

Convert&Go!



'Electric is the new cool' – Thorvald Saeby, former Norwegian rally driver, now promoting electric vehicles.

How can we accelerate the electrification of transport to improve the air in Poland?

According to research conducted by the Chief Inspectorate of Environmental Protection and independent experts, the average annual pollution levels caused by exhaust-derived dust range from 5 to 10%. While this may seem low, it is important to remember that exhaust fumes persist all year round, in contrast to the so-called low emission exhaust gases, generated by private households heated with low and very low quality fuels.

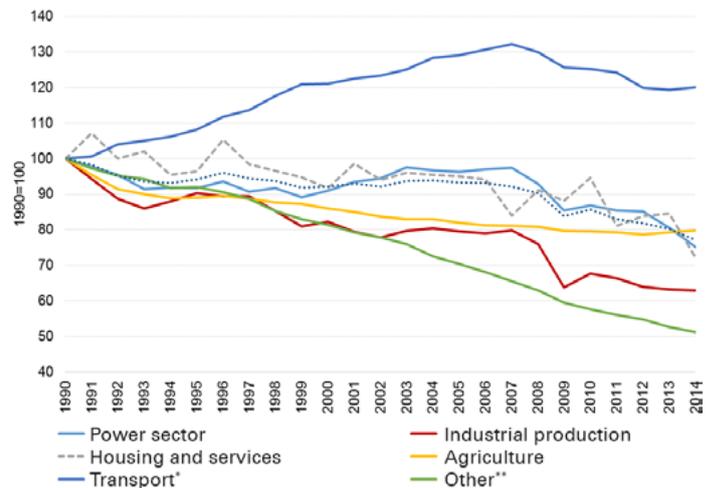
Electric cars are the future. This opinion has been promoted by automotive analysts, car companies and many specialists for some years now. However, the increase in the number of electric cars is still lower than the projected figures. According to the International Energy Agency, electric cars represent more than 1% of all registered vehicles only in seven countries. Industry experts and journalists indicate barriers to the spreading of electric vehicles, the most important of which are as follows:

- range covered and the network of charging stations;
- battery charging time.

Myth

In our view, these are not the real obstacles to the spreading of electric vehicles. As for the range, an average taxi or car courier covers 80 to 120 km a day. This means that electric vehicles are able to cover a one-day distance on a fully charged battery without recharging while cruising around the city. Our observations suggest that other cars, such as maintenance cars used by utility companies, school buses or buses used to transport people with disabilities and many others cover even shorter distances per day.

Accordingly, the charging network does not need to be very extensive, especially in the early days of the electrification in the automotive industry. It is sufficient to have charging stations in locations where most cars are parked for the night, such as yards used by transport companies, vehicle depots used by municipal police etc.



Source: 'A global view on a moving sector – The International and the EU's response to climate change', Artur Runge-Metzger, Director, DG Climate Action; presented at the 6th annual conference of KPMG Power & Utilities, Brussels, 8 November 2016.

As we have seen, charging time is not a problem. Moreover, research has shown that fast charging reduces battery life. Experts suggest that if the battery level is maintained at a moderate range (30–80%), this will extend the useful life of the battery approximately four to five times. Additionally, rates for night-time charging are lower. From the perspective of power companies, extra demand for electricity during the night can help them to balance off their daily cycle which, in turn, may help to reduce their operating costs.

Metropolitan areas in many countries are testing electric buses, and about a dozen of Polish cities are already using them on standard routes.

According to the European Commission, all industries in Europe, except for the transport sectors, have reduced their emissions of dust, sulfides and carbon monoxides in comparison with 1990. In contrast, emissions generated by the transport industry have been steadily rising.

The problem of exhaust gases

The picture below presents the air pollution in Europe on the first weekend of 2017 (i.e. 7–8 January). Biting cold significantly drove the so-called low emissions, especially in the eastern part of Poland. Pollution comes mostly from fireplaces, coal stoves and, regrettably, also the garbage burnt by private houses for heating. The transport industry is the second largest pollutant, but it comes first in the ranking during the summer months. Threshold levels of dust and other contaminants are exceeded many times.



Poor air quality is the cause of many health problems (not only respiratory tract diseases) and deaths. Data collected by the European Environment Agency can be terrifying. According to its 2012 report, the number of the early deaths caused by PM2.5 dust and O3 and NO2 emissions totalled 47,300 (versus 491,000 for EU 28).

A new electric car represents a significant expense for businesses and citizens. If our car is in a good working order and has been specially customised, as is the case with many companies, it may be financially unreasonable to have it replaced. Conversion might be one way of reducing emissions of dust and hazardous substances. Since we are used to conversions from petrol-powered to LPG-powered cars, we might just as well consider conversion to electric power. Some organisations in Western Europe which have large fleets of relatively new cars are already using this approach.

electric car model	list price (PLN)	combustion car model	list price (PLN)	difference	
				sum	%
Renault Zoe	89 900	Renault Clio	41 900	48 000	115%
Nissan Leaf	128 000	Nissan Pulsar	66 500	61 500	92%
Kia Soul EV	150 000	Kia Soul	59 900	90 100	150%
BMW i3	153 700	BMW 116i	94 600	59 100	62%
VW e-Golf	157 190	VW Golf	63 090	94 100	149%
Tesla Model S	291 400	none	none	n/a	n/a

Source: 'Cicha rewolucja w energetyce – elektromobilność w Polsce' [Silent revolution in the power sector: Electric mobility in Poland], Polityka Insight, January 2017

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Local governments as conversion leaders

In Poland, we need a leader who will show us that the conversion of vehicles to electric power can be profitable on a larger scale. In our view, local governments are natural candidates for such leaders. They might start to convert their passenger cars and small vans (municipal police, municipal companies) in order to demonstrate savings and environmental effects to the residents. Charging an electric car is about four times cheaper than refuelling with LPG and about eight times cheaper than using conventional fuel. Additionally, electric vehicles do not need to have filters and oils replaced. By setting a good example and showing the savings on taxpayer money (paid by the residents and local businesses), local governments will find it easier to convince others to create no-exhaust traffic zones and to obligate land developers and housing cooperatives to construct charging stations in garages and parking lots.

In our view, central administration could analyse conversion as a quick and easy way to boost the popularity of electric cars in Poland. Relevant regulations, including ESCO financing, as well as incentives and promotional efforts are a task for the central authorities.

If we fail to promote conversion as a way to convince Poles about the advantages of electric vehicles, we will lose a great opportunity to change our automotive market and improve air quality. Several European countries (among them Austria, the Netherlands, Norway, and even Germany) are conducting intensive work to prohibit the registration of new combustion vehicles in the years 2025–2030. This means that if Poland does not evolve into a country of electric cars, we will be flooded by yet another wave of relatively cheap diesel cars from Western Europe starting from 2030.

