



Netherlands Enterprise Agency


# The National Electric Vehicle (EV) and Driver Survey

*Experiences and Opinions of Users*



Ministry of Infrastructure and Water Management

Elaadnl



The National Electric Vehicle (EV) and Driver Inquiry is an annual, large-scale survey of electric vehicle drivers to access the characteristics of EV drivers, their experiences with electric vehicle driving and the course of the EV purchasing process.<sup>1</sup> Together with the National Charging Survey, it constitutes a two-part inquiry that provides insight into the experiences of electric vehicle drivers. This survey focuses on the vehicle and its user, whereas the National Charging Inquiry concentrates entirely on the charging experience. The two surveys are conducted annually in order to monitor trends and developments, identify new challenges and evaluate the effects of changes.

### **Initiators and Partners**

The initiators of the National EV and Driver Survey are the Association of Electric Vehicle Drivers (VER) and the Netherlands Enterprise Agency (RVO).

#### **VER** ([www.evrijders.nl](http://www.evrijders.nl))

The Association of Electric Vehicle Drivers (VER) is the ultimate independent source of information and meeting place for electric vehicle drivers in the Netherlands – not only for the EV drivers of today, but also for those of the future. The VER offers its members information on electric vehicle driving and is a platform for events, meetings and (online) encounters. The VER promotes the interests of electric vehicle drivers through local, regional, national and international political lobbying.

#### **RVO** ([www.rvo.nl/elektrischrijden](http://www.rvo.nl/elektrischrijden))

The Netherlands Enterprise Agency (RVO) helps enterprising Dutch citizens and policymakers to make progress in the fields of sustainability, global business, agricultural entrepreneurship and innovation. Together with its partners, the RVO is working to increase the sustainability of mobility. The RVO encourages the switch to electric vehicle driving by providing financial

support, sharing knowledge and initiating joint ventures.

The University of Groningen (RUG) is a partner in the survey and has contributed to its design and analysis. The Ministry of Infrastructure and Water Management (I&W) and knowledge and innovation centre ElaadNL ([www.elaad.nl](http://www.elaad.nl)) also support the survey.

The National Electric Vehicle (EV) and Driver Survey takes place annually in the autumn and thus shows (changing) needs. It allows the spotting and monitoring of trends and developments, the identification of new challenges and the evaluation of the effects of changes.

This first edition can be seen as a benchmark survey. The numbers and insights from this inquiry are made available to policymakers, companies and other parties that have dealings with EV's and EV users.

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# Summary

During this survey the answers of **more than 1,700 survey respondents** have provided new insights into EV driving. This section contains the most important results.

EV drivers do not predominantly belong to either the political left or the political right and are no older or greyer than the **average car owner**.

## Most EV drivers vote VVD

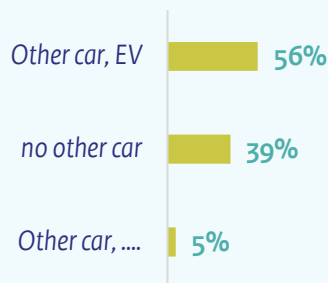
Most EV drivers vote for the largest political party in the Netherlands, the VVD. Three parties clearly stand out:

- VVD (People’s Party for Freedom and Democracy) (25%)
- Groenlinks (Green Left) (16%)
- D66 (Democrats 66) / (15%)

EV drivers are **early adopters**; slowly but surely, we are seeing more and more EV drivers fall into the **early majority** category.

## EV as primary car

Most EV drivers use their EV as their primary car



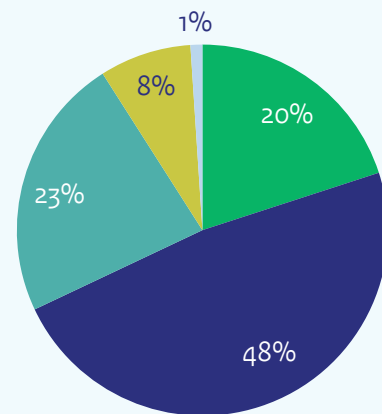
**Many first-time EV buyers previously drove a used car**  
Of private first-time buyers, 38% did not drive a new car previously. Of private lease drivers, this is even 57%.

## EV considerably more expensive than fuel car

Almost 75% of current EV drivers previously drove a (much) cheaper fuel car.

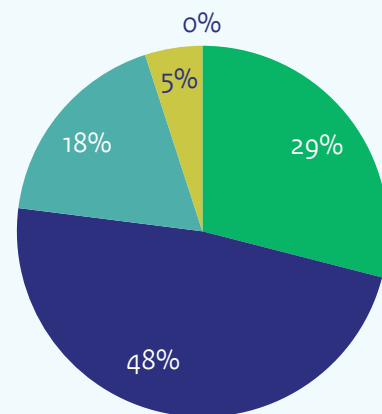
### Private purchase EV driver: price previous fuel car

- Much cheaper (> €20,000)
- Cheaper (up to €20,000)
- Same price range
- More expensive (up to €20,000)
- Much more expensive (> €20,000)



### Business lease EV driver: price previous fuel car [pie chart]

- Much cheaper (> €20,000)
- Cheaper (up to €20,000)
- Same price range
- More expensive (up to €20,000)
- Much more expensive (< €20,000)



93% of EV drivers indicate that their next car will be electric as well.

### EV drivers about sharing their experiences with electric driving



### EV driver as EV ambassador

72% feel they are ambassadors for electric driving and 52% allow others to drive their EV. EV drivers get a lot of questions about the electric driving experience.

Earlier inquiries by the Royal Dutch Touring Club (ANWB) showed that one of the most important incentives to start driving electrically was the enthusiasm of friends, family and acquaintances who drove EVs.

### Financial incentives

Unlike fuel-vehicle drivers, EV drivers know what their electric car costs and that driving an electric vehicle is cheaper than driving a fuel vehicle. They are also well aware of the subsidies and tax advantages.

#### Previous car?

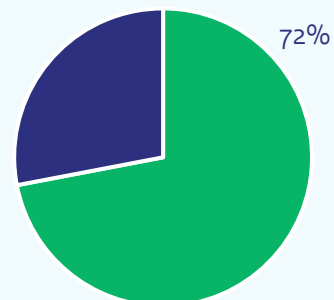
- 73% fuel
- 21% (plug-in) hybrid

Exemption from vehicle tax is the most important financial incentive for private EV drivers.

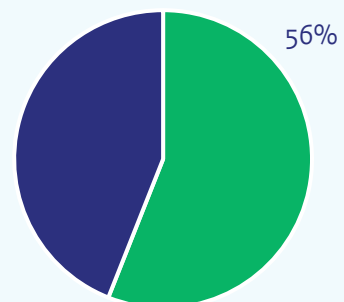
For 18% of respondents, a higher addition of the car's list price to their taxable income is the reason to stop driving electric.

### Subsidy for electric passenger cars

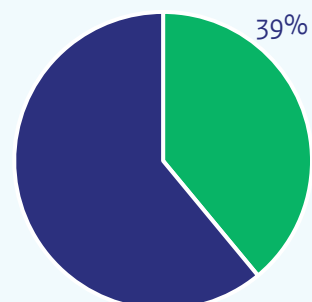
■ Subsidy makes it financially worthwhile to drive



■ Waited to buy EV because of subsidy



■ No EV without subsidy



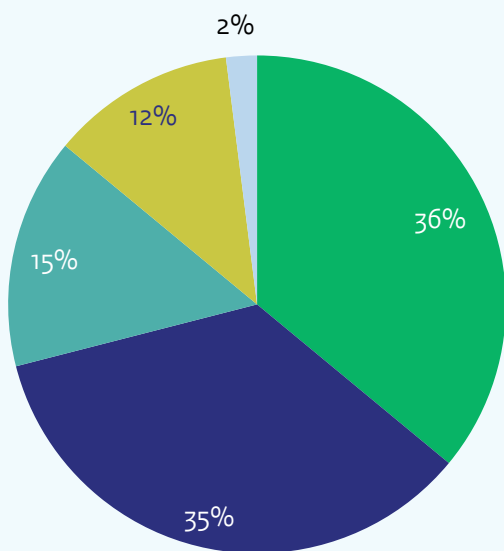
# Personas

Who are the EV drivers? And can they be arranged into a surveyable number of groups?

We asked the following question:

How important were the following considerations in your decision to start driving an electric vehicle?

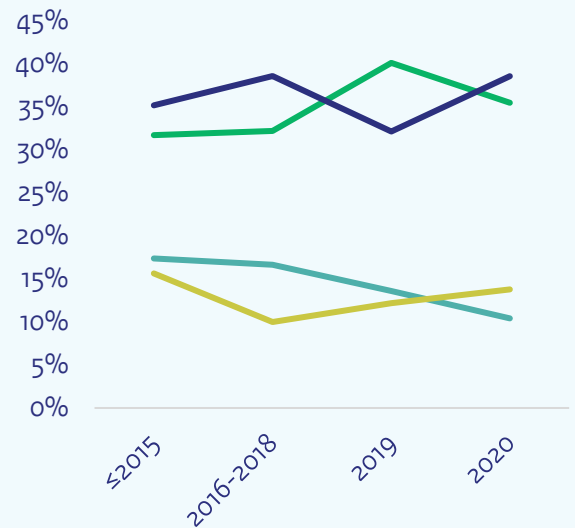
- Low costs
- Good for the environment
- Technological innovation
- Driving pleasure
- Other



Based on these different motivations for driving electric vehicles, we identified the following four personas. They are further explained in the following pages.

## Development proportion personas in time

- The cost-conscious driver
- The environmentally conscious driver
- The pioneer
- The comfort-oriented driver



Over time, the proportion of EV drivers who feel they are **pioneers** decreases. The other personas remain stable, the **cost-conscious** and the **environmentally conscious** drivers are actually always the most numerous.



The **cost-conscious driver** (36%), who drives electric because of the low cost.



The **environmentally conscious driver** (35%), who drives electric because of the low environmental impact.

The **pioneer** (15%), who drives electric because of the technological innovation.



The **comfort-oriented driver** (12%), who drives electric because of the driving pleasure.



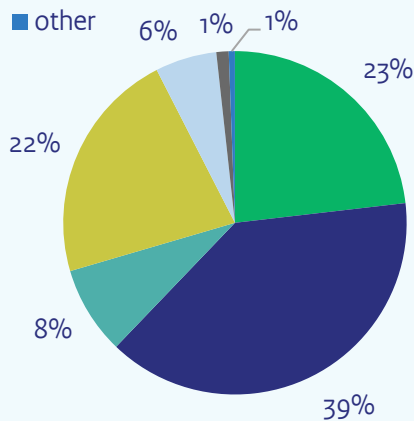
# The Cost-Conscious Driver

Cost-conscious drivers drive electric vehicles because of the low cost

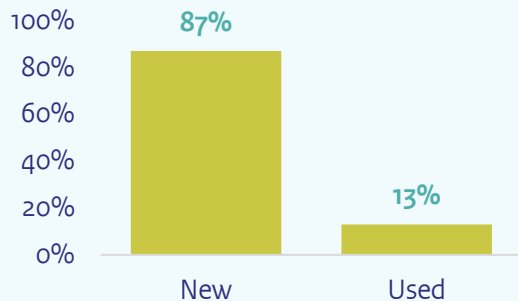


## Large proportion of business leasers

- Business buyer
- Business leaser
- Business leaser (solopreneurs; directors / major shareholders)
- Private buyer
- Private leaser
- shared car
- other



## No significant proportion of used-car drivers



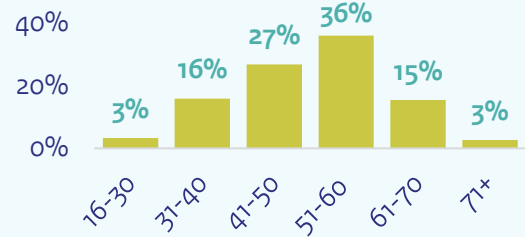
**Drives slightly more than the average EV driver**  
28,500 km per year

**Political preference**  
VVD (32%), D66 (13%)

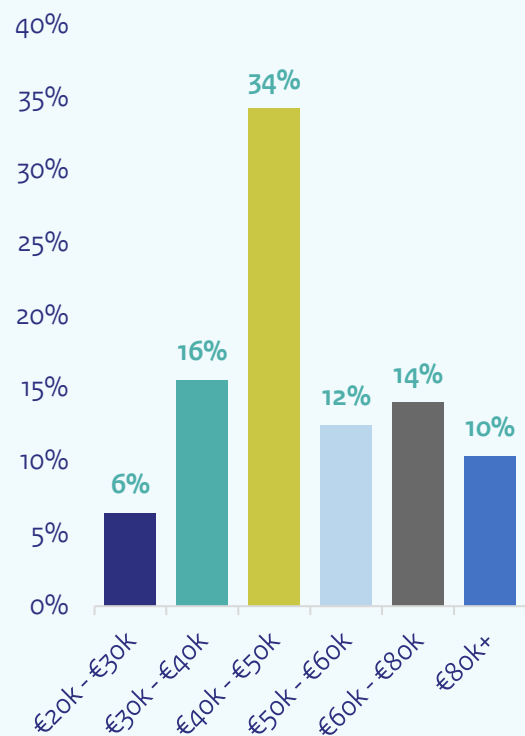
56% feel they are EV ambassadors

Average age: 51 years

Mainly 40 to 60-year-olds



## Largely in the €40,000-50,000 price range



## Top 3 brand/model

- Tesla Model 3
- Kia e-Niro
- Nissan Leaf



## Sustainable behaviour

- Solar panels 62%
- Avoid car use 48%
- Avoid flying 37%

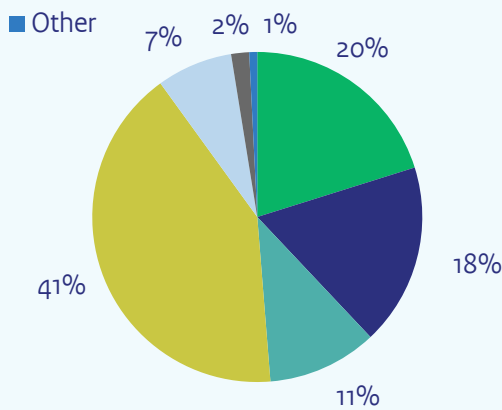
# The environmentally Conscious Driver

Environmentally conscious drivers drive electric vehicles because of the low environmental impact

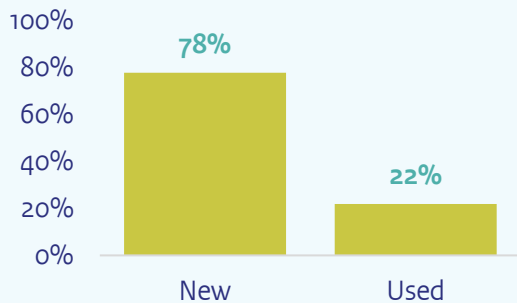


## Large proportion of private buyers

- Business buyer
- Business leaser
- Business leaser (solopreneurs; directors / major shareholders)
- Private buyer
- Private leaser
- Shared car



## Relatively large number of used-car drivers



## Drives slightly less than the average EV driver

24,000 km per year

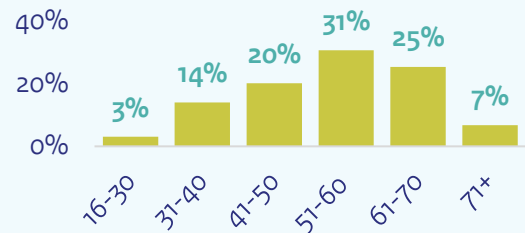
## Political preference

Groenlinks (35%), D66 (17%)

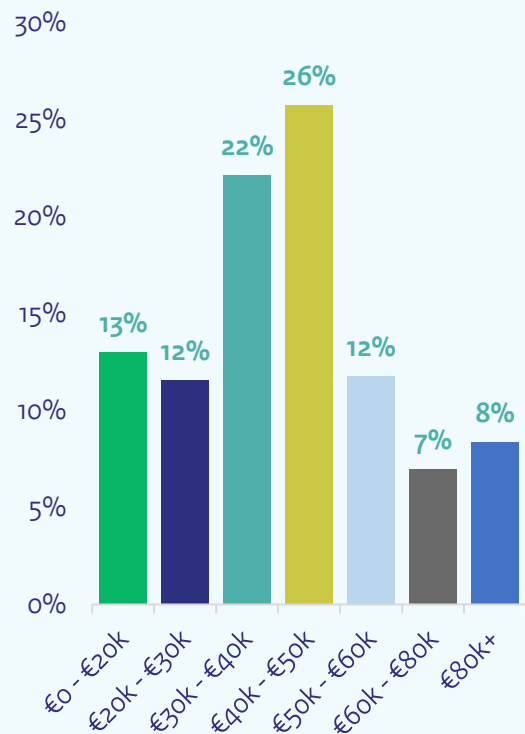
## 80% feel they are EV ambassadors

### Average age: 54 years

Mainly 50 to 70-year-olds



## Largely in the €30,000-50,000 price range



## Top 3 brand/model

- Tesla Model 3
- Nissan Leaf
- Renault Zoe



## Sustainable behaviour

- Solar panels 74%
- Avoid car use 75%
- Avoid flying 83%



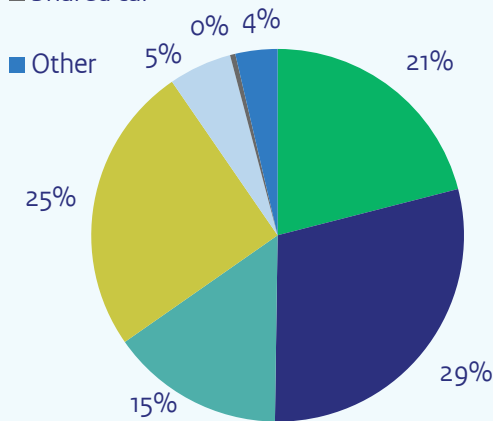
# The Pioneer

Pioneers drive electric vehicles because of the technological innovation

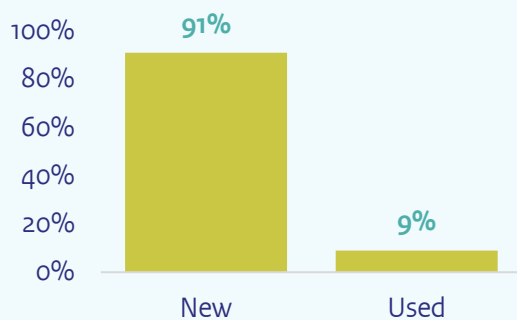


## Even distribution

- Business buyer
- Business leaser
- Business leaser (solopreneurs; directors and major shareholders)
- Private buyer
- Private leaser
- Shared car



## Relatively few used-car drivers

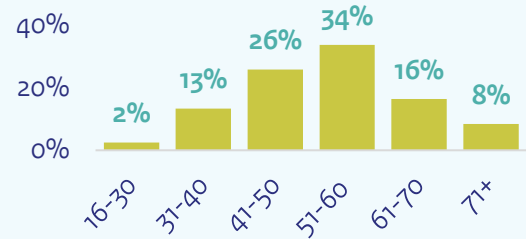


**Drives slightly more than the average EV driver**  
28,500 km per year

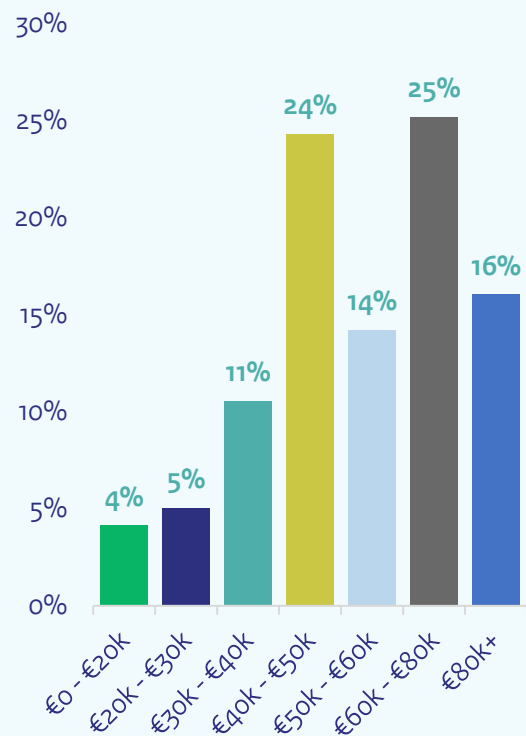
**Political preference**  
VVD (32%), D66 (19%)

**76% feel they are EV ambassadors**

**Average age: 53 years**  
Mainly 40- to 60-year-olds

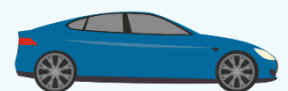


**Largely in the €40.000-50.000 and €60.000-80.000 price ranges**



## Top 3 brand/model

- Tesla Model 3
- Tesla Model S
- Hyundai Kona



## Sustainable behaviour

- Solar panels **64%**
- Avoid car use **48%**
- Avoid flying **48%**

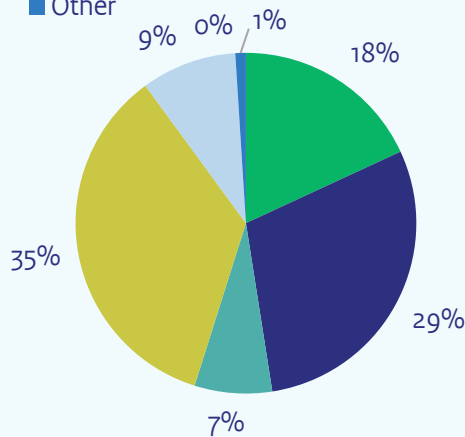
# The Comfort-Oriented Driver



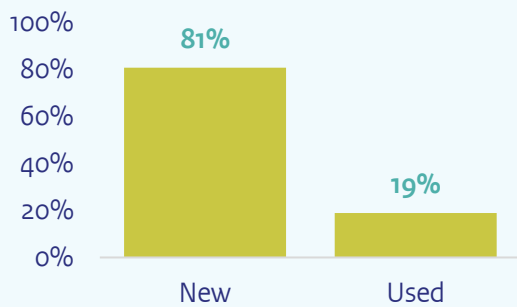
Comfort-oriented drivers drive electric vehicles for the driving pleasure

## Evenly distributed

- Business buyer
- Business leaser
- Business leaser (solopreneurs; directors and major shareholders)
- Private buyer
- Private leaser
- Shared car
- Other



## Relatively large number of used-car drivers



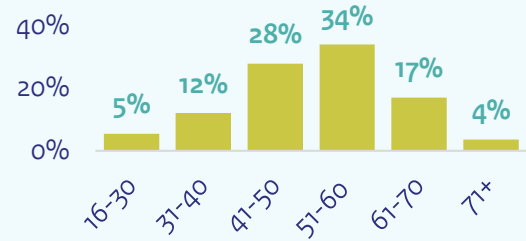
Drives slightly less than the average EV driver  
25,500 km per year

## Political preference

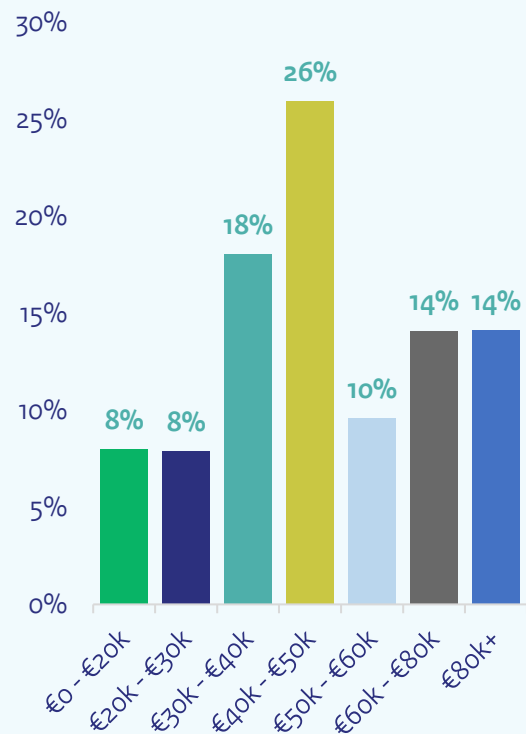
VVD (33%), D66 (10%)  
68% feel they are EV ambassadors

Average age: 51 years

Mainly 40- to 60-year-olds



## Largely in the €40,000-50,000 price range



## Top 3 brand/model

- Tesla Model 3
- Tesla Model S
- Renault Zoe



## Sustainable behaviour

- Solar panels 63%
- Avoid car use 51%
- Avoid flying 51%