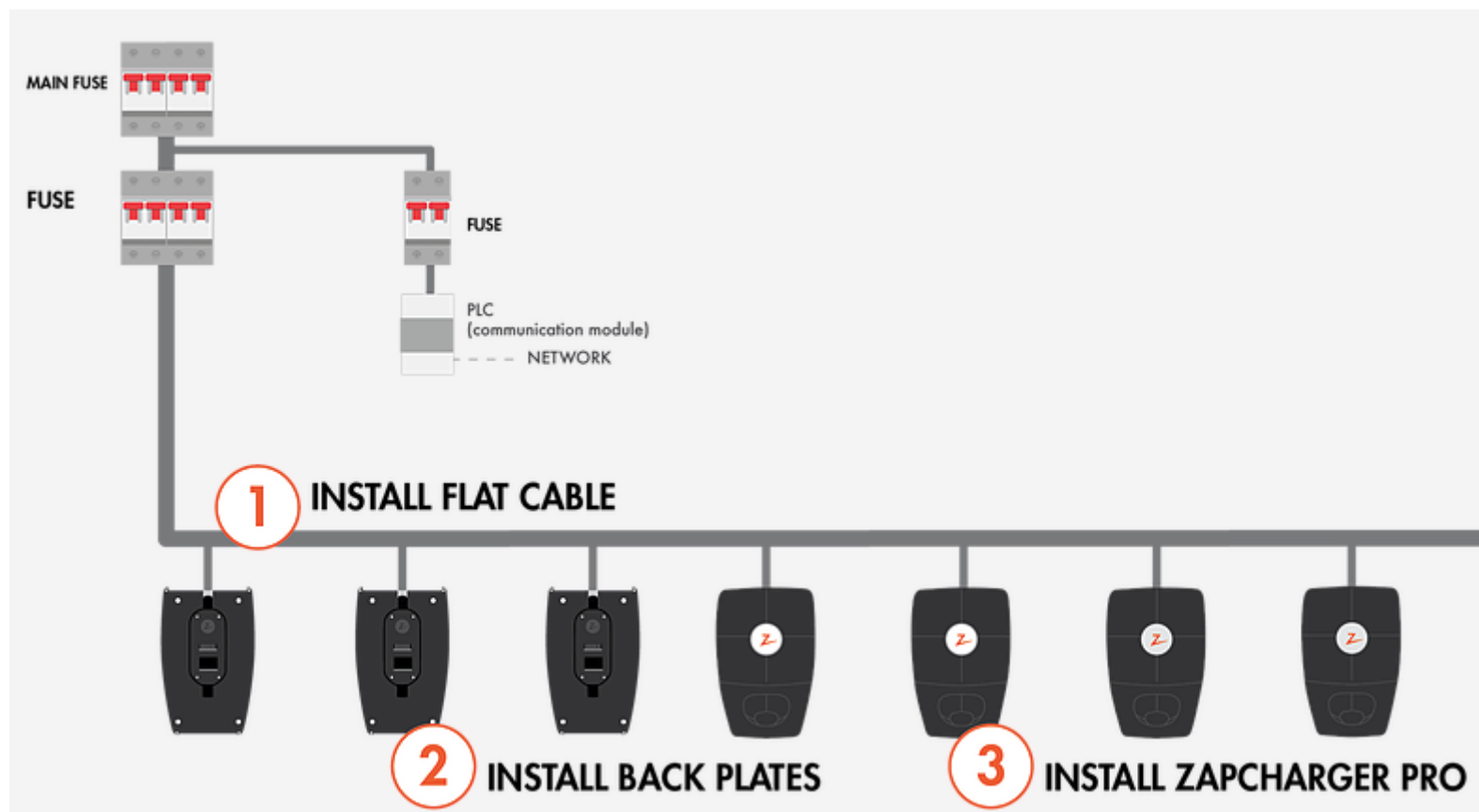
...and charging in cities & apartments



# Smart charging solutions

- A must in apartment buildings/parking garages
  - Local sharing of power
  - Quite strong incentives already
- And in private houses
  - Between house and charger
  - Between grid and charger
  - Not very strong incentives (yet)
- New grid tariffs in process





TIBBER SMARTLADING

## 20% lavere strømpris. Garantert.

Gjennom ladeboksen Easee får du tilgang på en banebrytende teknologi som lader elbilen din når strømprisene er lavest. Smartlader du med strøm gjennom Tibber, garanterer vi at du oppnår 20% lavere pris på strømmen til bilen.

[LES MER](#)



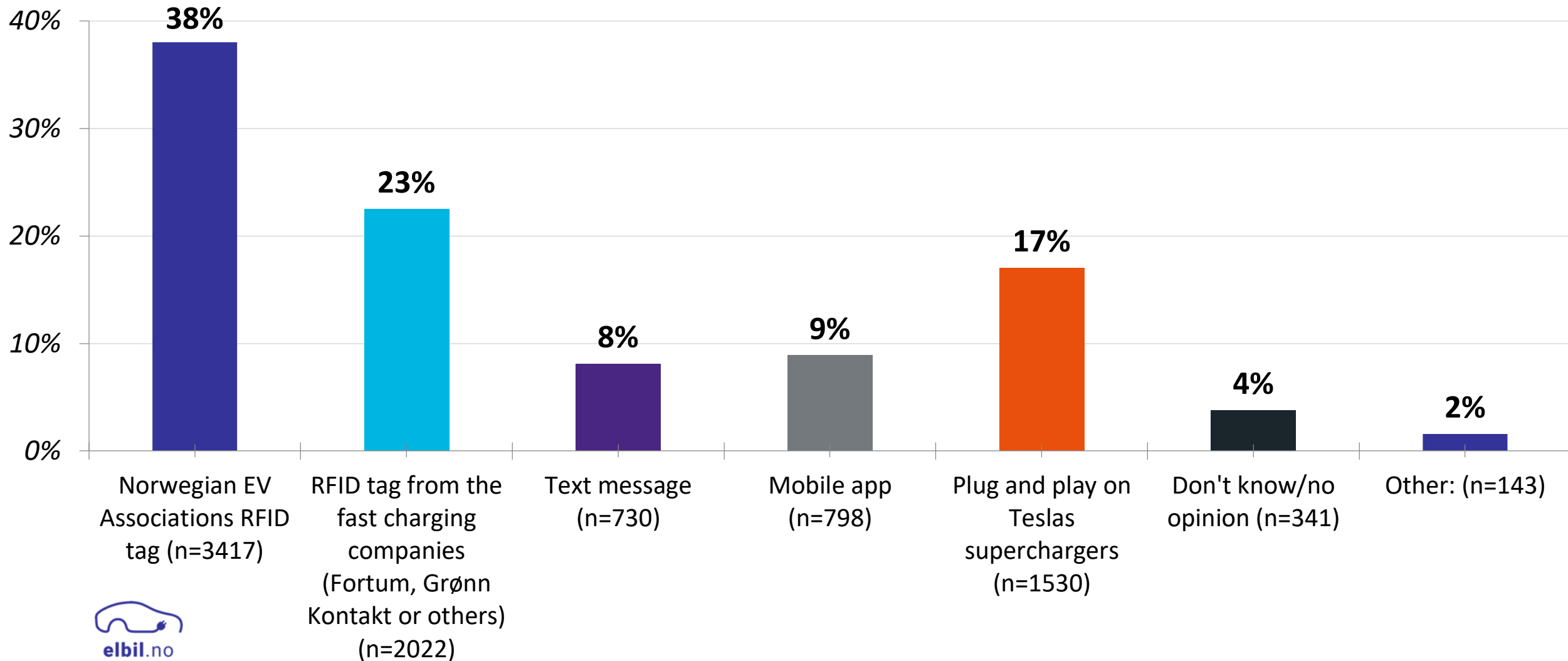
# Pricing and payment systems

- Handful operators with different payment systems
- Payment by RFID tags, SMS, mobile phone apps, bank card etc.
- EV Association distributes universal RFID tag to members
- Pay per the minute for fast charging
- Minute or kWh for normal charging





# How do you normally start fast charging?



- Consumers are ready!
- Car industry needs to hurry up
- Charging is a business case
- Large scale next





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# What about the grid?

- 1,5 million BEVs in 2030 → 4 TWh
  - Total consumption today is around 130 TWh
- Average load from each BEV is low, and the electricity grid will handle a relatively large transition to EVs
- Some local challenges
- Smart charging will reduce possible challenges (charge at night!)

