

COMMERCIAL ELECTRIC VEHICLES

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1. Types of commercial electric vehicles

In line with the data structure of the Dutch Road Authority (RDW)ⁱⁱⁱ we distinguish 2 types of commercial electric vehicles:



Commercial electric vehicle ≤ 3.5 tons (N1, LCV: Light Commercial Vehicle / Delivery Van)

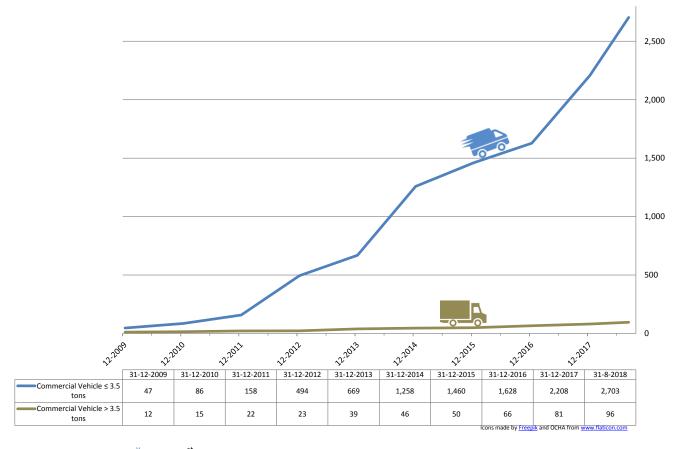


Commercial electric vehicle > 3.5 tons (N2 (Truck): > 3.5 tons and ≤ 12 tons, N3: > 12 tons)^{iv}

Most commercial electric vehicles ≤ 3.5 tons (2,699 of the 2,703 in total in August 2018) are battery electric vehicles (BEV). 4 vehicles are fuel cell electric vehicles (FCEV). The 96 commercial vehicles > 3.5 tons in August 2018 are battery electric vehicles (93) and fuel cell electric vehicles (3).

2. Development in number of commercial electric vehicles (fleet)

The graph below represents the development in number of both types of commercial electric vehicles.



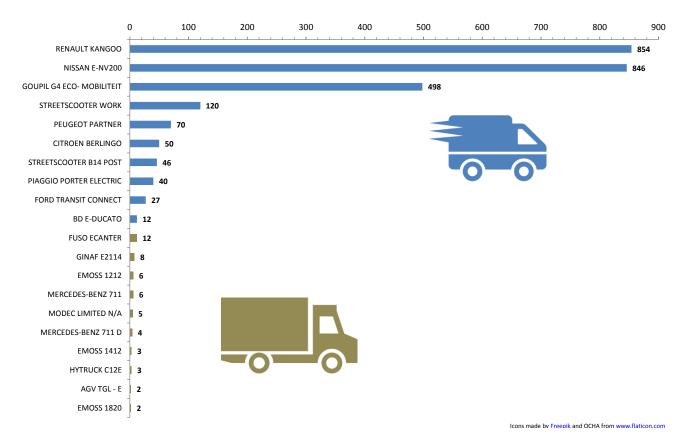
According to RAI/BOVAG $^{\circ}$ on the 1 st of January 2018 there were 957,239 commercial vehicles \leq 3.5 tons in total on the Dutch roads (fleet). The amount of commercial electric vehicles on January 1 st was 2,208 (0.23% of the total). Since January 2018 the number of electric vehicles increased 495 to 2,703 at the end of August 2018.

On January 1st 2018 there were 136,939 commercial vehicles > 3.5 tons on the roads in The Netherlands (fleet) of which 81 (0.06%) were electric vehicles.



3. Top 10 brand/models of commercial electric vehicles in the Dutch fleet

The following graph shows the top 10 of commercial electric vehicles \leq 3.5 tons (blue) and the top 10 of commercial electric vehicles > 3.5 tons (brown) in August 2018.



Of the commercial electric vehicles \leq 3.5 tons a large majority consists of the Renault Kangoo and the Nissan E-NV200. The commercial electric vehicle > 3.5 tons is at a very early stage of development. The Fuso Ecanter and GINAF E2114 are at the 1st and 2nd position in the top 10 rank.

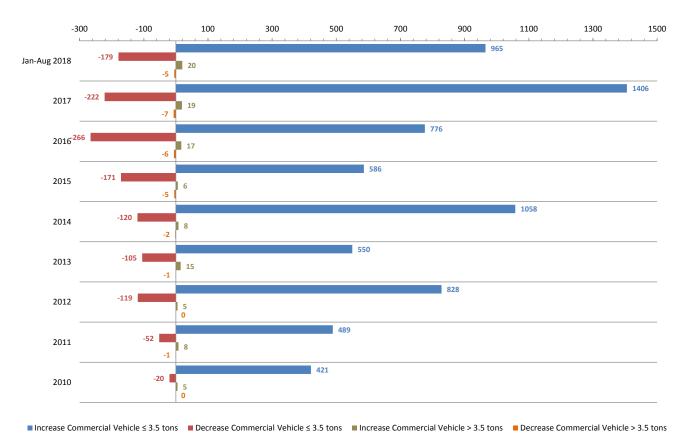
4. In- and decrease in number of commercial electric vehicles

The next graph represents the in- and decrease in number of commercial electric vehicles \leq 3.5 tons and commercial vehicles > 3.5 tons. Increase consists of the new registration of vehicles and decrease consists mainly of exports. In January – August 2018 there was a decrease of 179 commercial electric vehicles \leq 3.5 tons, of which 155 were exported.

The trend in the increase of commercial electric vehicles \leq 3.5 tons is positive. This also goes for commercial electric vehicles > 3.5 tons, although the number is much smaller.

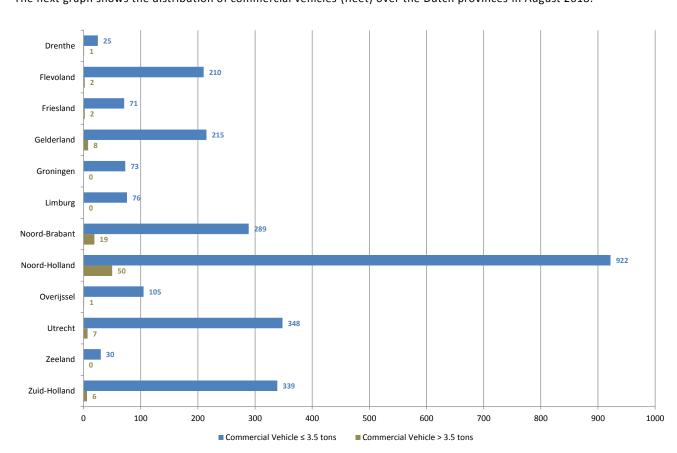
The trend in the decrease of commercial electric vehicles \leq 3.5 tons is also positive, Although since 2016 the trend goes in the opposite direction. The decrease-number of commercial electric vehicles > 3.5 tons is very small.





5. Regional distribution of commercial electric vehicles in The Netherlands

The next graph shows the distribution of commercial vehicles (fleet) over the Dutch provinces in August 2018. vi

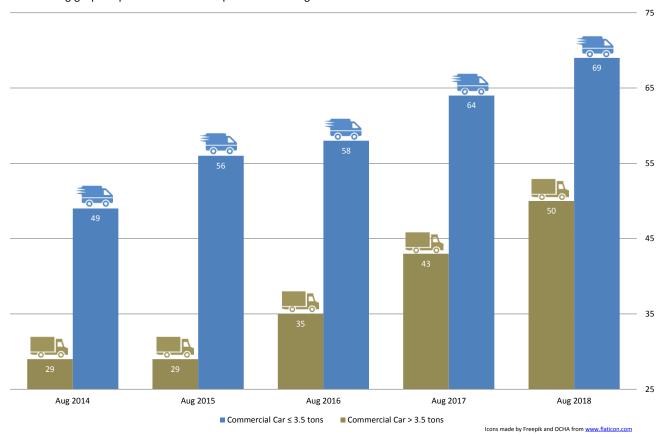




The largest amount of commercial electric vehicles is registered in the province of Noord-Holland (34.1% of the commercial electric vehicles ≤ 3.5 tons and 52.1% of the commercial electric vehicles > 3.5 tons in August 2018). The provinces of Utrecht, Zuid-Holland and Noord-Brabant take the 2nd, 3rd and 4th position in this rank.

6. Development in number of different available vehicle models

The following graph represents the development since August 2014 in the number of different available vehicle models.



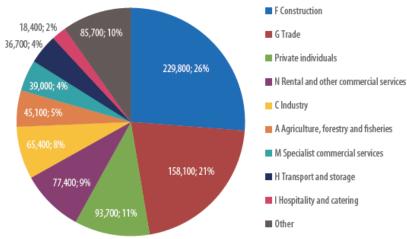
Both types of commercial electric vehicles show an increase in different available models.

7. Distribution of commercial vehicles over business-sectors

Unfortunately we do not have data on the distribution of the employment of commercial electric vehicles over different business branches.

According to a report from Topsector Logistics - Users and deployment of delivery vans in the Netherlands (April 2017), the business branches with the highest deployment of vans are 'construction' and 'trade'. The number of vans in other sectors is significantly lower.

The next graph is from this report (p.33) and shows the distribution of commercial vehicles ≤ 3.5 tons (all fuel types, mainly diesel) over different business sectors.





8. Financial incentives to promote commercial electric vehicles

Through the MIA (Environmental investment rebate)^{vii}, a company can deduct up to 36% of the investment costs for an environmentally friendly investment on top of their regular tax deductions for investments.

In 2017 the MIA received 63 applications, that represent a total investment sum of € 6.3 miljon for commercial electric vehicles ≤ 3.5 tons and 7 applications for investment in electric trucks for the total sum of € 4.9 miljon. More information (in Dutch) can be found here: https://english.rvo.nl/subsidies-programmes/mia-environmental-investment-rebate-and-vamil-arbitrary-depreciation-environmental-investments.

DKTI Transport offers financial support for technological innovative projects on transport which are expected to result in solutions that contribute substantially to CO₂ emissions reductions. More informatie (in Dutch) can be found here: https://www.rvo.nl/subsidies-regelingen/DKTI-Transport,

https://www.rvo.nl/sites/default/files/2018/05/Samenvattingen%20van%20goedgekeurde%20DKTI%20projecten.pdf.

9. Environmental impact

According to TNO and CE Delft, on behalf of Topsector Logistics and Connekt in 2017, commercial vehicles \leq 3.5 tons (delivery vans) are responsible for 75% of the distance driven and for 50% of the CO₂ emissions in urban logistics . Electrifications of these vehicles is mentioned as an important option for reduction of CO₂ emissions.

10. Other relevant publications

- Topsector Logistics: <u>Users and deployment of delivery vans in the Netherlands</u>, April 2017
- Topsector Logistiek, <u>TNO, CE Delft, Connekt: ELEKTRISCHE BESTELAUTO'S IN NEDERLAND MARKTONTWIKKELINGEN</u> 2017-2025, 15 mei 2018
- https://greendealzes.connekt.nl/en/results-and-commitment/
- https://www.kimnet.nl/publicaties/rapporten/2018/07/12/elektrisch-op-bestelling
- https://greendealzes.connekt.nl/wp-content/uploads/2017/09/MEI eTruck New Reality vP.pdf
- https://www.bloomberg.com/news/articles/2018-09-05/electric-trucks-could-save-europe-11-billion-barrels-of-oil
- https://www.mckinsey.com/industries/oil-and-gas/our-insights/a-new-reality-electric-trucks
- Cambridge Econometric: Trucking into a Greener Future: the economic impact of decarbonizing goods vehicles in Europe (2018) - https://europeanclimate.org/wp-content/uploads/2018/09/Trucking-into-a-greener-future-Technical-2018-v1.1.pdf
- http://www.eafo.eu/vehicle-statistics/n1
- https://www.acea.be/uploads/press_releases_files/20180725_PRCV-1806-FINAL.pdf

https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/energie-en-milieu-innovaties/elektrisch-rijden/stand-van-zaken/cijfers; https://www.government.nl/ministries/ministry-of-infrastructure-and-water-management

ii Icons made by Freepik and OCHA from www.flaticon.com

iii Source of electric vehicle data: Dutch Road Authority (RDW), edited by Netherlands Enterprise Agency (RVO.nl).

http://www.eafo.eu/content/european-vehicle-categories

https://www.bovag.nl/BovagWebsite/media/BovagMediaFiles/Cijfers/2018/Kerncijfers-Auto-en-Mobiliteit-2018.pdf?ext=.pdf

The graph is based on data from which we can derive on which address the vehicle is registered. In some cases that address is the address of the lease company and not that of the actual user.

https://english.rvo.nl/subsidies-programmes/mia-environmental-investment-rebate-and-vamil-arbitrary-depreciation-environmental-investments