EUROPEAN UNION CO_2 STANDARDS FOR NEW PASSENGER CARS AND VANS

APRIL 2022

CO_2 performance standards as a means to reduce dependence on oil imports

The European Union (EU) relies on imports for 97% of its oil demand. One-quarter of these oil imports come from Russia, which is more than from any other country. The European Commission is expected in May to announce a plan to phase out the EU's imports of Russian oil, gas, and coal by 2027. In absence of increases in domestic production or other sources of oil imports, **eliminating the EU's dependence on Russian oil requires cutting the EU's oil demand by at least one-quarter by 2027** compared to current levels.

Road transport is the largest consumer of oil products in the EU, accounting for about 60% of total oil demand. Cars and vans account for more than 70% of oil consumption for road transport, making them the single largest consumer of oil products in the EU. Yet, **under currently adopted policies, annual oil demand for cars and vans is projected to decline by only 13% from 2021 to 2027**. For gasoline and diesel vehicles, tailpipe CO_2 emissions and oil consumption are directly linked. In mid-2021, the European Commission proposed more ambitious CO_2 standards for new cars and vans. However, without modifications, the European Commission's regulatory proposal will have little impact on oil demand before 2030, since it does not change the 2025 targets currently in place and fails to include interim targets between 2025 and 2030.

In the coming months, the European Parliament and the European Council have the opportunity to strengthen the European Commission's proposed CO_2 standards to achieve much larger reductions in CO_2 emissions and oil consumption prior to 2030. Measures to do so include:

- **Tightening the 2025 targets** to achieve a 40% CO_2 reduction for new cars and a 35% reduction for new vans (compared to -15% under the current standard and proposal);
- **adding annual CO_2 targets** starting in 2026 to ensure steady CO_2 reductions for new cars and vans from 2025 to 2030; and
- **moving up the target of 100% zero-emission car and van sales** from 2035 (as currently proposed) to 2030.

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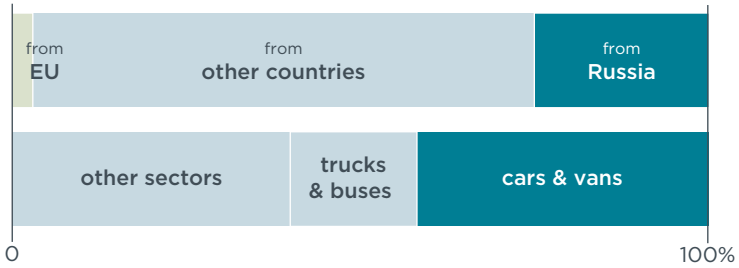
Implementing all of these measures **would reduce the annual oil consumption of cars and vans by 22% from 2021 to 2027**. Cumulatively, by 2030, **the EU would save 115 million tonnes of oil equivalent** compared to the currently proposed standards. This corresponds to about half the total annual oil consumption of all vehicles on the road in the EU today.

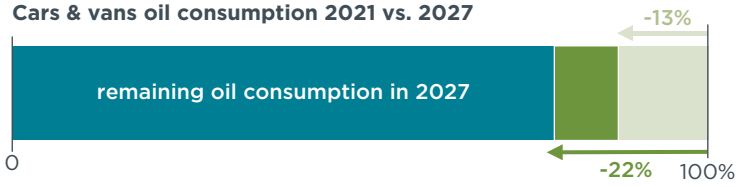
EU oil consumption by source and by consumer



97% of the EU's oil is imported.
One-quarter comes from Russia.

Road transport accounts for 60% of oil demand.
Cars and vans for 70% thereof.

Cars & vans oil consumption 2021 vs. 2027



115 million tonnes of oil additionally saved

Oil demand for cars and vans will decline by only 13% by 2027.

Oil demand **could decrease by 22%** if implementing:

- Tightened 2025 CO_2 standards (-40% for new cars)
- Annual CO_2 targets (for 2026 to 2029)
- 100% zero-emission vehicle sales target by 2030

TIGHTENING THE 2025 TARGETS – SECURING OIL SAVINGS IN THE SHORT TERM

A 40% reduction of tailpipe CO_2 emissions for new cars in 2025 can be achieved by increasing the market share of battery-electric vehicles to about one-quarter of sales. In parallel, the fuel consumption of the remaining new combustion engine cars needs to improve by about 3% per year between now and 2025. For comparison, in light of the 2021 CO_2 standards, the market share of battery-electric cars jumped from 2% in 2019, to 6% in 2020 and 10% in 2021, while the fuel consumption of new combustion engine cars, on average, improved by 7%, within one year.

The necessary improvements are technically feasible, as shown by the use of mild-hybrid technology for combustion engine cars and the quickly increasing variety of battery-electric vehicles across all segments. Without strengthening the 2025 CO_2 target however, the market for battery-electric cars is expected to develop much slower and new combustion engine car fuel consumption is estimated to increase by about 2% per year between now and 2025.

ADDING ANNUAL CO_2 TARGETS – STABILIZING A SMOOTH ELECTRIFICATION

Currently, new vehicle CO_2 standards in the EU are on track to tightening every five years (2015, 2020/21, 2025, 2030, 2035). Past experience indicates that manufacturers take advantage of these stepwise targets to sell outdated technology and maximize profits before rapidly introducing new technology before the standards take effect. Between 2015 and 2019, the average CO_2 emission levels of new cars decreased by only about 1% per year before suddenly dropping by 11% from 2019 to 2020. A similar pattern of delay in technology deployment is to be expected for the years 2026 to 2030, unless annual interim targets are introduced.

This would have negative implications for suppliers and consumers and would also have a detrimental effect on cumulative CO_2 emissions and oil consumption. This is

because the sooner an existing vehicle gets replaced by a more efficient or, ideally, a zero-emission vehicle, the more CO_2 and the more oil is saved throughout the lifetime of that vehicle. In other markets, such as China and the United States, new vehicle standards are therefore defined as annual targets, with provisions for manufacturers to save early compliance credits for later years.

MOVING UP THE TARGET OF 100% ZERO-EMISSION CAR AND VAN SALES – MAXIMIZING SAVINGS FOR CONSUMERS AND SOCIETY

Even in the absence of regulation, most large manufacturer groups have announced they intend to have battery electric vehicles make up 100% of sales in the EU by or before 2035. These include the Stellantis Group, Ford Group, Renault brand, Volvo brand, Jaguar brand, Audi brand, VW brand, Hyundai Group, and of course Tesla. Altogether, the public—but voluntary—commitments of car manufacturers on battery-electric vehicles currently sum up to about a 55% market share by 2030, thereby underlining the technical feasibility of a quick electrification of the road transport sector.

From a consumer perspective, a swift transformation of the sector is expected to come with significant savings. Total net average economic consumer savings for the first five years of ownership after vehicle purchase are estimated to be around €2,000 for a 100% CO_2 reduction by 2030 but only around €500 for the 55% reduction proposed by the European Commission. These high savings for consumers are mainly driven by expected ongoing decreases in the manufacturing costs for battery-electric vehicles, significantly lower costs for recharging compared to refueling, and reduced maintenance. Similarly, average net savings from a societal perspective, which include the avoided external cost of CO_2 emissions, over the entire vehicle lifetime, are estimated at more than €5,000 for a 100% CO_2 reduction by 2030 but only around €2,000 for a 55% reduction.

FURTHER READING

- Fit for 55: A review and evaluation of the European Commission proposal for amending the CO_2 targets for new cars and vans, ICCT Briefing, September 2021, https://theicct.org/publications/fit-for-55-review-eu-sept21
- The role of the European Union's vehicle CO_2 standards in achieving the European Green Deal, ICCT Briefing, March 2021, https://theicct.org/publications/eu-vehicle-standards-green-deal-mar21
- Pathways to decarbonization: The European passenger car market in the years 2021-2035, ICCT White Paper, May 2021, https://theicct.org/publications/decarbonize-EU-PVs-may2021

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