

Corporate carbon footprint

2022

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Executive summary

Sulzer, a global leader in fluid engineering, has designed its sustainability strategy named "Sustainable Sulzer". We are putting climate action at the heart of our strategy through our own operations ("Minimize our carbon footprint") and our offering ("Enable a low carbon society"), two of our four strategic pillars.

Under "Minimize our carbon footprint", Sulzer monitors and tackles its carbon emissions. In this way, Sulzer calculates its $\rm CO_2$ emissions worldwide across the spectrum of emission sources, covering all scopes (scope 1, scope 2, and scope 3 for categories 3 and 6) as defined by the Greenhouse Gas (GHG) Protocol.

Sulzer's corporate carbon footprint (CCF) for the reporting period is:

2022 Sulzer carbon footprint

72'730t

of CO₂e

Analysis and interpretation of the results lead to the following conclusions:

- → Sulzer's total carbon footprint decreased by 30% compared with the base year
- → Sulzer's total carbon footprint decreased by 12% compared with last year
- → The decrease in the overall carbon footprint was mainly due to the switch to low-carbon electricity.

30%

emission reduction vs baseline

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Under "Enable a low-carbon society", Sulzer designs, manufactures and services its products and solutions with the aim of reducing their full life-cycle emissions. This is achieved through cutting-edge energy efficiency, a minimized carbon footprint and shifting our portfolio towards clean technologies.

Annual CO₂ emissions saved

100'000t

with our pump retrofit program

Our employees feel highly engaged (all-time high score of 87%), and our success is due in large part to them.

As we have achieved our first climate milestone (30% emission reduction versus our baseline), we will reflect on setting a new target for 2030. In 2023, we will further engage our stakeholders to join us on our journey and to make the shift towards cleantech and the transition to a decarbonized world. We will also finalize our climate risk assessment, providing our stakeholders with the confidence and evidence that Sulzer has the right solutions for our common future.

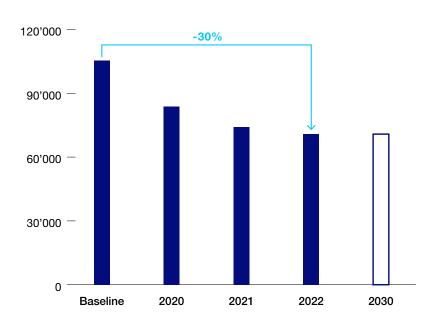
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Our commitment

30% emission reduction by 2030



Greenhouse gas emissions (t CO₂e)



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Company presentation and business model

Sulzer was founded in 1834 in Winterthur, Switzerland, and employs approximately 13'000 people. Following the spin-off of the Applicator Systems (APS) division, now medmix, which was successfully completed in 2021, Sulzer has become a pure-play flow control company with a technology portfolio in growth markets driven by sustainability. The company operates its portfolio with attractive exposure to macro trends such as water systems, including the maintenance and replacement of wastewater, clean water, and desalination systems, and renewables used in biopolymers, biofuels, and biochemicals.

Sulzer Ltd is a company domiciled in Switzerland. The company's registered office is in Neuwiesenstrasse 15 in Winterthur, Switzerland.

Sulzer provides products, services, and solutions in more than 100 countries around the world. Its total sales volume reached CHF 3'425.4 million in 2022. The region-based sales and marketing of some 180 production and service locations facilitate the development and maintenance of long-standing local relationships with the company's customers. To best serve customers, Sulzer has organized its businesses into three regional reporting segments: Europe, Middle East and Africa; Americas; and Asia-Pacific.

Sulzer Ltd is listed on SIX Swiss Exchange in Zurich, Switzerland. Symbol: SUN, securities no. 3838891/ISIN CH0038388911.

Aftermarket sales generate 50% of revenues. The installed base of flow equipment and chemical processing and separation technologies is serviced by Sulzer. While Sulzer serves customers across different sectors, its four core end-markets are energy, chemicals, industry, and water. In 2022, water accounted for the largest share of orders at pumps, followed by industry and then energy.

The company is organized into three dedicated and highly specialized divisions, each with its own global footprint and industry-leading expertise.

More information about Sulzer Ltd:

- → For a list of the major subsidiaries of Sulzer, consult the Sulzer Annual Report 2022, Note 37 to the consolidated financial statements.
- → For detailed information on Sulzer's capital structure, please refer to the chapter Capital structure in the Sulzer Annual Report 2022.
- → For information on shareholders that have reported shareholdings of over 3% or a reduction in shareholdings to below 3%, please refer to the website of the Disclosure Office of SIX Swiss Exchange.

Flow Equipment

The Flow Equipment division specializes in pumping solutions specifically engineered for our customers' processes. Sulzer provides pumps, agitators, compressors, grinders, screens and filters developed through intensive research and development in fluid dynamics and advanced materials. The company is a market leader in pumping solutions for water, oil and gas, power, chemicals and most industrial segments.

Services

Through a network of over 100 service sites around the world, Sulzer provides cutting-edge parts plus maintenance and repair solutions for pumps, turbines, compressors, motors and generators. Sulzer services its own original equipment and all associated third-party rotating equipment run by customers, maximizing sustainability and life-cycle cost-effectiveness. Trough its technology-based solutions, fast execution and expertise in complex maintenance projects, the company delivers unrivalled service to meet customers' operational needs – anywhere, anytime.

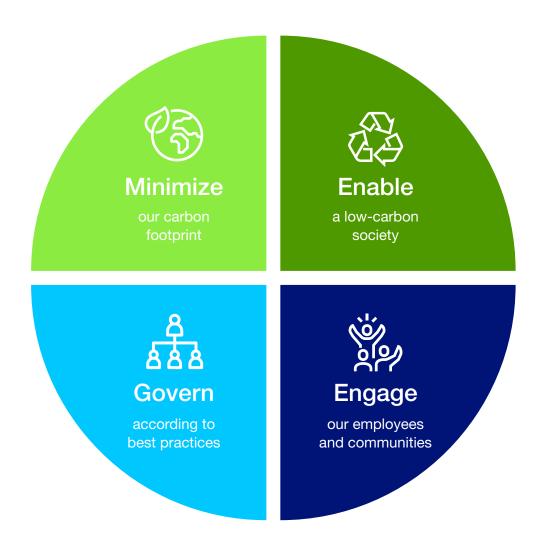
Chemtech

The Chemtech division is the global market leader in innovative mass transfer, static mixing and polymer solutions for chemicals, petrochemicals, refining and liquefied natural gas. Sulzer is leading the way in environmentally friendly solutions such as biobased chemicals, polymers and fuels, recycling technologies for textiles and plastic, and carbon capture and utilization/storage, contributing to a circular and sustainable economy. The product offering ranges from process components to complete process plants and technology licensing.

Read more on order intake by market segment and region for each division in the Annual Report 2022:

- → Business review Flow Equipment
- → Business review Services
- → Business review Chemtech

Our four-pillar sustainability approach



30% emission reduction by 2030

Carbonneutral Shift towards **cleantech**

85% of employees engaged

SDGs supported by Sulzer

Sulzer's contribution to the sustainable development goals (SDGs)

While Sulzer does not directly report on SDGs or map SDGs to GRI, an impact map of Sulzer's sustainability policies and operations shows the main areas of direct relation to SDGs.

For climate, Sulzer has identified SDG number 13 "climate action" as core: Sulzer's activities impact climate, and the climate impacts Sulzer's value chain. Climate action is included in our first 2 pillars of Sustainable Sulzer.

SDG	Sulzer's impact	Sphere of action	Key achievements
4 QUALITY EDUCATION	Direct	Engage: mobilize, include	 → 11'000 employees accessing Sulzer Learning Platform → 634 participants in Sulzer management programs → 200 apprentices → 35 young women in WISE program
5 GENDER EQUALITY	Direct	Engage: include Govern: Board of Directors, behavior	 → Pay parity in Switzerland → Participant of the UN Global Compact Target Gender Equality program
6 CLEAN WATER AND SANITATION	Direct	Minimize: water consumption Enable: water treatment	 → 6% reduction in water withdrawal vs 2021 → 83% of waste water treated off-site → CHF 502 million of order intake are Water related
8 DECENT WORK AND ECONOMIC GROWTH	Direct	Engage: protect, listen Govern: behavior, control	 → 87% engaged employees → 3'500 participants in Sulzer in Motion → 0.9 our accident frequency rate
10 REDUCED INEQUALITIES	Direct	Engage: protect, mobilize Govern: behavior, compensation	 → 88% of employees feel respected → 90'000 indirect jobs
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Direct	Minimize: energy consumption, greenhouse gas emissions, waste, water consumption	 → 50% of site with decarbonised electricity → 1'000 Sulzer products in our buy-back programs

SDG	Sulzer impact	Sphere of action	Key achievements
13 CLIMATE ACTION	Direct	Minimize: energy consumption, greenhouse gas emissions Enable: low-carbon society	30'000 tonnes of CO ₂ saved yearly with our retrofit capabilities 30% carbon footprint reduction vs. baseline
PEACE JUSTICE AND STRONG INSTITUTIONS	Direct	Govern: Board of Directors, control, behavior	 → 127 compliance reports → 21'800 people trained in ethics
17 PARTIMERSHIPS FOR THE GOALS	Direct	Govern: behavior Sulzer supports all SDGs through partnership and through the UN Global Compact	 → 105'000 Euro donated for Ukraine → CHF 87.3 million taxes paid

Management approach and climate framework

Climate governance

Sulzer has an integrated sustainability governance

Since the inception of Sulzer's sustainability strategy in 2021, sustainability is included in every aspect of our business processes. It is put into action through dedicated multi-year programs aiming at driving continuous improvement. Our sustainability performance is regularly reviewed by management and is part of Sulzer's standard business review process.

The Board of Directors is responsible for steering Sulzer's sustainability efforts. It ensures that Sulzer's solutions contribute to protecting the environment, that people and communities are safe, and that suitable management processes and systems are in place.

The Strategy and Sustainability Committee advises the Board of Directors on strategic matters (such as material acquisitions, divestitures, alliances and joint ventures), strategic planning the definition of development priorities and Sulzer's sustainability initiatives and objectives as well as on other relevant public policy matters.

The CEO leads the company's efforts to address sustainability challenges and opportunities, and in ensuring that the company is taking appropriate actions to position itself for long-term success in a sustainable economy.

The CEO oversees the assessment and analysis of climaterelated risks and opportunities.

At the level of the Executive Committee, the Chief Human Resources Officer and Chief Sustainability Officer (CHRO-CSO; referred to as CSO in this report) is responsible for the development and operational deployment of the sustainability strategy. The CSO is supported by a full-time Group Head of Sustainability and a dedicated organization involving different working groups within the divisions.

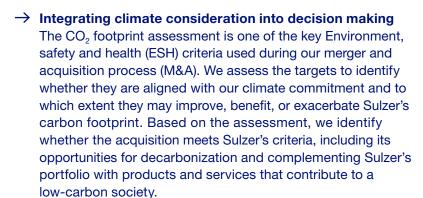
Starting in 2020, sustainability is included in the personal objectives of all of Sulzer's incentive-eligible leaders.

For more information on integrated governance for the Executive Committee level up to the Board of Directors, please consult the Sulzer 2022 sustainability and annual reports.

For more information about the sustainability-related incentives, please read the 2022 compensation and benefit report available on Sulzer.com. Sulzer's climate governance is structured around the following steps, taking a comprehensive and long-term approach to addressing climate change:

→ Setting ambitious targets

In 2021, we set ourselves the target of a 30% emission reduction by 2030 and being carbon-neutral by 2050. In early 2022, Sulzer committed to the Science Based Targets initiative (SBTi).



In 2022, we initiated climate-related discussions with some of our suppliers. We started by recording their CO₂e emissions – a first step in our journey towards sustainable procurement.

We initiated an assessment of the exposure of our locations to physical climate-related hazards. In doing so, we plan to identify the locations that are more likely to be impacted by the various natural disasters (i.e., droughts, floods, heat waves, etc.). In 2023, we will also include our key supply chain in this assessment.

→ Reporting and disclosing the corporate carbon footprint
As the reduction of our emissions is one of Sulzer's material
topics, we strengthened our carbon footprint reporting in 2022.
Sulzer now reports its carbon footprint monthly, information
that is used by both Sulzer management and the sustainability
and ESH teams. This leads to the performance review and
design of corrective action plans when relevant. The results are
analyzed to assess the relevance of Sulzer's decarbonization
programs and any necessary adjustments.

We disclose our corporate carbon footprint on an annual basis. The information is publicly available to our stakeholders.





Former CCF reports are available on sulzer.com

→ Actively engaging with stakeholders

Sulzer's management regularly interacts with the Board of Directors and its SSC (Strategy & Sustainability Committee) as well as its investors.

Sulzer has developed close relations with its customers, enabling discussions about climate related topics. Such discussions arise during calls for tender, when customers seek to understand Sulzer's commitments, practices and results in the field of CO₂ emissions and how these can contribute to their own emission reduction objectives.

Sulzer is a member of various organizations such as trade associations (for more details, please refer to our 2022 sustainability report), be they industry associations or NGOs (non governmental organizations).

Internally, Sulzer has created an employee sustainability panel and a sustainability ambassadors' network. Both groups are directly involved in Sustainable Sulzer, regularly consulted and active on climate related topics too.

Climate risk management

Sulzer has an integrated risk management

Sulzer regularly assesses risks as part of the company's integrated risk management process. The results are discussed with the management and the Audit Committee.

Climate related risks fall under operational risks section "Environment".

Our risk management process is structured around the following steps:

- Identification of the potential impacts of climate change on the company's operations and value chain. This includes physical risks such as sea level rise and extreme weather events
- Identification of the climate-related transition risks on our markets and portfolio driven by changes in customer behavior and government regulations
- Assessment of the risk, using the internal risk matrix that includes the identification of potential consequences
- Identification of mitigation measures to maintain or reduce risk to an acceptable level
- · Review of the risk profile based on the level of risk

For more details about Sulzer's interactions with its stakeholders, see Sulzer's sustainability report 2022.

See the Sulzer Annual Report 2022, Risk management section for more details. Sulzer's risk management process encompasses a variety of time horizons: short-term risks cover a period ranging from 1 to 3 years; medium-term risks are between the next 4 to 6 years; and long-term risks are beyond 7 years as evidenced by our 2030 and 2050 emission reduction commitments.

In 2023, Sulzer will perform its TCFD-aligned risk assessment, the results of which will be included into the Enterprise Risk Management process and feed into the review of the Sulzer strategy.

Sustainable Sulzer includes a focus on "Enabling a low-carbon society". We consider the global transition to meet the Paris Agreement goals as a significant source of opportunities.

Sulzer is present in numerous sectors to support society and customers in their transition. Sulzer is active within its 3 divisions to provide the most energy-efficient products and services while addressing customers' needs with its broad portfolio.

Main targets set

We aim to minimize Sulzer's carbon footprint, enable a low-carbon society through our products and contributions to the circular economy, and engage our employees and communities to build a safer, more inclusive and more sustainable future.

We have set ambitious targets for our emissions. We aim to achieve a 30% reduction in our carbon footprint by 2030 and be carbon-neutral by 2050.

Such targets benefit Sulzer as they help drive the programs to minimize our footprint, improve our energy efficiency and improve our employees' engagement by bringing purpose to what we do. The drivers of the carbon footprint evolution, such as the amount of decarbonized electricity purchased by the organization, are now part of the standard ESH metrics. They are reported to the C-level on a monthly basis.

The Sulzer carbon targets are set for scope 1, scope 2 and scope 3 category 3 (upstream energy emissions) and category 6 (business travel).

See Sulzer's sustainability report 2022, chapter "Enabling a low-carbon society" for more details.

Greenhouse gas reporting GHG

Sulzer is committed to following the Greenhouse Gas Protocol (GHG) set by the World Business Council for Sustainable Development and acts accordingly.

It discloses its scope 1, 2 and 3 (categories 3 and 6) emissions that cover all greenhouse-potent gases as listed in the GHG Protocol. The emissions are calculated for its worldwide operations.

Disclosure

Sulzer has disclosed its sustainability data since 2014. Transparency is important to enable stakeholders to understand Sulzer's practices, performance and impacts in the field of ESG, namely for its carbon footprint.

Sulzer provides sustainability data in its sustainability report and in-depth climate related information in its corporate carbon footprint reports.

The reports are available on our website, Sulzer.com, and are used specifically to answer questions arising from stakeholders, be they investors or customers. The information is updated once a year.

Sulzer's product carbon footprint

As Sulzer focuses on sustainability and on becoming a responsible corporate citizen, it monitors the carbon footprint of its products. This process was initiated a decade ago by having a whole set of LCAs (life-cycle assessments) aimed at evidencing the minimized impact of Sulzer products on the environment. We believe that transparency and science-based evidence generate in the solutions we provide society and our customers with for their decarbonization journey.

Sulzer started a project in 2022 to measure the environmental impact of its products by looking at their whole life-cycle' from raw material extraction to end-of-life (cradle-to-grave). We prepared updated LCA reports for a selection of our models with the goals of determining which steps in the life cycle contribute most to their footprint and to communicate with our clients and stakeholders. With this information, we can drive improvements through eco-design and showcase value to all interested parties.

Sulzer follows the latest ISO standards (ISO 14040/14044) and calculates impacts in categories such as climate change (to calculate the CO₂ footprint), land use, acidification and others suggested by the EF 3.0 methodology developed by the European Commission. By using these standards, we generate trust in our messaging and sound evidence of the performance and impacts of our products.

In this way, we consider all resource consumption and emission outputs. Looking at the results, we confirmed that most of the impacts come from the use phase of the products and the electricity they consume. We therefore advise our customers to decarbonize their power supply, for example, by using a mix with increased renewables. We also advocate for the energy transition in the various organizations and support policies that target such goals.

The second main impact originates from the materials needed for the components. To produce low-carbon products and to avoid emissions, our global technology teams focus on increasing efficiency while at the same time reducing the weight of the products. These two goals are accomplished by having extensive knowledge about optimizing design and providing quality products that are cost effective for the customers, both during purchase and operation.

In 2023, we plan to expand the available LCAs to more ranges and models, responding to our customers' demand for transparency and low-carbon products. To increase trust in our work, we will also collaborate with third parties to perform critical reviews of our reports and to certify that everything stated is objective and up to standard.

In 2023, we will also review our sustainable procurement strategy to address the upstream scope 3 emissions of our corporate carbon footprint, and consequently improve the carbon impacts of our components by further engaging our suppliers.



Sulzer's corporate carbon footprint

Objectives & scope

As climate action is one of the material topics for Sulzer, the company reports its carbon footprint on a yearly basis. The objective is to provide stakeholders with a relevant level of understanding of Sulzer's corporate carbon footprint from the perspective of methodology and result.

The CCF (corporate carbon footprint) covers Sulzer's corporation as well as all divisions as per its structure dated December 2022. The 2022 Sulzer CCF excludes medmix, the former APS division that was demerged in the third quarter of 2021.

In the 2021 Annual Report the Chairman stated: "Further reflecting our increasing focus on sustainability, Sulzer will now publish a dedicated sustainability report. [...] The first report will be published in the second quarter of 2022, and will follow the annual reporting cycle thereafter".

The above changes led to a review of Sulzer's CCF for its reporting scope, period and baseline.

Overall corporate carbon footprint

Following the Greenhouse Gas Protocol (GHG) standard, Sulzer's corporate carbon footprint for the reporting period is:

2022 emissions

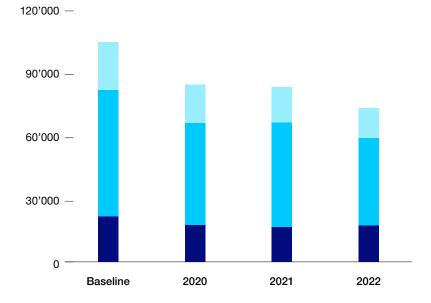
72'730t

of CO₂e

Figure 1 and Table 1 display a more in-depth overview of Sulzer's emissions from each scope, identifying scope 2 emissions to be the main contributor to the CCF in 2022 with a share of 57%.

The share of Sulzer's scope 3 emissions will certainly increase significantly in the future as Sulzer plans to cover the whole scope 3 (all 15 categories).





- Scope 1Scope 2
- Scope 3

Table 1. Emission factor sources and emissions breakdown

	Source of emission	Emission [t CO ₂ e]	Share [%]
Scope		_	
Scope 1	Company vehicles Fuel	17'055	23%
Scope 2	District heating Electricity	41'437	57%
Scope 3	Company vehicles_ upstream District Heating_ upstream Electricity_ upstream Fuel_ upstream Rental cars Flights	14'238	20%
Total		72'730	100%

Carbon footprint by division

Table 2 and Figure 2 display Sulzer's emissions by division.

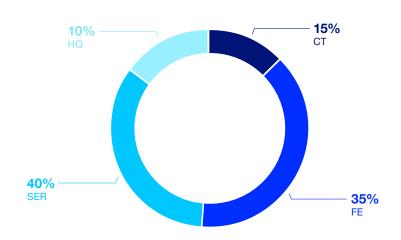
Table 2.

Carbon footprint by division

	Sum of emissions (t CO ₂)		
Division			
ChemTech (CT)	10'652		
Flow Equipment (FE)	25'724		
Services	28'778		
Headquarters (HQ) ¹	7'576		
Total	72'730		

The distinction between the emissions assigned to divisions reveals that the Services (40%) and FE (35%) divisions were responsible for 75% of the corporate carbon footprint in the reporting period 2022 (Figure 5).

Figure 2. Share of each division in the CCF of Sulzer (%)



¹ HQ is the sum of all emissions originating from the HQ and the emissions that were not mapped to any of the divisions.

Our path to 2030

Our program to reach and over-perform our 2030 commitment on scope 1, 2 and 3 (categories 3 and 6) is clear:

Switching to low-carbon electricity

Switching to low-carbon electricity remains one of the realistic short-term and mid-term decarbonization strategies. It can significantly further reduce scope 2 and scope 3 emissions (category 3). Sulzer will also benefit from a longer-term low-carbon power supply through, for example, power purchase agreements.

Switching from fuels to electricity

The reduction in fuel consumption emissions can be achieved through technological initiatives that replace fuels with electricity (when possible), as electricity has a lower carbon content and positively impacts scope 2 and scope 3 category 6 emissions. In addition, switching to low-carbon electricity as stated above further decreases the carbon footprint of the company.

Becoming even more energy efficient

As Sulzer's carbon footprint is mainly driven by its energy consumption, improving the energy efficiency of our operations will decorrelate growth and emissions. Joint efforts from the various operational excellence teams would decrease the overall amount of energy consumed at Sulzer, also making the company more resilient with regard to the energy crisis.

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Appendix 1 CCF methodology

This chapter describes the framework conditions on which the calculation is based, and the methods for defining the system boundary and calculating the CCF.

Applied standards

The Greenhouse Gas Protocol (GHG Protocol) was selected as the relevant standard for calculating emissions and for reporting. The following standards and accompanying documents were considered with regard to the system boundary:

- → The Greenhouse Gas Protocol A corporate accounting and reporting standard (revised edition), published by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) in 2004.
- → Greenhouse Gas Protocol Scope 2 guidance (an amendment to the GHG Protocol corporate standard), published by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) in 2015.
- → Greenhouse Gas Protocol corporate value chain (scope 3) accounting and reporting standard (supplement to the GHG Protocol corporate accounting and reporting standard), published by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) in 2011.
- → Greenhouse Gas Protocol technical guidance for calculating scope 3 emissions (supplement to the corporate value chain (scope 3) accounting & reporting standard), published by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) in 2011.

System boundary

The system boundary describes both the locations and the emission sources that were considered for the calculation of the corporate carbon footprint. Both are explained in the following sections regarding the described project.

Organizational boundary

According to the Greenhouse Gas Protocol, Sulzer has chosen the "control approach" with "operational control" for setting the organizational boundary. Table 3 shows divisions and business units within Sulzer's organizational boundary.

Table 3.

Divisions and business units within Sulzer's organizational boundary

Holding	Division	Business unit
Sulzer AG	Flow Equipment (FE)	EnergyIndustryWater
	Services	· AME · APAC · EMEA · GTS
	Chemtech (CT)	• AME • APAC • ERA • INME

Operational boundary

The operational system boundary describes the emissions sources considered for the calculation of the carbon footprint. While scope 1 and 2 emission sources must be considered to comply with the GHG Protocol, scope 3 emission sources can be added on a voluntary basis. Thus, each reporting company can decide if they want to report scope 3 emissions, and which categories out of the 15 scope 3 emission sources defined by the GHG protocol are reported.

As in previous years, Sulzer agreed on some relevant scope 3 emission sources relevant to Sulzer's business activities. Accordingly, the CCF includes the following emission sources for the 2022 calculation as shown in Table 4.

Table 4.

Emission sources included in Sulzer's operational boundary

Scope	Emission source	
	Fuels	Natural gas Butane Propane Kerosene Fuel oil (light) Fuel oil (heavy)
Scope 1 - direct emissions	Company vehicles	Diesel Petrol
Scope 2 – indirect, energy-related emissions	Electricity District heating	
	Business travel	Flights Rental cars
Scope 3 – other indirect emissions	Indirect emissions related to energy and fuels	

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For the calculation of emissions, all greenhouse gases defined by the United Nations Framework Convention on Climate Change (UNFCCC), namely carbon dioxide (CO₂), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF3) and perfluorocarbons (PFCs) have been considered. The resulting unit for the calculated carbon footprint is t CO₂e (metric tonnes of carbon dioxide equivalent).

Calculation approach

The general approach for the calculation of a carbon footprint is based on activity data and emission factors. Activity data is gathered within the company or from suppliers, to demonstrate the amount of fuel and energy consumption, distances related to business travel, etc. Emission factors are either found in databases or can be derived from scientific studies. These factors provide values of CO_2 e per kilometer, kWh or metric tonne of material. By multiplying relevant activity data with appropriate emission factors and adding up the results, a carbon footprint can be calculated.

For the calculation of Sulzer's CCF, a tailor-made Excel-tool has been developed that gathers all relevant emission factors, be they market- or location-based. These emission factors are then used to calculate the emissions.

For each emission source, location-specific primary data was collected and validated. Where no primary data could be obtained, reasonable and robust assumptions have been made to arrive at a complete and comprehensive set of data. The calculation of carbon emissions with regard to the collected activity data was based on the application of scientifically well-recognized emissions factors stemming from various professional sources.

Regarding the category "business travel-flights", Sulzer receives the already calculated emissions from its supplier. According to Sulzer's supplier, business travel emissions related to flight are calculated using DEFRA's methodology and emission factors. According to the supplier data, it was based on the distance (mileage) of each flight segment. The carbon emissions and mileage for each flight segment is calculated separately and then added together to provide a total.

Regarding the category "business travel – rental cars", Sulzer receives the fuel category and consumption from its supplier. Emissions related to business travel – rental cars are calculated based on the amount and type of fuel consumed multiplied by an emission factor specific to this fuel category, using DERA as a datasource.

Base year and recalculation policy

Companies calculating carbon footprints according to the GHG Protocol must develop a base year emissions recalculation policy, and clearly articulate the basis and context for any recalculations. In addition, a "significance threshold" must be determined, defining a significant change that requires a recalculation of the base year and, if applicable, other historically calculated carbon footprints. The base year only needs to be recalculated, if there is a significant change related to the amount of emissions that cannot be explained through the organic growth of the company, leading to a capacity growth of the facilities, natural circumstances or the implementation of a reduction. The following reasons may require a recalculation of the base year:

- → Structural changes in the reporting organization that have a significant impact on the company's base year emissions. A structural change involves the transfer of ownership or control of emissions-generating activities or operations from one company to another. While a single structural change might not have a significant impact on the base year emissions, the cumulative effect of several minor structural changes can result in a significant impact. Structural changes include, for instance, mergers, acquisitions, and divestments as well as changes in the system boundary.
- → Changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant impact on the base year emissions data.
- → Discovery of significant errors, or several cumulative errors, that are collectively significant.

For Sulzer, a significance threshold of 10% is defined. This means that if all changes according to the above categories together cause a deviation of at least 10% in relation to the complete carbon footprint, a recalculation of the base year becomes necessary. The threshold must be applied on the total carbon footprint, including scope 1, 2 and 3 emissions.

Recalculation of previous CCF

In 2021, the former Sulzer APS division, now medmix, was listed as having a direct impact on Sulzer's corporate carbon footprint beyond the 10% defined threshold. Consequently, Sulzer has recalculated its baseline (average for the years 2017 to 2019) as well as all the emissions of the previous years (2020, 2021) according to its new perimeter.

In addition, the CCF reporting period changed in 2022 as announced by the chairman in the Sulzer 2021 Annual Report. This means that the environmental data, including the CCF, were aligned with the fiscal and calendar year versus the previous practice (from October to September). The conversion to this new reporting period led to reallocating the emissions from each quarter of the previous reporting year to those of the calendar year.

The impact of the above two changes on Sulzer's CCF are:

- → Baseline: the average of years 2017 to 2019 used as a baseline for the Sulzer carbon footprint changed from 91'440 tCO₂e to 105'380 tCO₂e
- → The CCF for the calendar years 2020, 2021 changed respectively from 109'582 and 82'509 tCO₂e to 83'793 and 87'437 tCO₂e

Reporting period

The carbon footprint data refers to calendar year 2022 (January 1 to December 31). All data has been realigned with the new reporting period as it was previously done over the annual period of October 1 to September 30.

All data in this report is based on the recalculated CCF for the reporting periods.

Appendix 2 Data

Two different kinds of data are generally required to calculate a corporate carbon footprint: activity data and emission factors. The compilation of this data during the calculation for Sulzer is outlined in the sections below.

In total, all carbon-relevant information with respect to activities covered by the defined operational system boundary are compiled.

Activity data

Sulzer collects activity data in two different ways for the respective emission sources: either within the company or from suppliers, which provide data related to the activities carried out on behalf of the reporting company.

Sulzer data

Data collection for scope 1, scope 2 and scope 3 (indirect emissions related to energy and fuels) is based on the Sulzer ESH (environment, safety and health) information system. Within this system, each site reports its consumption values for the various types of fuels and energy. Data is reported in different units per source and site, and subsequently recalculated into gigajoules (GJ). To allow the activity data to be compatible with relevant emission factor units, Sulzer used the conversion factors defined by DEFRA. An overview of conversion factors is presented in Table 5.

Table 5.

Conversion factors for emission sources

Emission source	Conversion	Conversion	
Gas			
Fuels	GJ to kWh	277.78	
Electricity	GJ to KWII	211.10	
District heating			

Business travel data

Data collection related to business travel activities (flights, rental cars) is based on supplier information from travel agencies (flights) and car rental and leasing companies (rental cars). The data was filtered specifically with regard to the reporting period under consideration.

Emission factors

After having collected all required activity data for the calculation of the carbon footprint, appropriate emission factors had to be identified to convert the activity data into t CO_2e .

The emission factors are derived from different sources to find the most suitable for each emission source. Table 6 summarizes the emission sources for which emission factors were identified and their related sources.

Table 6. Emission factor sources

Emission source	Categories	Sources	
Fuels	Natural gas Propane/butane Kerosene Fuel oil (light) Fuel oil (heavy)	DEFRA 2022	
Company vehicles	Distinction between type of engine: diesel, petrol, E85, others	DEFRA 2022	
Electricity	Emission factors for electricity were researched specifically for each location within the scope of this calculation. Scope 3: Ecoinvent IEA 2022 IPCC Ann		
District heating	Emission factors for district heating were used as averages for each reporting unit.	DEFRA 2021 global emission factor	
Business travel	Air travel Rental cars	DEFRA 2021	
Indirect emissions related to energy and fuels	Fuels Company vehicles Electricity Non-fossil fuel electricity District heating	DEFRA 2022 DEFRA 2022 Please refer to Electricity IEA 2022 DEFRA 2021	
Indirect emissions related to energy and fuels	Fuels Company vehicles Electricity Non-fossil fuel electricity District heating	DEFRA 2022 DEFRA 2022 Please refer to Electricity Ecoinvent - IEA DEFRA 2021	

Data quality

The data collection process involved various parties and was led by Sulzer's project team to obtain the large amount of data required to perform this calculation. Site ESH (environment safety and health) managers enter the environmental data, which is reviewed and validated on a divisional level. The final data is checked and aggregated at a Group ESH level. Due to close collaboration between all parties, a comprehensive set of data was presented for each location and emission source. Each set of data has been evaluated to be a reasonable basis for the subsequent calculation. Only minor assumptions needed to be applied in the entire data collection process.

Activity data quality

The activity data stems from established internal and external (supplier information) management and accounting systems.

Emission factor quality

The selection of emission factors depends on data availability for the type of emission sources. Sulzer managed to access a variety of sources of emission factors. Those sources are constantly evaluated regarding comprehensiveness, credibility and actuality. Applicability of each source is assessed on a case-by-case basis, so that the most fitting set of emission factors is applied to the calculation. Where available, primary emission factors, e.g., from electricity providers, are applied.

While consistency of applied emission factors would be desirable, for Sulzer's calculation, emission factors were not available for all emission sources from one set of factors. Thus, a combination of credible and relevant primary and secondary emission factors has been applied. All those secondary sources comply with the approach described in the above section. Thus, emission factor quality is perceived to be high.

Appendix 3 Carbon footprint data

All units are in tonnes of ${\rm CO_2}$ equivalent unless stated otherwise.

	Baseline year:			
	average for 2017 to 2019	2020	2021	2022
Greenhouse gases according to GHG Protocol				
Emissions				
Total GHG emissions; t CO ₂ e	103'827	83'793	82'562	72'730
By scope				
GHG emissions for scope 1; t CO₂e	21'394	17'432	16'448	17'055
GHG emissions for scope 2; t CO₂e	59'866	48'142	49'477	41'437
GHG emissions for scope 3; t CO ₂ e	22'567	18'219	16'636	14'238
Headquarters (HQ)	1)	1)	2'890	7'576
ChemTech (CT)	12'771	9'804	10'403	10'652
Flow Equipment (FE)	48'695	41'897	35'254	25'724
Services	42'361	32'093	34'016	28'778
By geographies				
AME	33'897	26'681	23'792	18'671
APAC	28'677	23'250	26'993	22'598
EMEA	41'253	33'862	31'777	31'461
Intensity (CO₂e per thousand worked hours)				
Sulzer	5.5	3.6	4.2	3.6
ChemTech (CT)	3.5	2.2	2.5	2.2
Flow Equipment (FE)	5.4	3.8	4.2	3.1
Services	6.9	4.2	5.0	4.2
AME	6.0	4.0	4.4	3.2
APAC	5.2	3.4	4.2	3.7
EMEA	5.7	3.8	4.1	4.2

1) not segregated

Appendix 4 Carbon footprint coverage

Sulzer reports and calculates its carbon footprint using the operational control rule. This means that the CCF includes:

- → manufacturing sites and service centres, for scope 1, 2 and 3: 80 reporting units
- → Sulzer units, for scope 3 category 6 (business travel): 202 reporting units
- → geographies where Sulzer is present: 3 Sulzer regions, 29 countries

Main countries in which Sulzer operates

 Argentina India Singapore Australia · Indonesia · South Africa Bahrain Ireland Spain • Belgium Italy • Sweden Switzerland Brazil Mexico Canada Netherlands Taiwan • China Norway Thailand Finland Poland United Kingdom • France Russia · United States of America Saudi Arabia Germany



