



## THE „STAKEHOLDER CARBON FOOTPRINT“

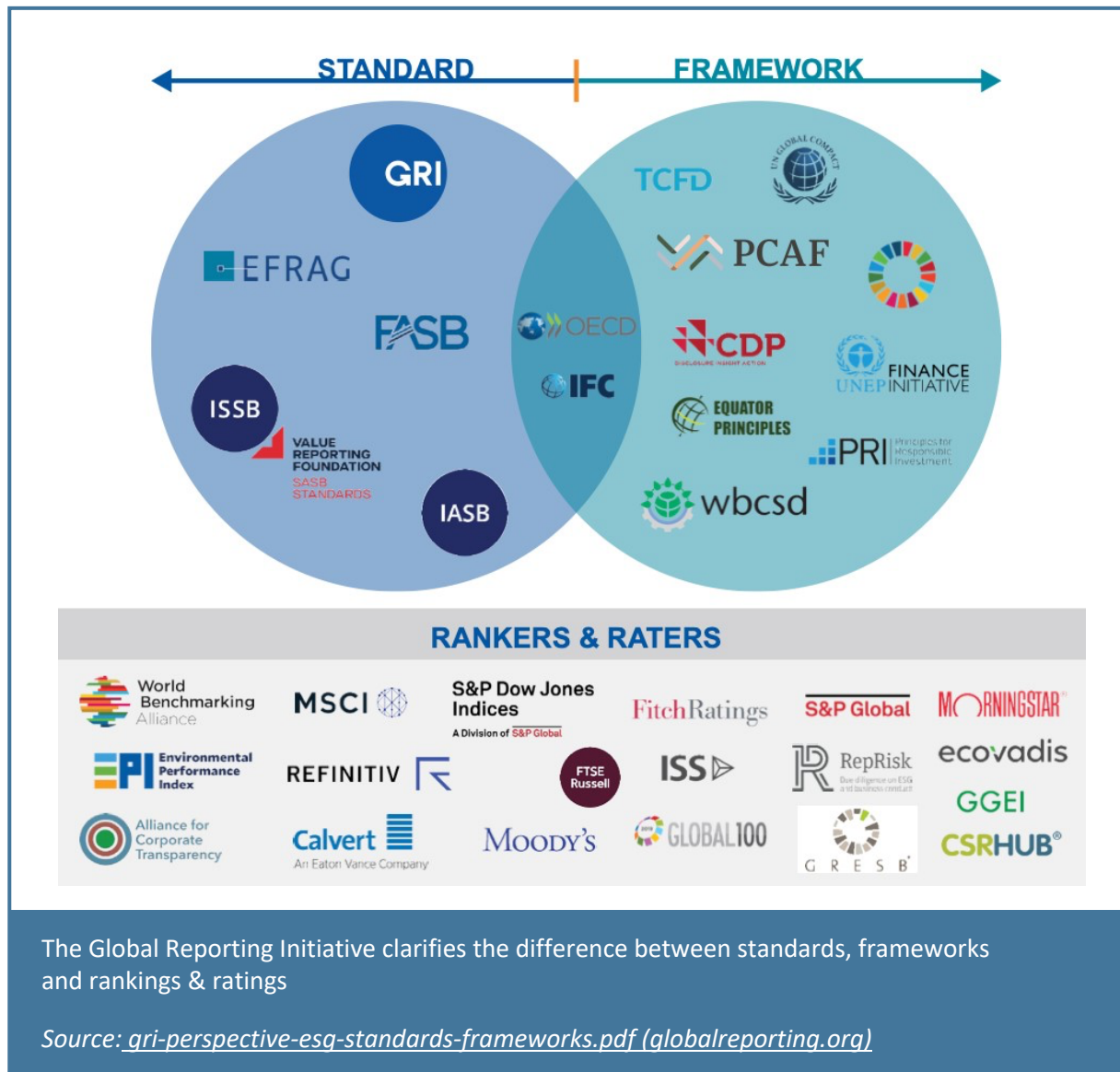
A different perspective on the individual CO<sub>2</sub> footprint!

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## The Problem

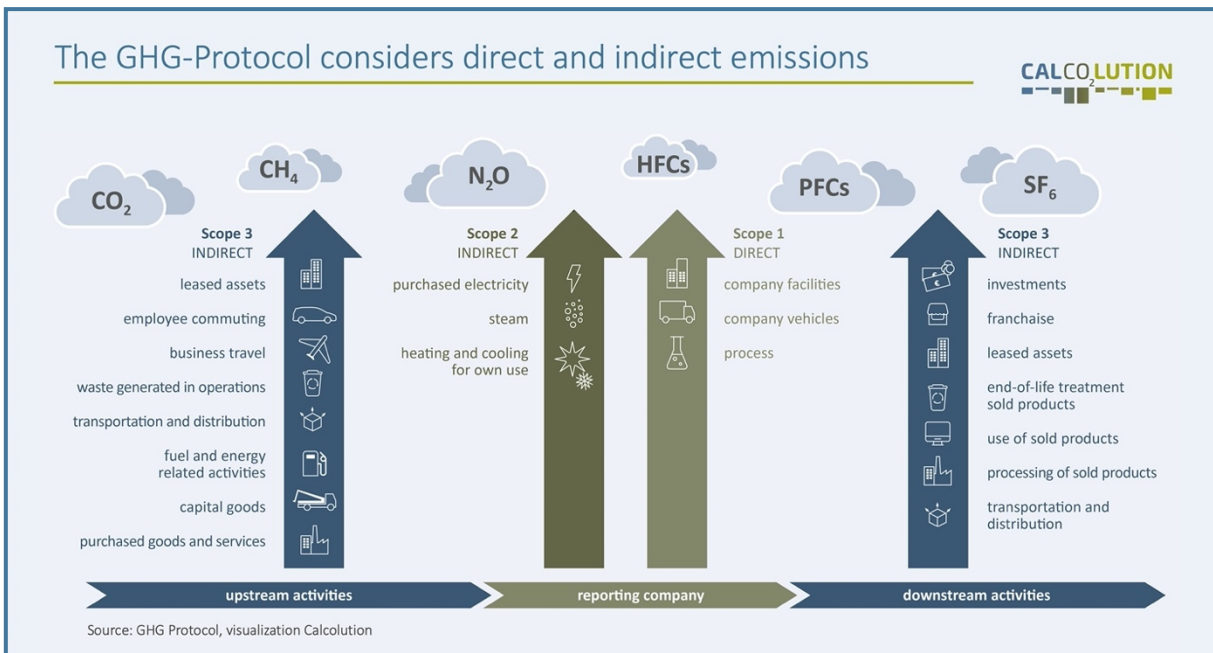
The dangers of the climate crisis are well known, and standardization of the reporting methods worked.

A recent report by the Global Reporting Initiative “ESG standards, frameworks and everything in between” shows the complexity of the project.



Official reporting standards make an important contribution to the global comparability of carbon accounting. For the actual implementation of climate-effective measures, however, the relevant decision-makers must be convinced of the benefits of their efforts.

The Greenhouse Gas Protocol distinguishes between direct (scope 1) and indirect emissions (scope 2&3). If you calculate the footprint of all market participants, this leads to multiple counting of emissions. For example, the operating emissions of a car are counted as direct emissions of the car owner, but also as indirect emissions for the car producer and oil companies.



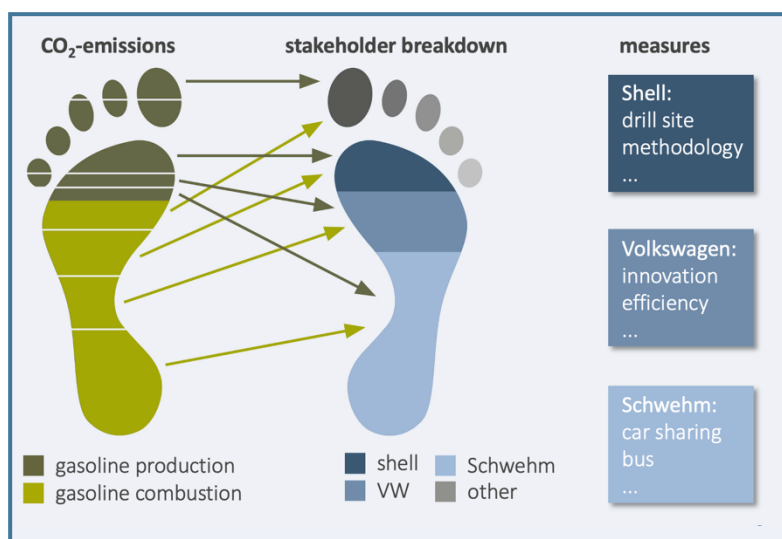
The “Stakeholder Carbon Footprint” chooses a novel approach here and splits the emissions based on benefit and influence. In the following, companies, investors, the society and private individuals are the considered stakeholder groups.

The additive allocation of emissions leads to a significantly stronger personalization and thus underlines the urgency to move from talking to action. The direct attribution of emissions prevents that a stakeholder shirks responsibility by assigning the blame for the emissions to another. Only through the cooperative implementation of efficient measures we can get the climate crisis under control!

## The concept of the “Stakeholder Carbon Footprint”

At first, the ecological balance is calculated for all climate-related activities of a stakeholder for the entire life cycle. These total emissions are then split over the individual years based on the originator. Each stakeholder can now implement individual measures to reduce their share of emissions.

The illustration shows the procedure using the example of fuel consumption:



About ¾ of the total emissions result from combustion in the vehicle. However, emissions also arise during the manufacture of the gasoline and when the petrol is distributed via the filling station network.

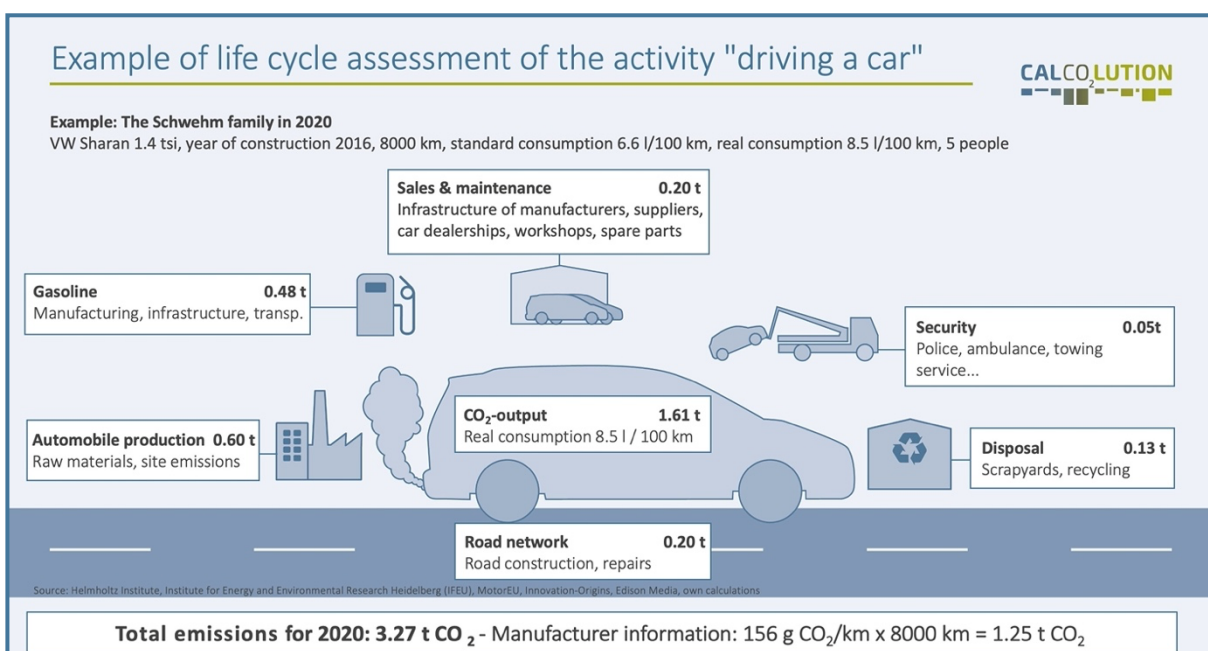
These total emissions can now be broken down into the various stakeholder groups. If necessary, the respective groups could be further detailed, i.e. companies in mineral oil companies, car manufacturers, car dealerships, gas stations, etc. and the car manufacturers in VW, BMW, Mercedes, or similar.

A source-based allocation of emissions is then calculated according to the respective benefit and influence of the stakeholders:

Stakeholdergroup	Benefit	Influence
Individuals	Transportation, comfort, flexibility ,...	Choice of transportation method, driving style, choice of car, ....
Companies	Earnings, marketing, ...	Engine efficiency, production methods, innovation, ...
Investors	Return on investments	Investments, company strategy, ...
Society	Mobility, environmental impact, ...	Norms and regulations, speed limit, sentiment, ...

## Life Cycle Assessment

If you look at the activity of driving a car, additional emissions need to be considered. In the specific example, the estimated total emissions are almost three times as high as the officially standardized manufacturer's data.



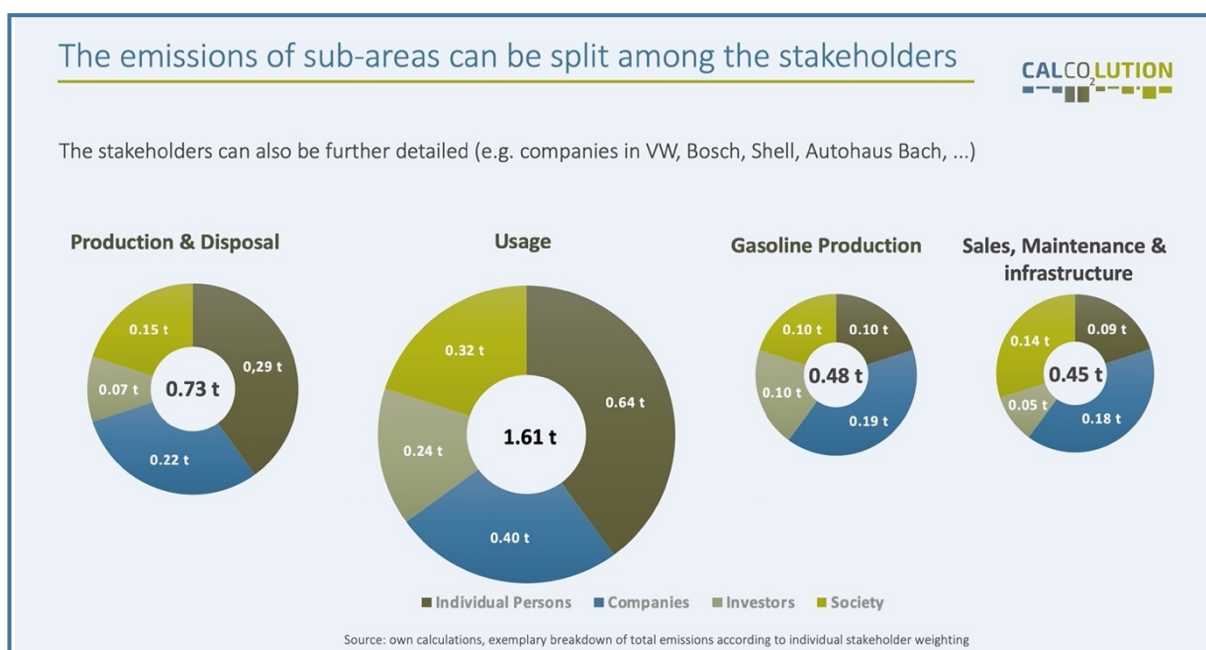


This can be explained by the underlying system limits. The manufacturer information counts the CO<sub>2</sub>-emissions from the combustion of the standard gasoline consumption at the pipe. In order to use the car, however, many other emissions are necessary, e.g., for car production, gasoline production, infrastructure or safety.

## Emission Allocation

The allocation of these total emissions to the various stakeholder groups is based on the influence of the stakeholders on the amount of the activity (i.e. how many km the car is driven) and on the influence on the emission factor (how much CO<sub>2</sub> arises per km driven).

The visualization of the emission split between the stakeholders provides an excellent basis for joint discussions to reduce emissions and increase the understanding of the process. The additive breakdown of the total emissions allows a consistent evaluation and - at least theoretically - the calculation of a "fair" CO<sub>2</sub>-price.



If a stakeholder uses this methodology to determine all his relevant climate-impacting activities, this provides valuable new insights. The stakeholder carbon footprint even allows the inclusion of the carbon handprint, which indicates changes in behavior at other companies or individuals.

This can be done, for example, by crediting 10% of the saved emissions by the participants to the initiator of a climate week. At the same time, however, this also means that the purchase of CO<sub>2</sub>-certificates would only be credited as a fraction, especially if no additional projects are financed, but only the sponsor of existing projects changes.

The resulting list of a stakeholder's largest weighted emissions needs to be linked with climate action. After an individual assessment of the "costs" of the measures, a prioritization can then be carried out according to the relationship between climate protection potential and "perceived" effort.

## The Path to Emission Reduction

Therefore, the concept allows an individual approach to identify the "right" measures for the stakeholder. By actively sharing experiences with peers and by economies of scale in the joint implementation of measures, positive ecological effects can be increased even further.



We are currently investigating together with Christoph Klein (ESG Portfolio Management), Nils Giesen (abat), Sebastian van Vliet (id-report), Prof. Olaf Korn (University of Göttingen) and Martin Hillenbrand (VfU) the stakeholder carbon footprint for ESG Portfolio Management.

We will then publish the results in a final report in comparison to the Corporate Carbon footprint according to the Greenhouse Gas Protocol.

Further information can be found on our webpage [www.calcolution.org](http://www.calcolution.org).



Let's work together for a sustainable future!

Did we pique your interest?

If yes, then let's examine a cooperation together.

We would be happy to present our concept to you in more detail.

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