

Evaluation of the effectiveness of CO₂ penalties for new cars and vans

Federal Office of Energy

Key facts

The CO₂ Act envisages a reduction in domestic greenhouse gas emissions by 2020 of at least 20% compared to 1990. The Federal Council's CO₂ emission regulations are part of the effort to reduce greenhouse gases. In 2020, road traffic accounted for around 40% of Switzerland's total CO₂ emissions. The measure creates incentives for vehicle importers to offer low-emission vehicles. For this purpose, individually calculated emission ceilings are set for imported vehicles. If the value is exceeded, a penalty is imposed. The penalty amounts paid have risen sharply since 2018. They totalled CHF 28 million in 2021. Enforcement costs have held steady since 2012. In 2020, they amounted to around 1% of penalty revenue.

The performance assessment of the Swiss Federal Office of Energy (SFOE) is based on the annual average emissions of all newly registered vehicles. Despite an appreciable reduction, the targets were not met¹. This threatens the achievement of the overarching goal of the CO₂ legislation, namely that global warming should be limited to less than 2 degrees Celsius.

The Swiss Federal Audit Office assessed the effectiveness of CO₂ penalties for new cars and vans. It concluded that the measure has only limited effectiveness. In some areas, measures are counterproductive, for example the use of the vehicle weight as a basis for calculation. This incentivises the importation of heavier vehicles. Moreover, there is a lack of effective and necessary incentives aimed at consumers. The SFAO made four recommendations to the SFOE with regard to the CO₂ Ordinance. It also recommended that the Federal Office for the Environment (FOEN), which is the office responsible for CO₂ legislation, take account of the SFOE's proposals in this area.

Transitional exemptions will not be reintroduced

With the introduction of the CO₂ penalty, transitional exemptions applied to the calculation of the applicable CO₂ emissions for an imported vehicle fleet between 2012 and 2015. The aim was to temporarily reduce the financial impact on importers, in order to give the market time to adjust to the new situation. These exemptions were reintroduced temporarily in 2020, although by that time the market had largely adapted to the measure. The new exemptions and their design thus counteract the effectiveness of the measures. The SFAO therefore recommends that no further transitional exemptions be introduced in the future.

The inclusion of the vehicle weight in the calculation formula creates false incentives

The vehicle weight has a bearing on the level of the target for a fleet. If this value is exceeded, penalties have to be paid. Heavier imported fleets must therefore meet higher targets. Electric and hybrid vehicles are heavier by nature (battery weight or dual engine), which means that the target increases although the fleet's average emissions do not. This

¹ See "Enforcement of the CO₂ emission regulations for cars, 2021".

is an incentive against importing lighter-weight electric or hybrid vehicles. The SFAO therefore recommends that this vehicle segment be excluded from the calculation for average fleet weight. Moreover, the calculation system is based on the average weight recorded two years earlier for all newly imported vehicles. Since the weight of the Swiss vehicle fleet is constantly increasing, so too are the individual targets for imported fleets. This constitutes an unintended exemption for imported fleets and creates incentives to keep importing heavier vehicles. The SFAO therefore recommends that the reference weight be designed so as to avoid this effect.

Disconnect as a result of adopting the EU model

Switzerland has set the level of the penalty in line with that of the European Union. This at least means that the Swiss market is not more attractive than its European neighbours to importers of high-emission vehicles. But it also means that the measure has only a limited impact on demand. The SFAO found that the associated penalty is too low. Owing to the high purchasing power in Switzerland compared to other countries, importers are able to pass the penalty on to the consumer.

A glance at Switzerland's European neighbours also shows that, in successful countries, the measure is supplemented with incentives for the consumer. One-off registration fees or emissions-based increases in motor vehicle tax are appropriate in this context. In Switzerland, similar measures are applied in only a few cantons and to a lesser extent.

Emissions under real driving conditions must be monitored further

In 2021, Switzerland adopted a new method for measuring a vehicle's CO₂ emissions. This has roughly halved the discrepancy between test and real driving conditions compared to the previous method, which the SFAO welcomes. However, the introduction of the new measurement method was accompanied by an increase in the target. The SFAO takes a positive view of the target reduction planned for the near future.

It is conceivable that measured emissions will deviate from real emissions again in the future. The draft CO₂ Act provides options for regulatory action in this regard. The SFAO recommends the introduction of a specific threshold value for this deviation, above which corresponding measures would have to be taken.

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