Impact starts with “I”

The Stakeholder Carbon Footprint™ can be used to prioritize effective climate measures

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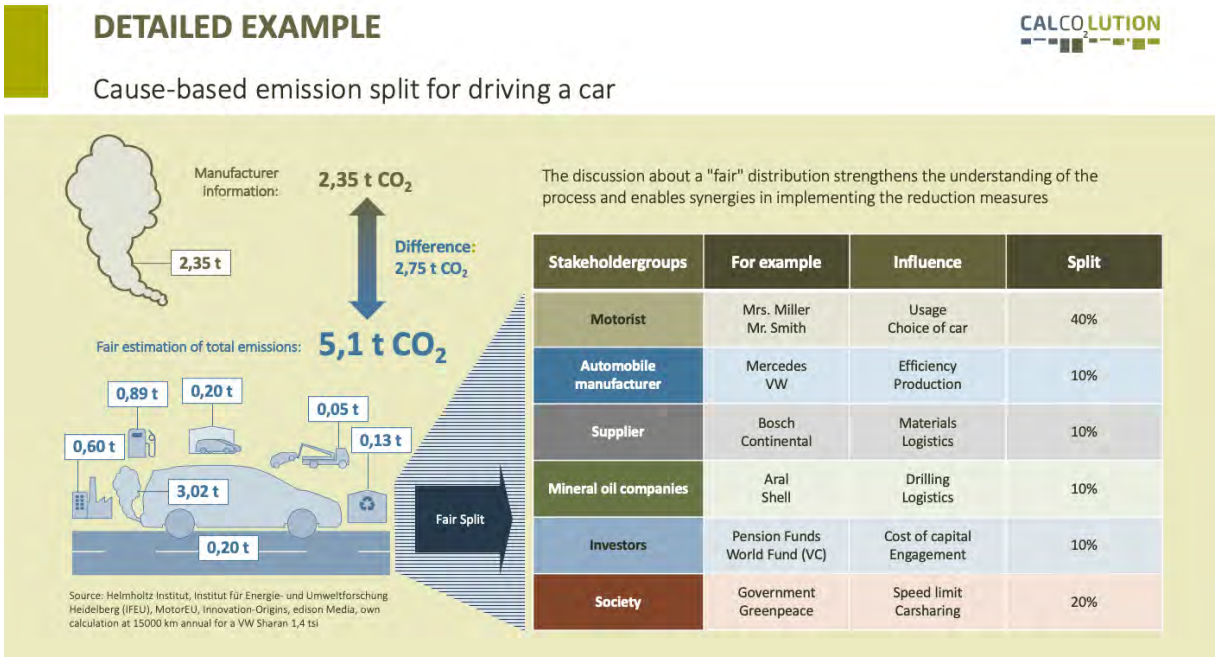
Official reporting standards and norms make an important contribution to the global comparability of historical emissions. However, in order to reduce emissions, the relevant decision-makers need to be convinced of the benefits of climate-impacting measures. Transparency and cooperation are crucial in this regard.

The Greenhouse Gas Protocol distinguishes between a company's direct (Scope 1) and indirect emissions (Scope 2 and Scope 3).

The Stakeholder Carbon Footprint™ (SCF) extends the methodology to include a polluter-pays breakdown. In addition to the footprint, the impact of capital, communication and innovation are also considered, which provides the framework for a joint responsibility discussion. For this purpose, it is important that, for example, when driving a car, not only the standard consumption at the exhaust pipe is considered, as the manufacturer's CO2 emission data show, but that real consumption, production, maintenance, infrastructure, and petrol production are also taken into account.

In order to reduce these total emissions, car drivers, manufacturers, suppliers, mineral oil producers, politicians and environmental organizations have very different ways of exerting influence. Drivers can decide whether and how to drive, manufacturers determine the supply, suppliers the production methods, or politicians can intervene by imposing a speed limit.



Stakeholdergroups	For example	Influence	Split
Motorist	Mrs. Miller Mr. Smith	Usage Choice of car	40%
Automobile manufacturer	Mercedes VW	Efficiency Production	10%
Supplier	Bosch Continental	Materials Logistics	10%
Mineral oil companies	Aral Shell	Drilling Logistics	10%
Investors	Pension Funds World Fund (VC)	Cost of capital Engagement	10%
Society	Government Greenpeace	Speed limit Carsharing	20%

Fig. 1: The diagram shows the additive distribution of the annual emissions of a passenger car in a life cycle assessment. The exemplary breakdown depends on the actors considered and the assessment of influence and benefit of the assessing group.

As a result of regulation, sustainability will become a mandatory part of the annual report for all companies in the future. Calcolution's "Stakeholder Carbon Footprint™" approach offers sustainably committed companies and their stakeholders the opportunity to develop a common understanding of the process and to achieve synergies in the implementation of measures. After the joint implementation of the proof of concept with B.A.U.M. e.V., abat AG, ESG Portfolio Management, VfU and the University of Göttingen, Calcolution now wants to realize a transparent software solution with a strategic partner. Individual realizations within the framework of a "white label concept" for interested companies will serve as financing.

Concept of the Stakeholder Carbon Footprint™

The Greenhouse Gas Protocol divides the emissions of a stakeholder into direct (Scope 1) and indirect emissions (Scope 2 & 3) and often calculates the footprint within rather narrow system boundaries. In recent years, a discussion has developed around avoided emissions. These will often be referred to as Scope 4.

The Stakeholder Carbon Footprint™ combines the concepts in a holistic view. Here it is important that the footprint (Scope 1-3) considers the complete life cycle of the relevant activities. In addition, each stakeholder has a significant influence on the future emissions of others via the "money-" and "handprint".

In the project team, the emissions were first classified and then evaluated. Fig. 2 shows the main categories used as well as a more detailed representation of the money and handprint with exemplary influence possibilities of the actors.

CLASSIFICATION

Categorization of foot-, money- and handprint

FOOTPRINT

Category	Subcategory
Energy	Electricity, heat
Mobility	Road, rail, air and water transport
Consumption	Electrical appliances, household, clothing, pharmaceuticals, raw materials, machinery
Buildings & Infrastructure	Residential, Office & Industry, Infrastructure
Food	Food, drinks, tobacco products
Services	Consulting, Education, Media, Hotel & Catering, Personal Consumption, Administration
Environment	Land use, volcanic eruptions, forest fires

MONEYPRINT

Cat.	Subcategory	Exemplary influence
Investments	Participations	Seat on the Supervisory Board, Joint ventures
	Shares	Capital reduction effect, Motions at the AGM
	Bonds	Financing costs of the companies, Green bonds
	Real estate	Property equipment, electricity supplier
	Project funding	Additional wind turbines, geothermal projects
Promotion	Donations	Environmental organis., Development aid projects
	CO certificates$_2$	Reforestation, financing of efficient stoves
	Sponsoring	Event & Project Financing

HANDPRINT

Cat.	Subcategory	Exemplary influence
Communication	Media	Writing books and articles, podcasts
	Interaction	Association work, Education via seminars
Innovation	Product improvement	Efficiency increase in the drive, reduction of the material consumption
	Process change	Improving logistics, Reduction of manufacturing energy
	Change in demand	Mobility as a Service, District heating connection

Fig. 2: The illustration shows the categories of the footprint as well as a detailing of the money and handprint, which have a significant (often positive) influence on the emissions of others. Each of the categories consists of 2-7 subcategories, which are assessed by the actors in terms of perceived emission levels and their own influence. The aim of the analysis is an efficient prioritization of climate-impacting measures and their implementation.

Footprint

Compared to the classic Corporate Carbon Footprint (CCF), there are significant differences in the Stakeholder Carbon Footprint™, for example in the mobility sector. There, the consideration of emissions for production, petrol production, transport, traffic routes, maintenance, safety and disposal lead to significantly higher emissions per kilometer compared to the manufacturer's specifications. The same applies to the calculation of emissions from air travel, if the climate impact of the condensation trails is taken into account here. These examples show the importance of a common understanding of the activities under consideration.

Due to the very broad system boundaries of the Stakeholder Carbon Footprint™, further emissions are taken into account that are relevant to the companies' business activities but can only be influenced to a limited extent. Normally, a 0/1 decision is made here as part of the materiality analysis. The Stakeholder Carbon Footprint™ enables a fine and individual gradation through weighting, which leads to new insights, because especially the Scope 3 emissions can be considered in detail. Examples of this are the emissions generated in the hotel and catering sector during events or the emissions from the construction of the offices used.

Moneyprint

The “moneyprint” describes the future influence on emissions that stakeholders exert through financial investments. The Stakeholder Carbon Footprint™ weights this according to the actual impact, which differs significantly depending on the form of investment.

The concept is strongly based on current research, which is still rather in its infancy, especially in the field of sustainable finance. In the study "Time to pay the piper" by Marco Grasso, for example, the consequential costs of oil production were divided between consumers, producers and politicians. The "responsibility" of Saudi Aramco, the world's largest oil producer, is estimated there at about 43 billion USD annually.
Timo Busch of the Sustainable Finance Science Platform has just published a discussion paper on assessing corporate impact and investment impact.

Calcolution is currently conducting a survey with its partners on the qualitative assessment of investor impact. This involves differentiating between various options such as fund investments, active participation in general meetings or direct financing of wind turbines. A broad and transparent discussion of these subjective assessments makes it easier for investors to allocate their own investments effectively.

Handprint

The handprint measures the influence that actors exert on the current and future emissions of others. Fig. 2 shows various categories that can causally lead to a change in behaviour.

Communication and innovation are crucial for the success of climate protection measures because we need a change in the behavior of everyone and it is important that "sustainability leaders" lead the way. For example, we need to rethink mobility concepts or make supply chains more efficient. Finally, there needs to be an honest sufficiency discussion that takes individual needs into account.

In recent months, the discussion about the handprint has become much stronger; for example, many suggestions can be found e.g. at Germanwatch.

The exact impact of these activities is very difficult to quantify, but broad acceptance in all parts of the population is indispensable for successfully counteracting the climate crisis.

Implementation of the Stakeholder Carbon Footprint

As part of the proof of concept, Calcolution worked with partners to develop a classification and compared different methods for collecting data. It has proven useful to start with a qualitative questionnaire and then gradually proceed with the detailing of the particularly relevant areas. The effort required, but also the knowledge gained, within the companies depends strongly on the number of people involved.

In detailing the relevant areas, the project team agreed on broad system boundaries for the emission factors and easily measurable quantities - such as kilometers, number of workplaces or number of participants at events.

The last step is to determine the distribution of emissions based on the influence of the actors involved. This procedure can hardly be standardized, but a discussion about it considerably strengthens the understanding of the process. An equal weighting of producers and consumers as well as a somewhat lower responsibility of politics and society can serve as orientation here. In the case of producers, the influence is to be divided between investors, manufacturing companies and suppliers. Fig. 1 shows an example of such a division based on the annual emissions of a single car.

Ownership is crucial for the success of climate protection measures. The Stakeholder Carbon Footprint increases understanding and promotes ideas from among employees. A self-assessment is created by means of a survey. This - presented transparently and interactively - is intended to stimulate the discussion and show in which areas the greatest potential lies. The inclusion of customers, suppliers, associations, politicians or peers in the process can strengthen general acceptance and reduce the company's own costs for moderating the process and presenting the results. This approach enables a holistic view of self-generated emissions that go far beyond the GHG Protocol.

Foot-, money- and handprint are considered separately

Although it is theoretically possible to "offset" foot-, money- and handprint, there is a risk of greenwashing one's own emissions. Within the framework of the project, it was therefore agreed to present the components separately. This has the advantage that one does not necessarily have to convert the money- and handprint into CO_2 equivalents using subjective assumptions.

The goal of Calcolution is a moderated discussion of different stakeholders with the Stakeholder Carbon Footprint™ as the "language". In various best practice clubs, everyone can benefit from the experiences of others. These clubs can be set up either within the company, for example with different departments, individual branches, or with customers or suppliers. Transparency and the will to cooperate are important here; all participants benefit from the exchange of experience and thus increase their own clout. The concept can be excellently combined with the current reporting requirements of the CSRD and offers the link to the joint scaled implementation of measures.

Comparison: Stakeholder Carbon Footprint vs. Corporate Carbon Footprint

The Stakeholder Carbon Footprint is based on the Corporate Carbon Footprint™ and expands it according to individual requirements. For this purpose, further relevant activities are added, the

emission factors are critically scrutinized, and an individual weighting is added. The result is a new ranking of emissions that enables a common data basis and discussion with the other stakeholders involved.

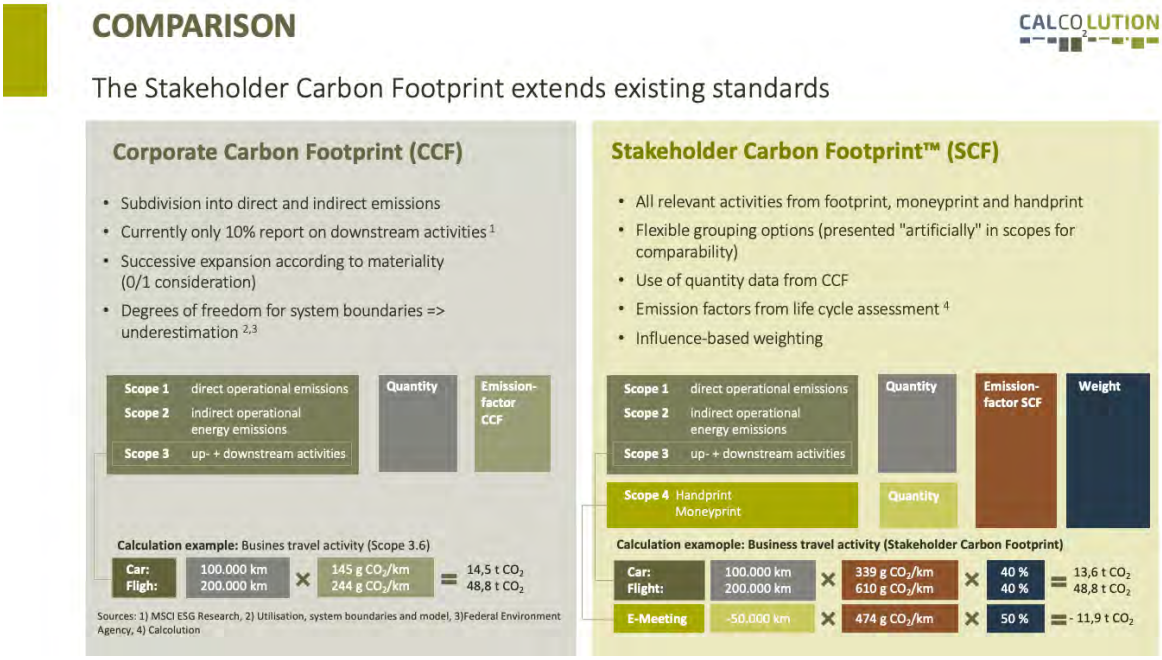


Fig. 3: Exemplary application of the two methods in the field of mobility. In the SCF, foot-, money- and handprint are to be shown separately

Let's work together for a sustainable future!

Could we pick your interest?

If so, we are happy to provide you with more details in a web session

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