

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

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## Regulatory design elements: New vehicle CO<sub>2</sub> target levels

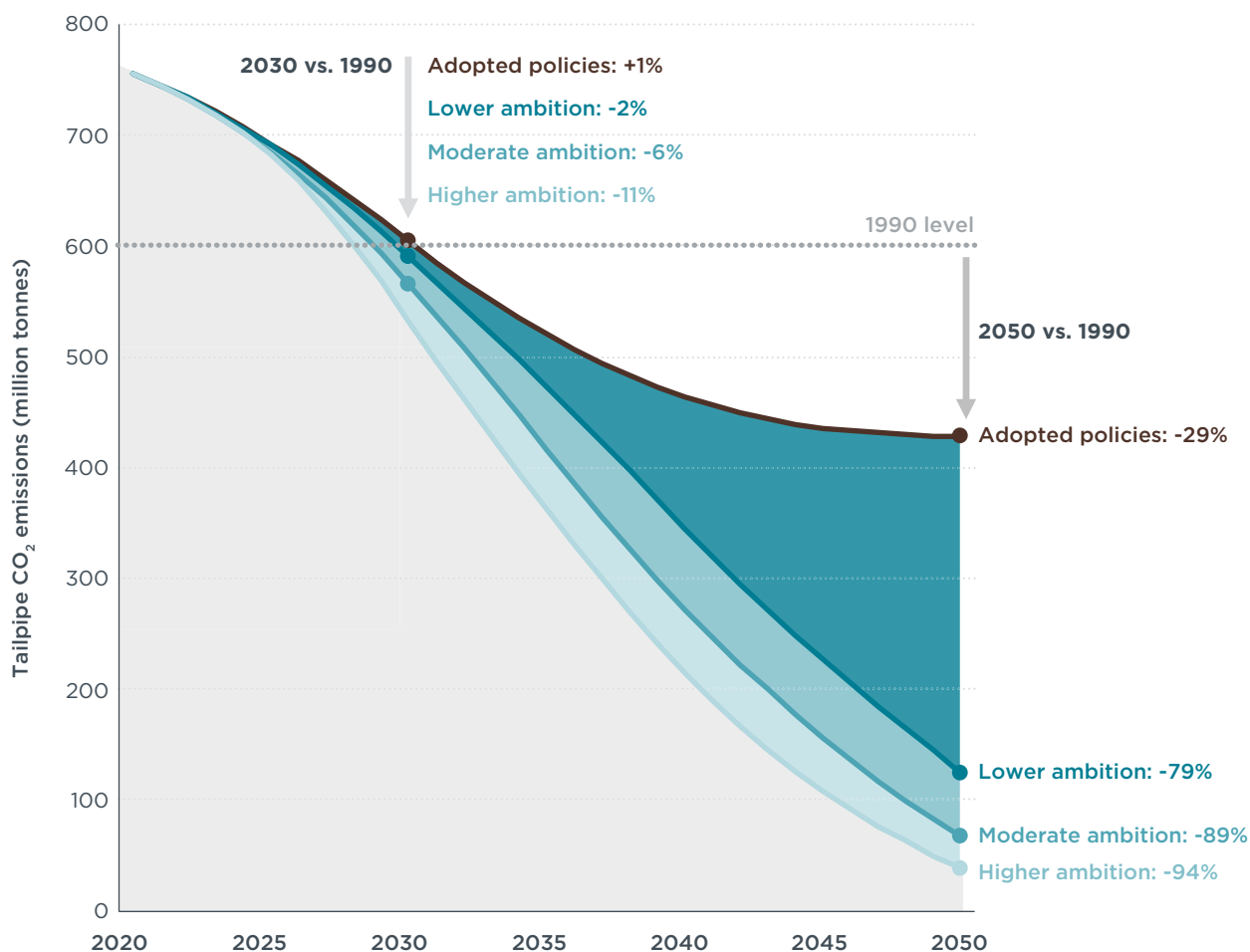
The European Green Deal calls for net-zero economy-wide greenhouse gas emissions and a **90% reduction in greenhouse gas (GHG) emissions from the transport sector by 2050**, relative to 1990. The European Climate Law enshrines the EU's commitment to reaching climate neutrality by 2050 and introduces a binding **economy-wide GHG reduction target of at least 55% by 2030**, relative to 1990. By summer 2021, the European Commission will come forward with a regulatory proposal for adapting the CO<sub>2</sub> standards for new passenger cars and light-commercial vehicles (vans) to be in line with these targets.

Applying the ICCT Roadmap Model, three scenarios were modeled to assess the required level of type-approval CO<sub>2</sub> emission reduction for new passenger cars and vans:

- » **Adopted policies:** Average new car CO<sub>2</sub> emissions decrease by **15% by 2025** and **37.5% by 2030**, relative to 2021. For vans, the reduction is **15% by 2025** and **31% by 2030**, relative to 2020. From 2030 onwards, the average emission level remains constant, both for cars and vans. This scenario corresponds to the CO<sub>2</sub> standards regulation currently in place in the EU.
- » **Lower ambition:** The 2025 target level for cars is strengthened, requiring a **20%** reduction. For vans, it remains unchanged. The 2030 target level is adjusted to a **50%** reduction, for both vehicle types. By 2035, CO<sub>2</sub> emissions of new vehicles have to decrease by **70%**.
- » **Moderate ambition:** The 2025 target reduction level is set at **-30%** for cars and **25%** for vans. In 2030, the reduction target becomes **70%** for both vehicle types and, **by 2035, all new vehicles have zero tailpipe emissions.**
- » **Higher ambition:** The 2025 target reduction level is adjusted to **40%** for cars and to **-35%** for vans. **By 2030 all new vehicles have zero tailpipe emissions.**

Both, **the adopted policies as well as the lower ambition scenarios fall short of meeting the 90% transport reduction target for 2050.** The moderate ambition scenario comes very close, with an estimated emission reduction of **89% by 2050**, relative to 1990. The higher ambition scenario achieves a **94% reduction by 2050** (Figure 1). If expected emission levels from aviation and marine shipping are factored in, even the higher ambition scenario would fail to achieve the targeted 90% reduction in total transport tailpipe CO<sub>2</sub> emissions by 2050.

**For 2030, none of the scenarios gets close to the economy-wide reduction target of at least 55%.** Even in the higher ambition scenario, only a reduction of 11% is achieved (Table 1). This has major implications for the cumulative emissions from the EU's road transport sector, which could use up the EU's entire remaining carbon budget for all sectors, even under the higher ambition scenario.



**Figure 1.** Combined road transport tailpipe CO<sub>2</sub> emission levels between 2020 and 2050, by scenario.

**Table 1.** Overview of scenario definitions and resulting CO<sub>2</sub> savings by 2030 and 2050.

Scenario	New cars CO <sub>2</sub> target (vs. 2021)			New vans CO <sub>2</sub> target (vs. 2020)			Road transport CO <sub>2</sub> emission savings (vs. 1990)*	
	2025	2030	2035	2025	2030	2035	2030	2050
Adopted policies	-15%	-37.5%	—	-15%	-31%	—	—	<b>-29%</b>
Lower ambition	-20%	-50%	-70%	-15%	-50%	-70%	<b>-2%</b>	<b>-79%</b>
Moderate ambition	-30%	-70%	-100%	-25%	-70%	-100%	<b>-6%</b>	<b>-89%</b>
Higher ambition	-40%	-100%	-100%	-35%	-100%	-100%	<b>-11%</b>	<b>-94%</b>

\* The economy-wide target for 2030 is at least -55%, The road transport target for 2050, which includes passenger cars, light-commercial vehicles, and heavy-duty trucks, is -90%.

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

- » The stringency of the **2030 fleet-average CO<sub>2</sub> targets** for cars and vans should be set at a **minimum reduction of 70%**, relative to the 2020/21 baseline.
- » The stringency of the **2025 CO<sub>2</sub> targets** should be strengthened **as much as possible** and complemented by **additional interim targets** for the 2026-2029 timeframe.
- » A target for **all new cars and vans to have zero tailpipe emissions** should be introduced for **2035 at the latest**.
- » The CO<sub>2</sub> standards for new cars and vans should be complemented by **more ambitious policies for other transport subsectors**, such as heavy-duty vehicles, aviation and marine shipping.

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## FOR MORE INFORMATION

- » 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>
- » Europe's lost decade: About the importance of interim targets  
<https://theicct.org/blog/staff/interim-targets-europe-may2021>
- » Transport could burn up the EU's entire carbon budget  
<https://theicct.org/blog/staff/eu-carbon-budget-apr2021>

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