

Carbon dioxide equivalent

By Lennart Kiil



Methane, which has a global warming potential 34 times higher than carbon dioxide, is formed among other places in the stomachs of ruminants such as cows.

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Measure for describing how much [global warming a greenhouse gas](#) may cause, using the equivalent amount of [carbon dioxide](#) as the reference.

Carbon dioxide equivalent is related to [global warming potential](#). Indeed, carbon dioxide equivalency is a quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO₂ that would have the same global warming potential, when measured over a specified timescale.

This means that carbon dioxide equivalency is a time-integrated measure of [radiative forcing](#). It measures the impact that a given gas [emission](#) will have over 100 hundred years compared to what an emission of the same amount of CO₂ will have over the same period. For example, this means that for the gas [methane](#), the higher initial global warming potential of the gas itself is taken into consideration. However, the fact that methane is broken down over time to CO₂ and functions as a greenhouse gas in this form is also included.

The carbon dioxide equivalency for a gas is obtained by multiplying the mass and the global warming potential of the gas. For example, the global warming potential for methane over 100 years is 25. This means that emissions of one million tonnes of methane are equivalent to emissions of 25 million tonnes of carbon dioxide.

Carbon dioxide equivalent is, therefore, a practical way to compare different types of emissions when international agreements are to be made and the most important areas of action to [mitigate global warming](#) must be identified.

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