

"There are no genuine "green" cars"

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DEBATE. When manufacturing and disposal is taken into account the idea of a "green" car is a mere empty prospect. Not even Tesla can call itself a green car, writes Anders Welin, writer about environmental issues and a former auditor.

Volkswagen has been revealed as a fraud. When they couldn't make the green car they personated, they manipulated their test results. But there is actually no car manufacturer today that can make a genuine green car. Not even Tesla, that so many believe is a salvation for the environment, can be called a green car. In fact Tesla emits at least as many substances harmful to the environment, when you take into account what happens in the manufacturing and disposal processes.

Car manufacturing undergoes a revolution. The traditional combustion engine which mainly is fuelled by gasoline and diesel is facing competition not only from battery powered electric motors but now also electric cars powered by hydrogen enters the market. In addition big parts of car bodies and frames are being replaced by other material than ordinary steel, for example aluminium, high-strength steels, carbon fibre, titanium and plastics. This reduces weight and reduce fuel consumption, and thus reduces tailpipe emissions.

Today only tailpipe emissions are reported to type approval authorities and consumers. But since the new materials have different manufacturing processes and consequently different effects on the environment, not least carbon dioxide emissions, it makes it impossible to make fair comparisons. Manufacturing of batteries also contributes with substantial emissions, which have been proven by independent researchers. For electric and plug-in hybrid cars you also need to add the emissions from the production of the electricity they operate on.

Thus it is not possible nowadays to compare the environmental effects from different cars, by just studying the tailpipe emissions. Then it is not possible to make sustainable decisions. Sustainable decisions require transparency throughout the whole chain.

I am surprised to find that the manufacturers of electric and plug-in hybrid cars do not in general disclose data about emissions from the production of the batteries. Tesla do not even use the words "environment" or "sustainability" on either of their Swedish or American website. One exception is Volkswagen.

Based on data from the life cycle analysis of VW e-Golf I have compared emissions from battery production (5 ton CO₂ per 24 kWh battery capacity and 150000 km life span) for the electric cars VW e-Golf and Tesla S P85 D and the plug-in hybrids Mitsubishi Outlander PHEV and Volvo V60 Plug-in-hybrid. The emissions that do not need to be disclosed according to the rules of today then are: E-Golf 33g/km, Tesla 118 g/km (89 g/km by 200000 km), Mitsubishi and Volvo 17 g/km. If the batteries are loaded with electricity from non-renewable sources, further emissions need to be added.

It is therefore impossible, without a complete life cycle analysis that takes into account emissions of carbon dioxide from manufacturing, operation and disposal/recycling, using only the official emissions data, to evaluate how much less emissions for example an electric car has compared with an ordinary car. It is like comparing apple and oranges).

Accordingly it is necessary to change the rules for type approval of cars. (To be able to sell a car on a certain market, for example within EU, the car needs to comply with certain criteria for example within the environmental area. The proof of that is the type approval.) It is not enough to introduce more true driving cycles regarding the fuel consumption of cars, something which EU plans to do. We need to demand that the car manufacturers openly disclose reliable standardised life cycle analysis to be able to sell their cars.

It is likely that it will take some time to change the rules for type approval since they are EU regulations. Awaiting this it is possible to push the development towards increased transparency and comparability by:

Journalists ought to demand to see life cycle analysis before they test drive at first hand electric cars, plug-in hybrid cars and hydrogen cars. Only then is it possible to give an opinion on how environmental friendly a car really is.

Purchasers and consumers also ought to demand to see life cycle analysis before they decide which car they will choose.

Demanding that the car manufacturers disclose the emissions from the whole life cycle of the car, not only the tailpipe emissions.

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