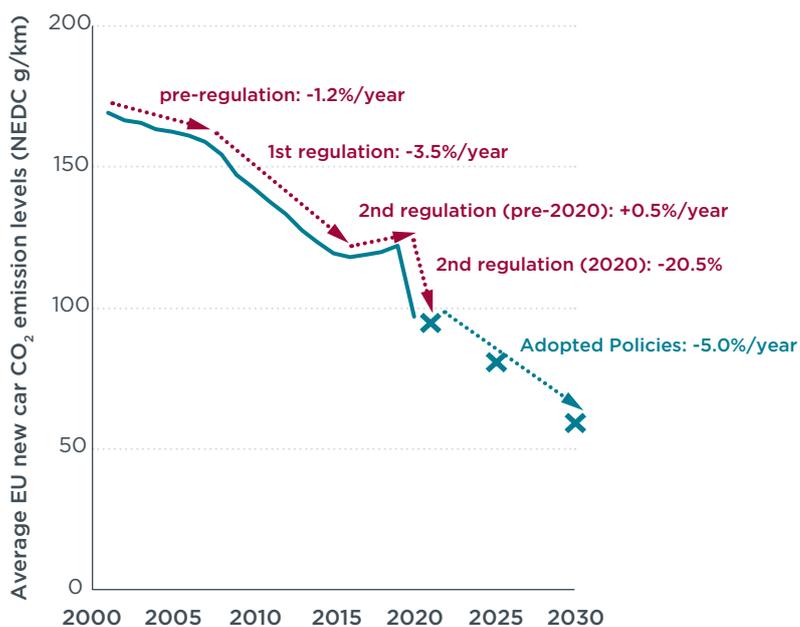


# EUROPEAN UNION CO<sub>2</sub> STANDARDS FOR NEW PASSENGER CARS AND VANS

JUNE 2021

## Regulatory design elements: Interim targets for new vehicle CO<sub>2</sub> emissions

With introduction of the EU's first CO<sub>2</sub> standard for new passenger cars, official type-approval emissions decreased at a rate of about 3.5% per year, compared to about 1.2% prior to regulation. The 2015 target of 130 g/km was met well in advance by manufacturers. During the 2016 to 2019 timeframe, however, when the 2015 target remained in place without any strengthening, CO<sub>2</sub> levels increased at a rate of about 0.5% per year. It was only from January 2020 onward that emission levels decreased again, at the unprecedented rate of about 20% within one year. The 2020 target of about 97 g/km on average was met by all manufacturers without any substantial fines (Figure 1). Data for the first months of 2021 suggests that after having achieved compliance with the 2020 target—which is nearly identical to the 2021 target—average CO<sub>2</sub> emission levels stagnated again.

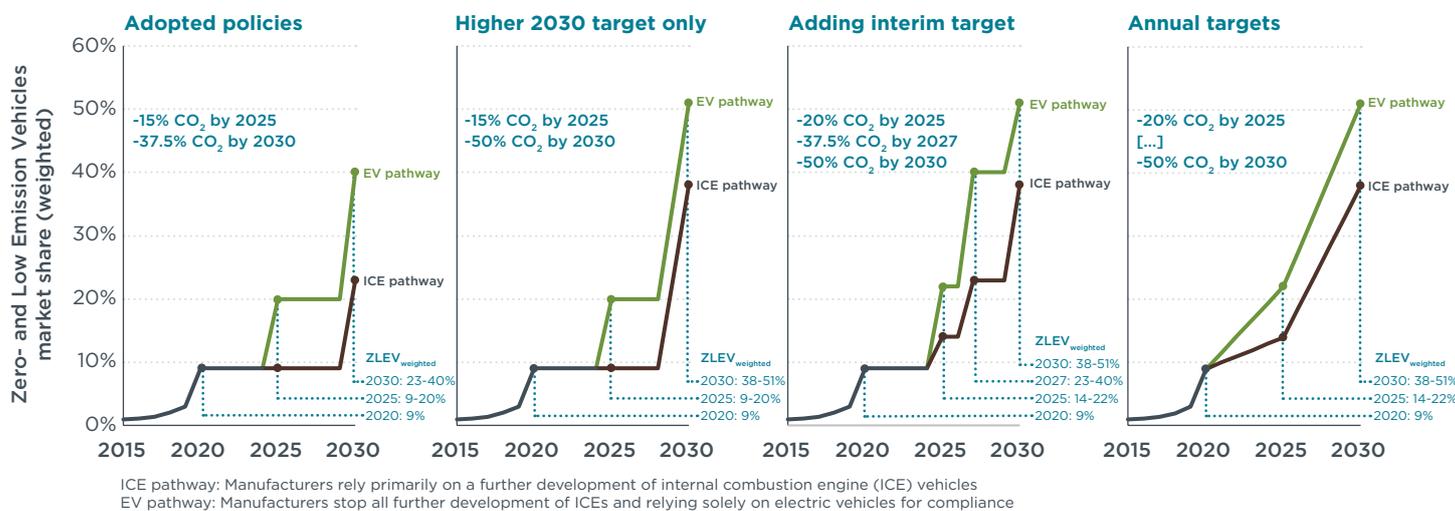


**Figure 1.** Historic development of the average CO<sub>2</sub> emission level of new passenger cars in Europe, including current target values for 2025 and 2030.

Unlike in other markets, such as the United States and China, the EU CO<sub>2</sub> regulation for new vehicles does not currently set annual interim targets but instead relies on step-wise targets with five-year intervals in between. As a result, manufacturers can focus on CO<sub>2</sub> compliance during target years while taking advantage of efficiency gains in development and production during interim years to maximize engine power, profit, or other parameters in their portfolio. Such an approach is **detrimental from a climate protection perspective** because the sooner new car CO<sub>2</sub> emission levels fall, the faster annual fleet-wide CO<sub>2</sub> emissions decline and the higher cumulative CO<sub>2</sub> benefits are, relative to a business-as-usual scenario.

Furthermore, for successfully establishing battery and electric vehicle production capacities within Europe, it is important to **provide planning security** as well as a **steady ramp-up of electric vehicle numbers** for future years. With the current regulations in place though, vehicle **manufacturers can ensure compliance until 2029 without any increase in electric vehicle market shares** and instead rely solely on further improvements of internal combustion engine (ICE) vehicles (Figure 2, “Adopted policies”). Only in 2030 will the share of electric vehicles have to increase to a level of about 23%. If further development of combustion engine vehicles is stopped and compliance is achieved by relying solely on electric vehicle technologies, manufacturers will need to provide about 40% of their vehicles as electric in 2030.

**Strengthening only the 2030 CO<sub>2</sub> target level will likely not have any significant impact on 2021 to 2029 electric vehicle market shares** (Figure 2, “Higher 2030 target only”). It is **only by also strengthening the 2025 CO<sub>2</sub> target level, plus introducing at least one additional interim target**—for example by pulling the current 2030 target forward to 2027—that a stronger and steadier uptake of electric vehicles can be assured (Figure 2, “Adding interim target” and “Annual targets”).



**Figure 2.** Estimated uptake of electric vehicles in Europe in accordance with CO<sub>2</sub> target levels.

Flowing from the analysis, ICCT recommends considering the following policy actions:

- » The stringency of the **2025 CO<sub>2</sub> targets should be strengthened as much as possible.**
- » **Annual interim targets** should be introduced from 2026 onwards, possibly in combination with a banking system to allow manufacturers to save early compliance credits for later years. As an alternative, the **current CO<sub>2</sub> target for 2030 should be pulled forward to at least 2027.**
- » The stringency of the **2030 fleet-average CO<sub>2</sub> targets** for cars and vans should be set at a **minimum of a 70% reduction**, relative to the 2020/21 baseline.
- » A target for **all new cars and vans to have zero tailpipe emissions** should be introduced for **2035 at the latest.**

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## FOR MORE INFORMATION

- » Europe's lost decade: About the importance of interim targets  
<https://theicct.org/blog/staff/interim-targets-europe-may2021>
- » The role of the European Union's vehicle CO<sub>2</sub> standards in achieving the European Green Deal <https://theicct.org/publications/eu-vehicle-standards-green-deal-mar21>

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