

# PROPOSED AMENDMENTS TO EU RULES AFFECTING HDV CONFIGURATIONS

## ICCT POLICY UPDATES

SUMMARIZE

REGULATORY

AND OTHER

DEVELOPMENTS

RELATED TO CLEAN

TRANSPORTATION

WORLDWIDE.

On April 15, 2013, the European Commission proposed new amendments to heavy-duty vehicle regulations that would permit more aerodynamic vehicle designs with improved energy efficiency and emissions behavior to be introduced onto European roads.

The amendments include derogations on the maximum total length of HDVs, allowing for existing trucks to be retrofitted with rear aerodynamic flaps and new trucks to feature these additional aerodynamic elements as well as rounder, longer cabin designs. In addition to improved aerodynamics, the new, rounder cabs will also affect road safety by improving outward visibility and lowering the risk of injury to other road users during low-speed collision events.

The proposed amendments also include provisions to facilitate intermodal container transport and to incentivize the adoption of hybrid HDV powertrains.

## BACKGROUND

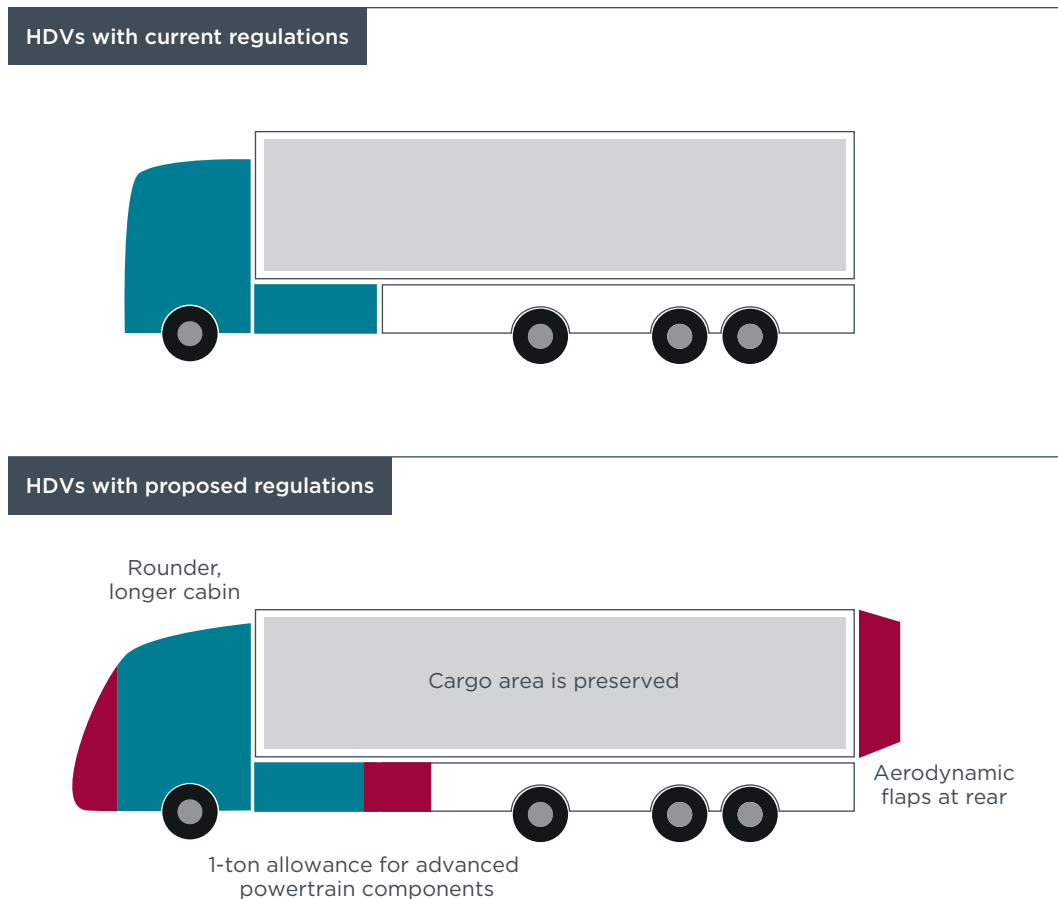
The current EU rules covering heavy goods vehicles were established in the 1980s by Directive 96/53/EC<sup>1</sup>. This directive limited the maximum weight of HDVs to 40 metric tons (44 in combinations of vehicles with 5 or 6 axles) and their length to 18.75 meters (61.5 feet). These provisions were designed to harmonize freight transport and to foster free competition within the EU, but they were not designed with energy efficiency in mind.

These length restrictions have been extremely influential in the design of European trucks in comparison to those in the US. Analogous US regulations place a restriction on *trailer length*, while the EU regulates *total length* of the truck and trailer combination. This has led to the prevalence of a very short tractor with a cab-over-engine layout in the EU, while much longer tractors are utilized in the US. The EU provisions have prevented the introduction of innovative vehicle designs necessary to increase fuel efficiency and environmental performance.

## KEY POLICY ELEMENTS

The European Commission’s proposal would grant derogations from the *maximum dimensions* of vehicles while effectively maintaining their load capacity (see figure 1). The increased length allowance will pave the way for the introduction of rounded, more aerodynamic HDV tractor cabs and permit the installation of streamlined aerodynamic flaps at the back of the vehicle.

Hybrid powertrains come at the expense of increased vehicle weight, due to the batteries and electric engines, and therefore reductions in load capacity. When conventional and hybrid powertrain vehicles share the same weight limit, the latter are disadvantaged, and transport operators are discouraged from adopting these more energy-efficient powertrains. To remedy this, the proposed amendments to Directive 96/53/EC authorize a weight increase of one metric ton for vehicles with an electric or hybrid propulsion without prejudice to the load capacity of the vehicle. The maximum weight of buses will also be increased by a metric ton to take account of various developments such as the increase in the average weight of passengers and their baggage, modern safety equipment, and the emission control systems of the new Euro VI class.



**Figure 1.** Expected changes in EU HDV configurations due to the proposed regulations

With the current HDV length restrictions, the most common containers used on rail, waterways, and maritime transport (45-foot containers) require special permits to be

transported by road. This increases administrative costs for transporters and administrations and is a hurdle to efficient intermodality. The amendment of Directive 96/53/EC will facilitate the development of intermodal transport by allowing a derogation of 15 cm (5.9 inches) in the length of trucks carrying these 45-foot containers, which will eliminate the need for special permits.

## EXPECTED BENEFITS

The vehicle length derogations will improve the aerodynamic qualities of vehicles, leading to increased fuel efficiency and improved emissions behavior. The aerodynamic flaps, currently available in the market, may be installed as soon as the amended Directive enters into force. At least 1 million of the 6.5 million HDVs currently in Europe could take advantage of these aerodynamic enhancements. The savings are expected to be largest for long-haul vehicles. These are estimated at €5,000 per year in fuel costs for a typical long-distance truck covering 100,000 km, which represents a 7-10% cut in greenhouse gas emissions.

## NEXT STEPS

The proposal has yet to be adopted by the European Parliament and Member States. The new trucks could be on European roads by 2018-2020.

## REFERENCES

Text of the proposal: [http://ec.europa.eu/commission\\_2010-2014/kallas/headlines/news/2013/04/doc/com%282013%29195\\_en.pdf](http://ec.europa.eu/commission_2010-2014/kallas/headlines/news/2013/04/doc/com%282013%29195_en.pdf)