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Press release

Battery-electric passenger cars cheaper for consumers by 2025 even without subsidies

A significantly stronger reduction of the CO₂ emissions of passenger cars than currently envisioned is technically feasible and will result in noticeable cost savings for consumers. Plug-in hybrid electric vehicles and synthetic fuels have no future from a cost perspective.

Berlin, Germany: According to a new study by the independent research organization International Council on Clean Transportation (ICCT), more stringent CO₂ target values for passenger cars are not only technically feasible, but at the same time will result in cost savings for consumers. This is the case in particular for battery-electric vehicles, which will be the most cost-efficient choice in the passenger car market by 2025. In order to be in line with the EU climate protection targets, the average CO₂ emission level of new passenger cars will have to decline by at least 70 percent by 2030 versus 2021. Currently, the EU the reduction target for new cars is 37.5 percent by 2030.

In the new study, the ICCT analyzed what passenger car technologies will allow for more ambitious CO₂ target values. In general, vehicle manufacturers can decide between two compliance pathways: a further optimization of the internal combustion engine or a stronger electrification of the vehicle fleet. In both cases, more ambitious climate targets can be achieved. However, there are large differences regarding the costs for achieving the targets.

Peter Mock, EU Managing Director of ICCT, explains, "For reducing CO₂ emissions of the combustion engine, high investments into vehicle technologies are necessary. These investments do not result in a lower cost for consumers over time." The situation is different for electric vehicles. In light of the fast developments and the continuous price reduction for batteries, the ICCT expects that battery-electric passenger cars in the Golf compact car segment, with an electric driving range of 350 kilometers, will become cheaper than a conventional gasoline vehicle by the year 2025—even without the subsidies that governments provide today for the purchase of electric vehicles.

In July, the EU Commission will present a regulatory proposal that adjusts the CO₂ target values for new passenger cars. If the ambition level for 2030 is strengthened from the current 37.5 percent to 70 percent, this would require investments of about

1,400 Euro per vehicle, according to ICCT calculations. At the same time, consumers would benefit from high fuel cost savings so that the initial investment in vehicle technologies would be recouped within three years of ownership.

"If the EU decides to strengthen CO₂ target values, an average car owner saves about 1,500 Euro during the first eight years of ownership, compared to the current policy pathway. In the case of higher CO₂ targets for passenger cars, climate protection and consumer protection go hand in hand," says ICCT EU Director Mock.

While the ICCT sees battery electric passenger cars as the most cost-efficient future alternative, plug-in hybrid electric vehicles will become obsolete from a cost perspective. The expensive combination of a conventional combustion engine and an electric engine as well as a battery make plug-in hybrid vehicles unattractive cost-wise. Similarly, the use of synthetic fuels for reducing CO₂ emissions from passenger cars is an expensive path, according to the ICCT study. The necessary investments for the use of synthetic fuel would not result in savings for consumers, even by 2035.

Conventional diesel cars are not taken into account in the ICCT study. The market share of diesel cars collapsed after the Dieselgate scandal and the ICCT researchers do not expect any further investments into diesel cars for the coming years. For fuel cell electric vehicles, the ICCT study finds large uncertainties. From about 2030 onwards, fuel cell electric vehicles could help to achieve the climate targets, however at significantly higher costs than battery-electric vehicles. Whether car manufacturers would indeed build up noteworthy production capacities for fuel cell electric vehicles is therefore questionable.

A number of automakers already announced that they are adapting their car production to the strengthened climate targets. Volvo as well as Ford plan to only offer zero-emission vehicles in Europe from 2030 onwards. VW Group intends to offer 60 percent of its new cars as zero-emission vehicles by 2030. Renault (60%), BMW (50%), and Daimler (50%) also announced higher shares of electrified vehicles in the future, however, without differentiating between hybrid and battery-electric vehicles.

More information:

Full ICCT report in English:

<https://theicct.org/publications/decarbonize-EU-PVs-may2021>

Media contact:

Dr. Peter Mock, EU Managing Director ICCT

+49 (30) 847129-102

peter@theicct.org

@MockPeter

<http://www.theicct.org>