



Christian Westphal
President of the German Chemical Traders Association (VCH)

In its mediating position between manufacturers and consumers, the chemical trade has always played a central and advisory role. This also applies, for example, to the exchange of technical knowledge in connection with climate protection - thus specifically for questions on the reduction of CO₂ emissions which can be linked to a product, either closely or in a broader context. This is in turn closely related to the concept of sustainability anchored in the „Responsible Care Initiative“ of chemical trading. „Responsible Care“ - this continues to mean also „responding“ and providing answers: this year’s report demonstrates how the industry is facing up to the challenge and the urgent questions and pressing issues of climate change.

The concepts associated with the global Responsible Care Initiative for chemicals remain of cardinal importance for the principle of sustainability. Sustainability means meeting the needs of the present without compromising the possibilities of future generations. Many of the goals set out in the Green Deal, the 2030 Agenda, or through many more recent sustainability initiatives, can also be found in Responsible Care. In addition to the program’s monitoring and supervision of the implementation of the Initiative, sustainability in the chemical trade has been a dynamic feature from the very beginning. Mediated by the RC program, this also applies to the CO₂-relevant aspects: Through Responsible Care, the VCH supports its members’ efforts to maintain climate-neutral operations.



Peter Wirth,
Third Party Expert Consultant of the VCH for Responsible Care

In the industry, the transport sector has a high CO₂-relevance: As part of my support for the implementation of the program, I discuss with the companies how to optimize logistics processes and thus reduce their ecological footprint. In line with the Responsible Care requirements for product stewardship, I support the companies in their efforts to reduce other CO₂-relevant business practices and to integrate these into the company’s strategies and - last but not least – thus enhance their corporate reputation as a responsible company. Here, in particular, in addition to monitoring, the on-site audits envisaged by Responsible Care., provide a joint forum with the companies involved for identifying their potential for improvement.

A successful CO₂ management can only be achieved in cooperation with the partners in the supply chain. Therefore this includes the freight forwarders, warehouses, etc. and all actors involved in the logistics process. The further development of the processes in this respect is carried out by the Responsible Care representative - as stipulated in the program - and documented in the three-year plan. The path taken through participation in Responsible Care also involves the clearly recognizable development of CO₂ management. Naturally, the focus here varies greatly, for example, depending on whether the companies have their own fleet of vehicles or not. In addition to Responsible Care, the industry also engages in dialog with its business part-

ners on the subject of CO₂ in other ways - for example via the European Single Assessment Document (ESAD), which is used to assess the environmental standards of the chemical trader.

In addition to all the activities already in place, it remains the task of politicians to further develop the framework conditions under which an effective CO₂ management can take place.

The chemical industry is one of the largest emitters of CO₂ in the world. It therefore plays a central role in the societal transformation of this issue. The chemical trade, due to its proximity to the chemical industry, is particularly closely linked to this topic: In its position between the supplier and customer, it plays an important role. Mediated by Responsible Care and through the central program element „Dialog“, chemical trading is engaged with both sides, exchanging information on the challenges involved in climate protection. In this way, it fulfills its responsibility in this area as well, which is becoming increasingly evident in the observation of the monitoring foreseen by the program controlling the implementation of the Initiative.



Dr. Thomas Schlüter,
Third Party Expert Consultant of the VCH for Responsible Care

In the chemical trade itself, the potential for CO₂ improvement only exists to a lesser extent through the use of renewable energy sources such as wind, solar and hydropower. However, considerable opportunities arise in the areas of transport and storage. Improvements are achieved, among other things, through the selection of suitable partners, who share the CO₂ concept. An important contribution to the reduction of fossil sources of CO₂ can also be attained by trading in renewable raw materials, the circular economy and consulting in this field. With the supply of suitable raw materials and the provision of appropriate advice to its customers, the chemical traders are making an important contribution to energy efficiency measures and the development of innovative technologies, the marketing of circular products and thus to reducing CO₂ emissions. For the energy of tomorrow, the chemical trader supplies, for example, high-strength carbon fibers for wind turbine rotor blades and high-purity chemicals for solar silicon processing, enzymes or ionic liquids for the sustainable production of electricity from biomass. In all this, the relevance of greenhouse gas emissions must be analyzed and evaluated in comparison with the other environmental effects of a product.

As a „third party expert,“ I am increasingly experiencing that the industry, in its mediating position, has the necessary knowledge of the relevant procurement and sales markets for today’s fossil and future sustainable products and raw materials. Here, the chemical trader assumes a service role for its customers in the selection, consultation, application technology and the use of new sustainable products from circular sources, which then accelerate change and increase climate protection. The industry thus makes an important contribution to society, which customers as individuals are not in a position to make. „Responsible Care“ has always stood for sustainability and thus also for climate protection. It will remain the case that - starting with product development - all those involved should even more strongly strive to identify the potentials where emissions can be reduced.



Since the launch of the Initiative „Responsible Care, Acting Responsibly in the Chemical Trade“, the VCH program defines „indicators for measuring performance“. These performance indicators are used to measure the values by which performance is judged, showing the development and progress of the implementation of the Initiative. By participating in the Initiative, the companies undertake to continue their efforts in environmental protection, also independently of legal requirements, and thus to conserve natural resources.

The program's overriding concept of sustainability as a principle for the conservation of resources is subject to a constant review, as is the understanding and reporting framework of Responsible Care. The program also includes climate protection measures as an interdisciplinary theme of the development goal of the „Agenda 2030“.



In the past, the implementation of the Responsible Care Initiative especially in the core areas of „environment, health and safety“ within the scope of the VCH program, were measured using statistically reliable values. This year, the results of the Responsible Care Initiative will be changed in a fundamental way to report on the efforts in the industry in the area of „CO₂ - climate protection“. As in the past, the update of the other values remains available unchanged and can be downloaded in its entirety from the VCH website (→Sustainability →Responsible Care →Annual Report).

The calculation of the so-called carbon footprint both in relation to a company as well as to a product and its life cycle is based on the transnational standard series of the Greenhouse Gas Protocol - one of the most widely used standards for the calculation of company and product related greenhouse gas emissions - and at the same time, a requirement for the corresponding reporting system. A distinction is made between three emission sources:

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- **Scope 1:** Emissions from the company's own sources in the immediate direct sphere of influence (e.g. own vehicle fleet / heating boiler)
- **Scope 2:** Emissions from the use of energy procured externally. If self-generated, this energy is accounted for under Scope 1.
- **Scope 3:** All other emissions caused by the company's activities but which are not under the control of the company (e.g. suppliers, service providers, end consumers).

On the basis of the data determined about consumption, with the help of databases or CO₂ balancing tools, it is possible to determine greenhouse gas emission levels. Emission factors for various products and processes here can be found, for example, in the →UBA (German Federal Environment Agency) database „ProBas“ (Process-oriented basic data for eco-management instruments) . One tool, among others, that can be used for CO₂ balancing is the →Ecocockpit of the state government of North Rhine-Westphalia.

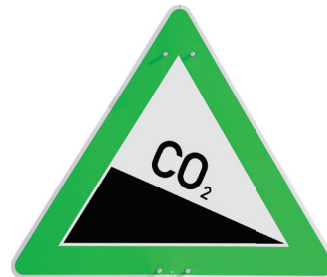
With regard to the climate relevance of its activities, the chemical trader must also observe the provisions of the „Scopes“. For the determination of Scope 3 values in particular, there is currently only a limited possibility of accessing data on climate impact and therefore for making an impact assessment of the entire supply chain. In future, in dialog - itself an element of the Responsible Care program - with the user, the life cycle of the products it supplies will have to

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be assessed and fully incorporated into the CO₂ balance, in order for appropriate measures to be derived. This can be supported by certification and management systems that accompany the process in order to improve the information content. Independently from the data gathering and evaluation via these scopes, many different solutions already exist in the chemical trade for avoiding or reducing emissions:

- Heat recovery / use of process and reaction heat during production (e.g. sulfuric acid dilution)
- Generation and use of renewable energies (photovoltaics, wind power, hydrogen)
- Optimization of energy consumption (insulation of buildings, ventilation, compressed air, LED technology) etc.
- Modernization of equipment, machines, vehicles (E-stacker, Turing machines, electric or hybrid cars, engines, drives).
- Self-generation of electricity and heat (e.g. micro gas turbine, absorption chillers)
- Optimization of driving distances / routes
- Improved collaboration with customers, telematics, container filling levels, optimized supply through single sourcing or outsourcing
- Substitution for products and packaging (concentrates, semi-finished products, extended workbenches in production, etc.)

On the one hand, the industry is already prepared for data collection in the area of „CO₂ climate protection“ due to the comprehensive communication in the EU chemicals policy REACH between downstream users and suppliers. On the other hand, it will now be necessary to extend this exchange of information in the supply chain to cover the fields of CO₂ and sustainability. In this context, the EU CSR Directive is also relevant which concerns obligations regarding sustainability reporting by larger companies in the future.



With the updating and creation of corresponding indicators - also on the subject of the carbon footprint - this annual report will in future also provide information on how the sustainability concept of the Responsible Care Initiative incorporates climate protection, supplying information on how this is practiced in the industry.

As multipliers of the subject, there are contributions at association level from, for example, the VCH with a wide range of offers, workshops and seminars that give companies the opportunity to exchange information on the challenges associated with CO₂ management. There, and in other forums, information is provided and participants are sensitized to the topic in various ways, and joint potential savings and possible solutions or avoidance scenarios are discussed, and if necessary, limitations are recognized. In this way, it is possible to experience chemicals once again not as a problem amplifier, but as an accelerator of development – also in the sense of the Responsible Care concept.

For this annual report, it is more important than ever to contact the Responsible Care Representative of your chemical trader for all questions and further information. They will be happy to answer any inquiries. They will inform you on how - also under the umbrella of Responsible Care - chemical traders and distributors can reduce company- and product-related greenhouse gas emissions.

