

## EEA report confirms: electric cars are better for climate and air quality



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European Environment Agency  
Kongens Nytorv 6  
1050 Copenhagen K  
Denmark  
Tel.: + 45 33 36 71 00  
Fax: + 45 33 36 71 99  
Web: [eea.europa.eu](http://eea.europa.eu)  
Enquiries: [eea.europa.eu/enquiries](http://eea.europa.eu/enquiries)

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## EEA report confirms: electric cars are better for climate and air quality

Battery electric cars emit less greenhouse gases and air pollutants over their entire life cycle than petrol and diesel cars, according to a European Environment Agency (EEA) report, published today. Promoting renewable energy and circular economy — including the shared use of vehicles and product design that supports reuse and recycling — will help maximise the benefits of shifting to electric vehicles.

The EEA report 'Electric vehicles from life cycle and circular economy perspectives' reviews current evidence on electric cars' impacts on climate change, air quality, noise and ecosystems, compared with conventional cars.

Already now, across its life cycle, a typical electric car in Europe produces less greenhouse gases and air pollutants compared with its petrol or diesel equivalent. Emissions are usually higher in the production phase of electric cars, but these are more than offset by lower emissions in the use phase over time.

The report confirms that the greenhouse gas emissions of electric vehicles, with the current EU energy mix and over the entire vehicle life cycle, are about 17-30 % lower than the emissions of petrol and diesel cars. However, as the carbon intensity of the EU energy mix is projected to decrease, the life-cycle emissions of a typical electric vehicle could be cut by at least 73 % by 2050.

For local air quality, electric vehicles also offer clear benefits, mainly due to zero exhaust emissions at street level. However, even electric vehicles emit particulate matter from road, tyre and break wear, the report reminds. Shifting to electric vehicles could also reduce noise pollution, especially in cities where speeds are generally low and traffic often stands still.

The result of the comparison is less favourable for electric cars when looking at the current impacts of their production on ecosystems and the toxicity of the materials involved. These impacts are mostly due to the extraction and processing of copper, nickel and critical raw materials. The report suggests that these impacts could be minimised through a circular economy approach that facilitates reuse and recycling — especially of batteries.

The EEA has also published a new briefing on the environmental and climate impacts of transport. According to the briefing, the sector's greenhouse gas emissions have been increasing in the EU since 2014. Preliminary estimates for 2017 put EU transport emissions at 28 % above the 1990 levels, indicating that the sector is currently not on track to meet its long-term climate goals.

Transport also continues to be a significant source of air pollution, especially of particulate matter and nitrogen dioxide, and the main source of environmental noise in Europe, the briefing notes.

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## Other key findings:

- Preliminary data show that average CO<sub>2</sub> emissions of new passenger cars in the EU increased by 0.4 % in 2017. This was the first time the average emissions increased since the monitoring started in 2010. By contrast, average CO<sub>2</sub> emissions from new light commercial vehicles continued to fall in 2017, showing the largest annual decrease (7.7 g CO<sub>2</sub>/km) since 2012.
- Registrations of battery electric vehicles increased by 51 % in 2017, comprising 0.6 % of all new registrations in the EU. Registrations of plug-in hybrid electric vehicles increased by 35 %, comprising 0.8 % of new registrations.
- In 2017, petrol cars became more popular (53 % of new registrations) than diesel cars (45 %) for the first time since the monitoring started.
- Reducing oil consumption in transport remains a challenge, and the EU's share of renewable energy in transport is still well below the 10 % target set for 2020, taking into account only biofuels complying with specific sustainability criteria. So far, only two EU Member States (Austria and Sweden) have reached the 10 % target.

## Related content

### Related publications

Electric vehicles from life cycle and circular economy perspectives - TERM 2018  
[<https://www.eea.europa.eu/publications/electric-vehicles-from-life-cycle>]

### Temporal coverage

2017-2018

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