

Explanatory note: Comparing US and EU truck fuel economy

June 2015

A briefing by  TRANSPORT & ENVIRONMENT

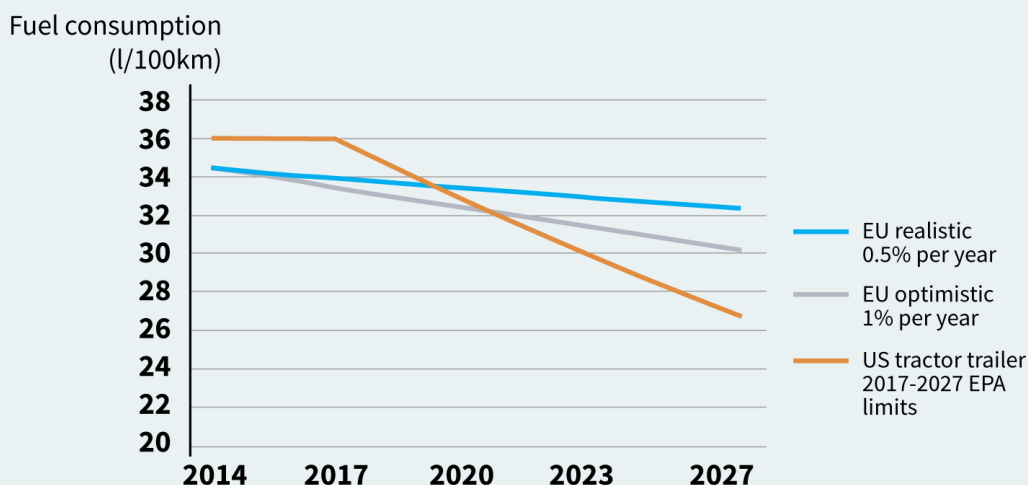
US

The US has proposed a fuel efficiency/GHG standard for new trucks. One element of the proposal requires class 8 sleeper cab tractor trailers (i.e. comparable with our 40-tonne semi-trucks) to improve fuel economy to **8.8 miles per gallon** (combined tractor and trailer standard for 2027) or 26.7l/100km. This is a 31% improvement compared on the 2017 baseline of 6.1 miles per gallon or 38.5l/100km. However, it should be noted that in reality new truck fuel economy in 2017 will already be well below the 38.5l/100km baseline. In fact phase 1 requirements for 2017 require 31.7l/100km in 2017. This is complicated by the fact that part of the proposed new standard the testing regime **has been updated** and that this required a newly-defined baseline. So the 38.5l/100km baseline should be seen as a regulatory baseline, not a reflection of market realities where average fuel efficiency of new trucks is currently between **33-36l/100km**. We have taken a conservative view and assume new truck fuel economy in 2017 will be around 36l/100km.

Europe

According to a **2015 study** for the German Environment Agency a new EURO VI truck in Europe now averages around 34.5l/100km. However, independent magazine tests suggest actual fuel consumption is higher, i.e. **36-38l/100km** but for this exercise we have used the lower estimate. For the past few decades, EU truck fuel efficiency has been stable. With regulatory intervention absent, we do not expect significant year-on-year improvements. This assessment is in line with **AEA-Ricardo's** estimates that tractor-trailer fuel efficiency will improve by 0.5% per year until 2030. However, the **Commission's 2014 impact assessment** assumes 1% per year improvements (based on TREMOVE). This does not appear to be based on scientific analysis or actual market trends and should be seen as an optimistic or best-case scenario which we have also included.

EU vs US average tractor-trailer fuel consumption



The usefulness and limitations of this comparison: As explained, a lot of the values are not entirely certain. The new 2017 baseline complicates matters in the US while in Europe there is no certified way of measuring truck fuel economy or establishing the baseline. We have therefore taken a conservative approach toward both EU and US data. Still, a comparison between US and EU trucks remains challenging. A US class 8 sleeper cab is a typical long-haul freight vehicle and thus comparable to a long-haul EU semi-truck. But whereas a US truck has a maximum weight of 36 tonnes (80,000 pounds), a European one is limited at 40 tonnes. At the same time driving profiles in the US and Europe may be quite different. Therefore, the above graph should not be understood as an apple-to-apple comparison of US and EU trucks. However, the trends discerned in the graph are clear, even while using conservative estimates.

US truck fuel efficiency is increasing much faster than EU truck fuel efficiency. The effect of this is that US trucks are very likely to be the most fuel efficient in the world by the early 2020s *at the very latest*.

Further information

William Todts
Transport programme manager
Transport & Environment
william.todts@transportenvironment.org
Tel: +32(0)2 851 02 21 / +32 (0)495 799 505