

The CO₂ standards regulation and the CO₂ Correction Factor – CCF - proposal

Rationale behind the introduction of the CCF

- 1) **The need to assure consistency between the RED II and CO₂ regulation** when renewable gas/fuels are considered
- 2) **The need to translate a technology-neutral approach** when comparing current and future powertrain solutions (from conventional engines up to full electric solutions, from conventional fuels to bio/renewable/synthetic fuels and energy carriers).
- 3) **The opportunity to start introducing elements for a Well-to-Wheel (WtW) approach** without setting a full WtW methodology (potentially to be developed in the medium-long term).

CO₂ emissions from renewable fuels

When **fossil fuels** burn, CO₂ is emitted into the atmosphere causing the climate change phenomena (open CO₂ cycle).

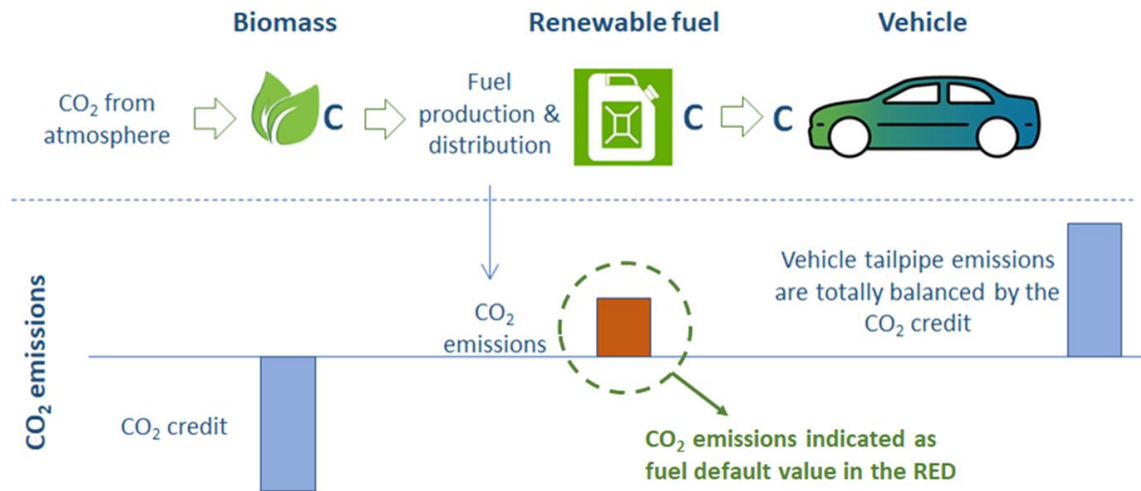
When **renewable fuels** burn they also generate CO₂ emissions, but the carbon in this fuel is the result from the natural CO₂ capture and conversion during the lifetime of the raw material used to produce the fuel.

That is why renewable fuels generate a CO₂ credit and, when burning, CO₂ emissions are completely compensated (closed CO₂ cycle).



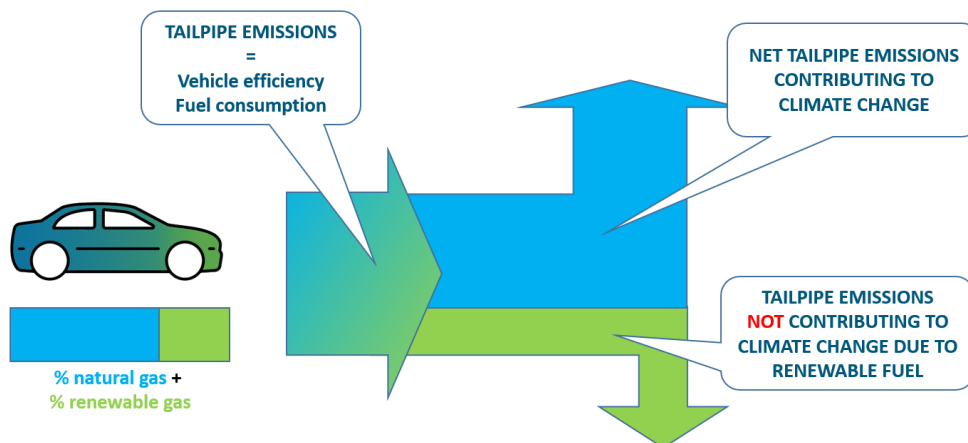
The only CO₂ footprint from renewable fuels is generated during the production and the distribution process. For this reason, **as proposed by the RED II, CO₂ footprint from the combustion of renewable fuels is set .**

Looking to the combustion process, the carbon (C) contained in the fuel is the one resulting from the CO₂ capturing from the atmosphere during the lifetime of the biomass.



Why the need to introduce the CCF

The measurement of the vehicle's whole tailpipe CO₂ emissions is not in measure to distinguish the source of the fuel (fossil or renewable) and, as a consequence, does not lead to the correct calculation of the CO₂ impact when renewable fuel is used.

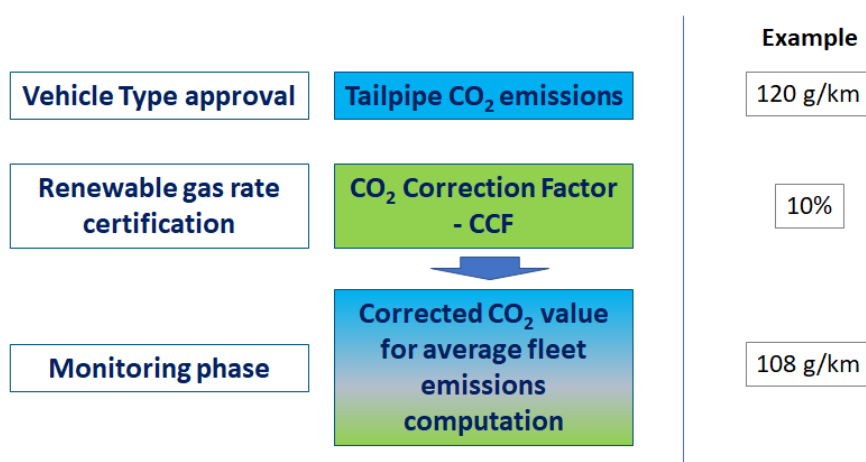


The CCF translates the part of tailpipe CO₂ emissions from the renewable fuel, that have to be set at zero in accordance with the RED II.

How to calculate and apply the CCF

The CO₂ Correction Factor - CCF - is proposed for both PC&LDV and HDVs CO₂ regulations

- 1) Tailpipe CO₂ emissions determine the **Type Approval CO₂ value** (as today).
- 2) **CCF is calculated** as the percentage of the renewable gas distributed at the gas stations over the solar year.
- 3) **Certification** of this percentage is provided by each Member State or, as alternative, by vehicle manufacturers (e.g. in the case of captive fleets).
- 4) The **MS specific CCF** value will apply to the NGVs fleet sold in the country for the computation of the average CO₂ emissions value during the so-called **Monitoring** phase.



This procedure is already in force in Switzerland where the Federal Authority in Art.26 of the CO₂ Ordinance 641.711 foresees for NGVs a reduction of the CO₂ emissions value (measured tailpipe) by the percentage of the eligible biogenic component of the gas mixture. Currently, a 10% share of renewable gas has been certified by the Swiss Authority, applying, de facto, the CCF approach.

CCF does not introduce “double counting”

The introduction of the CCF results in line with the methodology developed in the RED II and based upon the JEC (JRC-EUCAR-CONCAWE) WtW Study.

As previously mentioned, the study sets CO₂ emissions from combustion to zero when a renewable fuel is used and the only CO₂ emissions considered are the ones generated from the fuel production and distribution processes.

Certification of the renewable gas rate used for the transport sector allows to correct the computation of the average CO₂ emissions from the NGVs fleet and will avoid the “double counting” of contributions from renewable gas also used in other sectors (e.g. heating or power generation).

According to the RED II methodology, the CO₂ impact from the use of renewable gas will be considered based on the specific default values of the fuel, while the CO₂ emissions from the combustion process (tailpipe emissions) will be corrected according to the certified rate of renewable gas used.

Therefore, not introducing the CCF into the CO₂ regulation would automatically lead to an overestimation of the CO₂ emissions from the transport sector when a renewable fuel is used.

Consistency with other EU policies aiming for reduction of GHG emissions

The **Fuel Quality Directive** requires a reduction of the greenhouse gas intensity from transport fuels by a minimum of 6% by 2020. The contribution to the reduction of CO₂ determined by the use of renewables under the future CO₂ standard regulation does not introduce any double counting of the effect towards the final objective of GHG emission reduction as its entry in force will occur after 2020.

The **Renewable Energy Directive** aims, among other, to steer the production of renewable fuels, including renewable gas. Led by sustainability criteria, it defines which fuels are eligible to be counted towards the final target of deployment of renewables in terms of volumes, however not considering the actual value of GHG emissions saved.

The **Effort Sharing Regulation** applies binding annual emission reductions to Member States from 2021 to 2030. Member States are responsible for national policies and measures to limit emissions from the sectors covered, however some measures taken at EU level will help further Member States to reduce emissions. One such example is represented by the CO₂ emission standards for new cars and vans cutting emissions from road transport.

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