

# Environment

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## Environment

This section zooms in on the company's responsibility towards the environment in which we operate. Supported by facts and figures, it aims to show how HUBER+SUHNER works to keep its environmental impact as low as possible. This includes ambitious reduction targets for our greenhouse gas emissions.

Bhagyashree Tajan, our colleague from India, created this drawing inspired by her father's teachings as well as a quote from Ernest Hemingway: "The earth is a fine place and worth fighting for."



"My father taught me when I was child 'Vasudhaiva Kutumbaka.' In Sanskrit, 'Vasudha' means earth, 'iva' means emphasize and 'Kutumbakam' means family. The message is that the entire world is my family," she said. "And just like we protect and nurture our family, we need to extend the same gratitude to our habitat. In my drawing, I want to show how we have to care for the whole ecosystem. As a conscious human being, we have the power to make the world beautiful or to destroy it."

**Bhagyashree Tajan, Technical Product Coordinator, GBSS, HUBER+SUHNER India**

ENVIRONMENTAL PERFORMANCE 2022 AT A GLANCE



## Environmental management

HUBER+SUHNER considers care for the environment an important and vital aspect of its corporate responsibility. As stated in our environmental policy, we strive to continuously improve our environmental performance and make the most efficient use possible of raw and auxiliary materials, energy, and water. HUBER+SUHNER also aims to avoid air and water pollution as well as to minimise the use and disposal of toxic and hazardous chemicals.

Although environmental stewardship has been a HUBER+SUHNER priority for many years, we have intensified our efforts to improve environmental performance over the past few years. As early as 1999, the company implemented an environmental management system according to ISO 14001 and obtained certification for its sites in Switzerland. Today, almost two-thirds of all production sites are certified, including the four largest: Pfäffikon and Herisau in Switzerland, Changzhou in China, and Tczew in Poland. ISO 14001 certification is planned in 2023 for another three production sites: Warren in New Jersey, United States, Cambridge, United Kingdom, and Krzeszowice, Poland. The certification of the site Mainz, Germany, has been postponed to 2024.

Since 2009, HUBER+SUHNER has used life cycle analysis (LCA) to determine its environmental performance annually on a quantitative basis and, since 2019, the significant environmental aspects as required by the ISO 14001 standard. The procedure is described in one of the company's environmental management processes. It is based on the LCA phases according to ISO 14040.

In 2022, for the first time, all sites under the full operational control of HUBER+SUHNER AG (head office) provided at least data on energy consumption and employee commuting. The data on raw materials and commercial goods, transport of goods within the Group and to customers as well as business travel were taken from central systems. Based on the number of production employees and the manufacturing activities carried out, it is estimated that more than 95 % of the company's environmental impact has therefore been recorded.

HUBER+SUHNER has applied an inventory analysis based on input-output models. Each production site is considered a unit into which energy and materials enter (input) and from which emissions, waste, wastewater, and products are generated (output). Where company-specific data are not available, data from established service providers have been used. The life cycle impact assessment (LCIA) was conducted using an internationally recognised LCIA method which allows a fully aggregated assessment (single score indicator) to simplify communication and interpretation.

## Scope and methodology

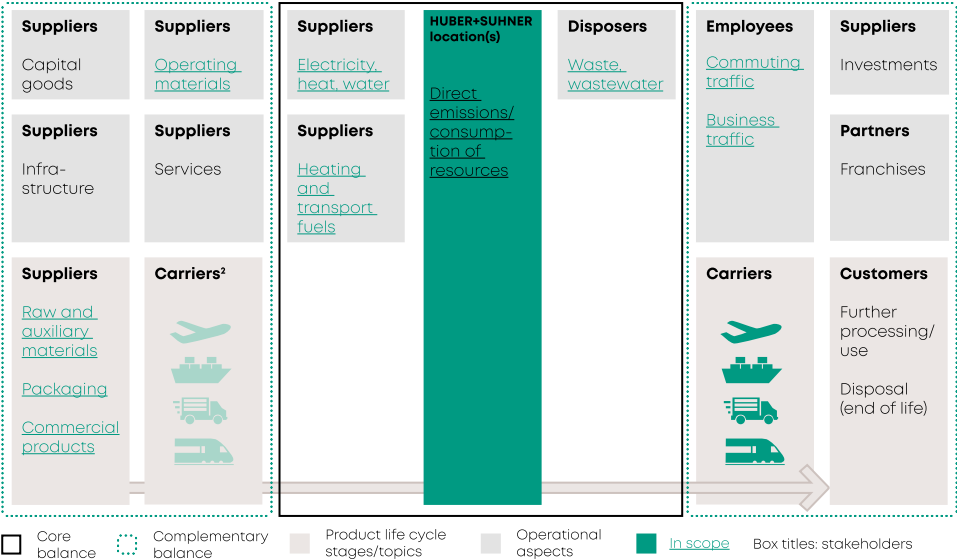
The geographical scope is described in the third paragraph of the [preceding section](#). Direct emissions and the consumption of resources as well as electricity, heat, water, heating and transport fuels, and waste and wastewater (core balance) are in scope of the LCA as are raw, auxiliary, operating and packaging materials as well as commercial goods<sup>[1]</sup>, commuting and business traffic, and the transport of materials and products (complementary balance) as shown in figure 1 (see also footnote 2 in the chapter "[Greenhouse gas emissions and climate change](#)"). Materials and commercial goods are sourced from external suppliers, with the exception of plastic compounds, which are manufactured at the Pfäffikon compounding facility and processed at the Changzhou, Pfäffikon, and Herisau plants. The quantities processed or consumed were taken from the ERP system (purchasing data).

The use phase of our products has not been in scope since most of our products are passive components only. The disposal of our products has also not been in scope. With lifetimes ranging from 20 to 30 years it is difficult to predict the impact of the products' end-of-life treatment.

HUBER+SUHNER has delivered all relevant data to sinum AG (St. Gallen, Switzerland), which is responsible for calculating the environmental and carbon footprint. The environmental footprint evaluation is conducted according to ISO 14040. The LCIA method for the environmental footprint is the Ecological Scarcity<sup>[2]</sup>. The carbon footprint evaluation complies with the World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition). Global warming potential factors aligned with the Sixth Assessment Report of the United Nations Intergovernmental Panel on Climate Change have been used, as recommended by the Greenhouse Gas (GHG) Protocol and CDP; GHGs accounted for were carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>) as listed in the amended Annex A to the Kyoto Protocol. The footprints were calculated by using expert system REGIS and ecoinvent database version 3.9.1. Performance data shown in the [environmental performance indicator \(EPI\) table](#) follow GRI standards 301, 302, 303, 305 and 306. Intensity data always refer to the added value generated as a measure of the economic performance. The added value has been calculated from profit before tax and depreciation plus personnel costs minus other financial results. The added value for the years 2018–2022 is displayed at the bottom of the [environmental performance indicators \(EPI\) table](#).

The underlying data were collected for the calendar year 2022. In cases of expected disproportionate delays in the evaluation, the data were collected for the period 1 December 2021 to 30 November 2022. HUBER+SUHNER estimates the deviation from the calendar year period to be less than  $\pm 5\%$ .

Figure 1: Scope of the LCA



Ernst & Young Ltd performed a limited assurance engagement on selected EPIs for 2022 (see [Addendum 3: Independent assurance report](#)).

[1] No supplier data were available for material transports, but they are mostly considered in secondary data (light green means of transport in figure 1).

[2] Swiss Eco-Factors 2021 according to the Ecological Scarcity Method. Methodological fundamentals and their application in Switzerland. Environmental studies no. 2121, Bern, 2021

## Environmental footprint

Figure 2 shows how the various material and energy flows contribute to the total environmental impact of HUBER+SUHNER. Extraction, processing, and transport of the raw material copper accounted for 40 % and commercial goods for 37 % of the company's total environmental impact. Other significant environmental aspects were the remaining raw, auxiliary, and process materials (11 %), product transports to customers and between HUBER+SUHNER sites (6 %), paper and packaging material (2 %), electricity (1.4 %), and commuting (1.3 %).

Figure 2  
**Environmental impact 2022**  
(total balance)

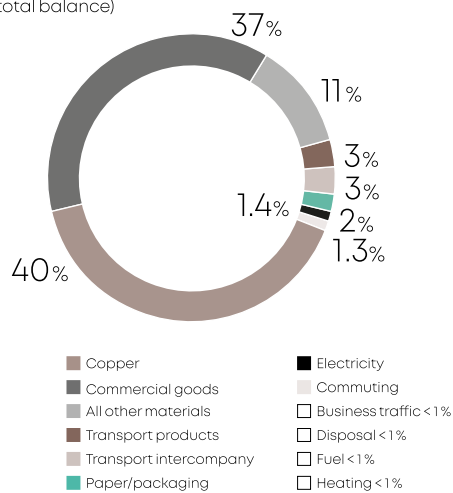
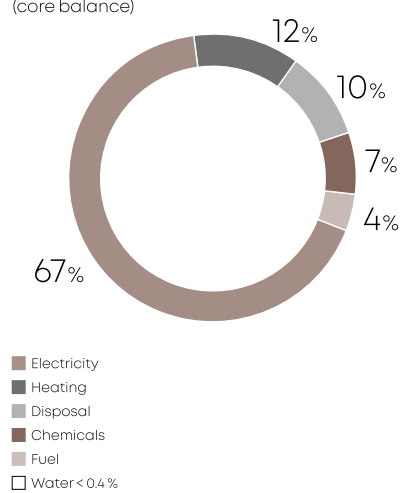


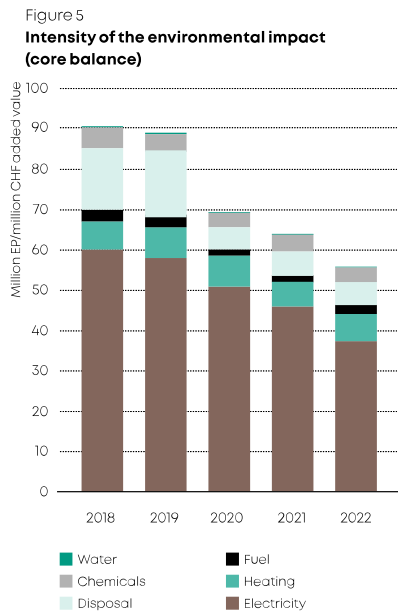
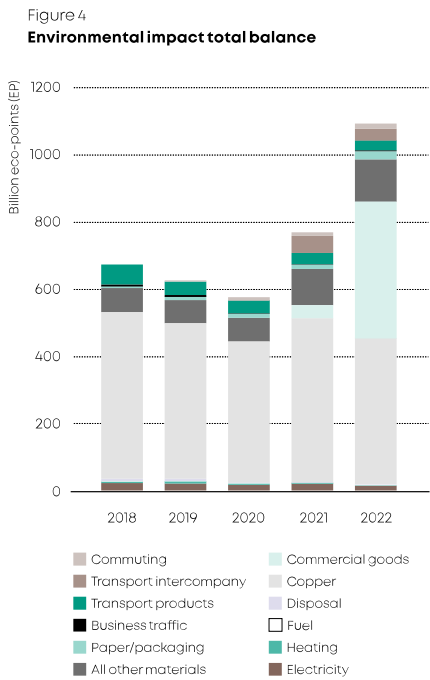
Figure 3  
**Environmental impact 2022**  
(core balance)



The core balance includes those material and energy flows that the company can directly influence. As can be seen in figure 3, the significant environmental aspects were electricity (67 %), heating (12 %), and waste disposal (10 %), followed by direct emissions of chemicals (7 %) and fuel (4 %). Consequently, most environmental targets of our production sites relate to the top three environmental aspects of the core balance.

Even in the core balance, the environmental impact of the company's water withdrawal has a very low share (< 0.4 %). Therefore HUBER+SUHNER publishes its water withdrawal but not its water footprint.

The year 2022 saw a significant increase in the total environmental impact (+42 % year-on-year, Figure 4). This increase is mainly attributable to the expansion of the scope (inclusion of purchased commercial goods at all production sites as far as reliable data were available; data on refrigerants, energy consumption, and employee commuting at office locations).



Encouragingly, the downward trend in the intensity of the environmental impact (core balance) continued. It decreased by a further 12 % compared to the previous year (Figure 5).

[1] Glass fiber, plastics, metals other than copper, refrigerants, sulphur hexafluoride, dry ice, and volatile organic compounds (VOC)

[2] Losses of volatile organic compounds, sulphur hexafluoride, dry ice, and refrigerants



## Resource efficiency

Resource efficiency is one of the material topics in the corporate responsibility of HUBER+SUHNER. It has monetary and ecological aspects. As part of the company's environmental management, the production sites have targets to improve their material efficiency. The implementation of ideas, for example in injection moulding, to feed waste material directly back into the production process usually fails because of the quality requirements placed on the end product by customers.

Copper consumption decreased by 6 % compared to the previous year. Plastic consumption has decreased by 11 % in the same period. On the one hand, these figures show that the new data collection method (use of centralised data) provides realistic values. On the other hand, these figures also show that the previous decentralised collection already had a sufficiently high data quality.

The effectiveness of various measures to improve resource efficiency is also reflected in the decrease in water withdrawal (–5 % y-o-y) and waste generation (–16 % y-o-y). (See the success story "[Reducing waste and saving tap water](#)")

During 2022, we introduced three new global targets to monitor resource efficiency as part of our environmental management. We chose the added value as described in the Management Report ([How we generate and distribute value](#)) as the intensity denominator.

| Key performance indicator (KPI)                     | Target                             | To be reached by |
|---|------------------------------------|------------------|
| Intensity of total energy consumption               | 15 % reduction from 2021 base year | 2030             |
| Intensity of waste sent to landfill or incineration | 25 % reduction from 2021 base year | 2030             |
| Intensity of total water withdrawal                 | 20 % reduction from 2021 base year | 2030             |

| KPI  | 2021  | 2022  | Δ % |
|--|-------|-------|-----|
| Intensity of energy consumption [kWh/million CHF]                    | 131   | 137   | +5  |
| Intensity of waste sent to landfill or incineration [kg/million CHF] | 3 632 | 3 346 | (8) |
| Intensity of total water withdrawal [m3/million CHF]                 | 2 349 | 2 203 | (5) |

## Energy

Between 2016 (base year) and 2021 HUBER+SUHNER reduced the intensity of its total energy consumption by 12 % and now aims to reduce it by another 15 % between 2021 and 2030. Energy management, including a close monitoring of the electricity and the fossil fuel consumption and initiatives to save energy, is a fundamental component of environmental management at HUBER+SUHNER. For this reason, HUBER+SUHNER has decided against seeking energy management certification at all production sites. In countries where such certification is incentivised by the government (i.e. Germany), sites are free to become certified.

The intensity of total energy consumption increased by 4 % year-on-year despite several energy saving initiatives. This increase is mainly due to the wider geographical scope and the expansion of the production capacity for radar antennas to be used in advanced driver assistance systems. The share of purchased electricity from renewable sources was just under 40 %. The share of consumed electricity from renewable sources was 42 % due to the expansion of self-produced electricity with photovoltaic systems. We plan to increase the overall share from renewable sources to at least 70 % in 2025. See detailed data on our energy consumption in the [environmental performance indicators table](#).

## Waste

Between 2016 and 2021, HUBER+SUHNER was able to reduce the intensity of waste not sent for recycling by 10 %. The company has now set for itself the goal of reducing this figure by a further 25 % between 2021 and 2030. The focus on waste that is not sent for recycling is justified by the fact that these materials are diverted from a circular economy. In 2022, we succeeded to already reduce the intensity of this waste category by 8 % compared with the base year 2021.

Hazardous waste is another focus area. The goal here is to generate as little as possible. Compared to the previous year, the amount of hazardous waste was reduced by 10 %. HUBER+SUHNER works exclusively with licensed waste handlers to ensure that hazardous waste is treated with state-of-the-art technology and that recyclable material is directed into the right channels. See detailed data on the generated waste types in the [environmental performance indicators table](#).

## Water

At HUBER+SUHNER, water is mainly used for cooling purposes in the production facilities. The cooling water is kept in closed circuits at all locations. The plating facility in Herisau, Switzerland is the only one using process water in higher quantities. The resulting wastewater is treated with state-of-the-art technology before it is routed to the municipal water treatment plant. At all sites, uncontaminated wastewater is directed into rivers or lakes, while contaminated wastewater is fed into treatment plants. With the exception of evaporation, HUBER+SUHNER only consumes negligible amounts of water.

Between 2016 and 2021 the company reduced the intensity of its water withdrawal by 24 %. It aims to reduce this figure by another 30 % by 2030 compared with the 2021 base year. 2022 saw an encouraging 6 % reduction of the water withdrawal intensity (y-o-y). See detailed data on our water withdrawal in the [environmental performance indicators table](#).

## Greenhouse gas emissions and climate change

Greenhouse gas (GHG) emissions and climate change are among the three focus topics of the company's corporate responsibility, with the clear target to reach net-zero GHG emissions in scopes 1+2 by 2030. HUBER+SUHNER for many years has determined its carbon footprint in all three scopes. Since 2017, the company has had reduction targets approved by the Science Based Targets initiative (SBTi). In the reporting year, HUBER+SUHNER Group has committed to set near- and long-term company-wide emission reductions in line with science-based net-zero with the SBTi. In 2023, the company plans to submit its near- and long-term targets to the SBTi for approval. These new targets will replace the existing emission reduction targets that the SBTi approved back in 2017.

The scope 2 emission data in this report as well as related targets are market-based. Location-based data do not play a role in our present GHG emissions reduction strategy. They have been and will be published on the CDP platform.

As a first step on this journey, we drafted our Net-zero Roadmap 2030 that outlines which actions we have to take at which site to minimize our GHG emissions in scopes 1 and 2 by 2030. The year 2023 will see a refinement of the draft roadmap including a green electricity purchasing strategy.

The greenhouse gas (GHG) emissions in scope 1+2<sup>[1]</sup> decreased to 9500 t in 2022 (–17 % year-on-year) despite the expansion of the geographical boundaries. GHG emissions in scope 3<sup>[2]</sup> sharply increased by 50 % year-on-year mainly due to the changed data collection method and the inclusion of purchased commercial goods, which is an important step on the way to reliable and realistic Scope 3 data. Figure 6 shows the development of total GHG emissions during the past five years and reflects the consistent expansion of the system boundaries and improvement of data quality in scope 3 as well as the reduction of scope 1+2 emissions.

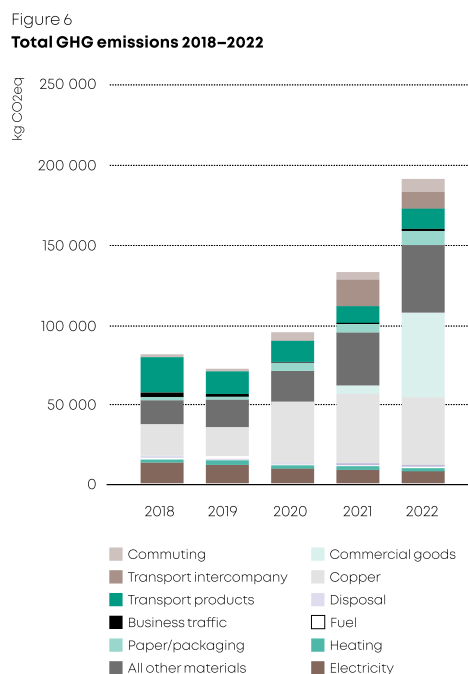


Figure 7 shows that copper, commercial goods, and all other materials (including packaging), product transports to customers and between sites account for 89 % of our carbon footprint. Business traffic, which played an important role before the pandemic, increased again year-on-year in 2022, but only amounted to about 45 % of its 2019 GHG emissions.

Figure 7

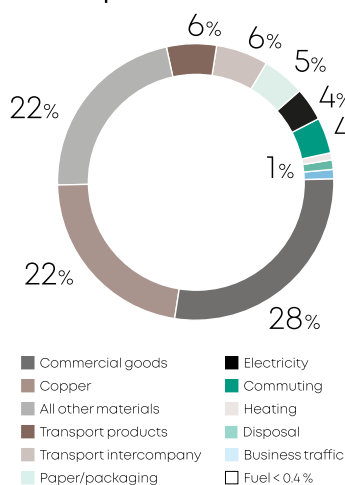
**Carbon footprint 2022**

Figure 8

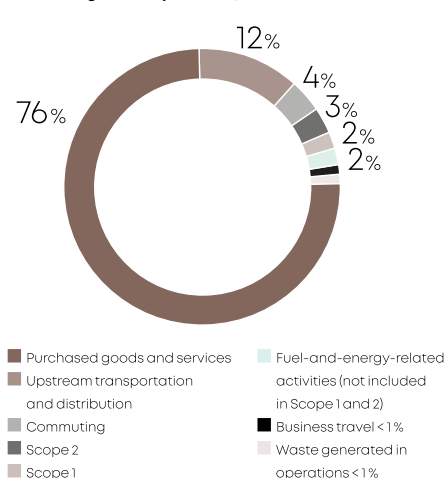
**Carbon footprint (Scope 3 categories according to GHG protocol)**

Figure 8 shows that direct emissions (scope 1) and emissions from purchased energy (scope 2) account for only 5 % of our carbon footprint. The main contributors are purchased goods and services accounting for three quarters of our carbon footprint.

To reduce its GHG emissions in scope 1+2, HUBER+SUHNER has further increased the share of electrical energy consumed worldwide from renewable sources (hydro, wind, and solar power plants) from around 12 % in 2019 to 42 % in 2022 as planned. Presently, the company is focusing on the country with the highest electricity consumption (Switzerland) and the countries with the highest share of coal in electricity generation (Poland, India, and China). When it comes to energy attribute certificates, HUBER+SUHNER makes sure that they come from power plants in the country where the electricity is consumed.

HUBER+SUHNER sites also contribute to the reduction of GHG emissions through various energy efficiency initiatives: replacement of fluorescent lamps with LED lights, replacement of obsolete machinery, optimisation of control mechanisms, closed cooling systems, heat recovery, and building insulation.

### Present science-based targets

In 2016, HUBER+SUHNER committed to achieving a science-based GHG reduction target in scope 1+2 by 2025. This target was validated by experts from the SBTi. It was initially designed to support limiting global warming to 2 °C. In 2019, the CO<sub>2</sub> reduction target was adapted to the more stringent criteria for limiting global warming to 1.5 °C. It reads: "HUBER+SUHNER Group commits to reduce scope 1 and 2 GHG emissions 50 % per added value by 2025 from a 2015 base year." In scope 3, HUBER+SUHNER has defined a voluntary, non-validated reduction target: "HUBER+SUHNER Group also commits to reduce scope 3 GHG emissions per added value 30 % by 2025 from a 2015 base year." In the base year 2015, the scope 1+2 greenhouse gas emissions amounted to 16 700 t, in scope 3 to 47 900 t. The added value generated was CHF 296.5 million.

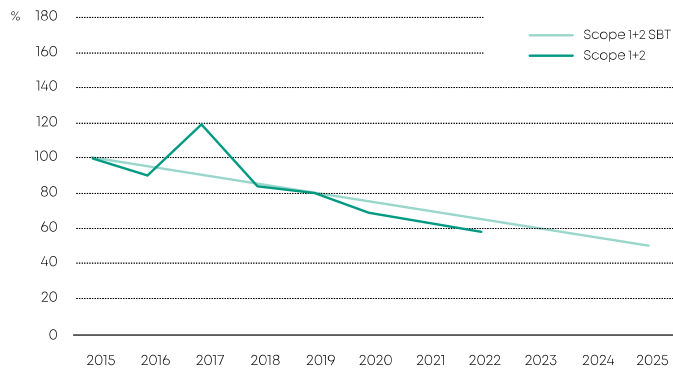
The graph shows that the company is still fully on track regarding its target in scope 1+2. Due to the availability of considerably more scope 3-related data, the comparison with the base year 2015 is no longer meaningful. In 2015, the intensity of Scope 3 emissions was 166 percent of the base year value.

As already described above, HUBER+SUHNER is planning to replace these targets by new near- and long-term company-wide emission reduction targets, in line with science-based net-zero as defined by the SBTi.

Figure 9:

**Science-based target in scope 1+2 and actual performance**

(indexed graph: Changes in the year-on-year comparison due to methodological changes were excluded, for example, changes due to altered background data.)



[1] Scope 1 emissions come from emission sources within the company, such as its heating systems or vehicles. Scope 2 emissions result from the generation of energy that is sourced from outside the company. These are mainly electricity and heat from energy services.

[2] Scope 3 emissions are emissions caused by the company's activities but not under its control. The following greenhouse gas emission sources (including extraction, production and transport to the HUBER+SUHNER sites) were accounted for (cf. figure 1 on page 43); purchased goods and services: raw, auxiliary, operating and packaging materials, commercial goods (as far as reliable data were available), water; fuel-and-energy-related activities (not included in Scope 1 and 2) like heating and transport fuels, and electricity production; waste generated in operations: waste, wastewater; business traffic; downstream transportation and distribution: transports between the sites and transports of finished products to customers; commuting traffic.

## The copper dilemma in mobile communication

Today's mobile communication systems use remote radios that exchange data with the base station via fiber-optic cables and are supplied with 48-volt direct-current (VDC) via copper cables. Copper is an industrial metal with a comparatively high environmental footprint and price. Therefore, operators tend to use smaller copper cable diameters to keep investment costs under control. However, the physical properties of copper do not support this practice: The longer and thinner a copper cable is, the higher its electrical resistance and the associated energy losses, leading to higher operating costs.



With the MASTERLINE Ultimate Hybrid High Voltage Cable, HUBER+SUHNER offers both a way out of this cost dilemma and a way to avoid energy losses. The energy losses along the power cable are significantly lower due to a much higher operating voltage. However, the industry has not adopted this solution because high-voltage installations require certified installers.

These are hard to find compared to non-certified installers. In August 2022, under the heading "Environmental Engineering", the European Telecommunications Standards Institute (ETSI) proposed a "progressive migration of information and communication technology (ICT) site to 400 VDC sources and distribution." Other players in the market are working on fault managed power systems (FMPS). This new technology is being developed to ensure that non-certified installers and operators can safely handle 400 VDC installations.

## Reducing waste and saving tap water

In rare cases, one measure can reduce environmental impact in two ways. The management team at the HUBER+SUHNER plant in Changzhou, China, recognised such an opportunity and installed an emulsion concentration system.

In the production of copper cables, the surface of the cables is treated with polyethylene wax to prevent adhesion. The spray equipment has a built-in automatic self-cleaning system for the nozzles and the spray tank. Each year, the cleaning process produces almost 100 tonnes of waste emulsion, which consists of water and polyethylene wax. This waste emulsion must be collected by a qualified disposal service provider for further treatment.

The concentration system installed in 2022 extracts water from the emulsion using low-temperature evaporation technology and condenses it. The amount of waste emulsion can thus be reduced to less than 10 tonnes per year. The condensed water is filtered and can then be used as cooling water, saving around 80 cubic metres of tap water annually.



The emulsion concentration system recovers 80 cubic metres of water that can be used for cooling purposes.

## Addendum 1: declaration of performance scope 1+2 CO<sub>2</sub>-eq emissions

Performance Scope 1+2. Declaration of performance in accordance with CDP Reporting (Questions C7.9, C7.9ab).

Emissions performance calculations were market-based. Compared to the previous reporting year (calculated using ecoinvent database v38) the Scope 1+2 emissions of the HUBER+SUHNER Group decreased 17.5 % corresponding to 2013 t CO<sub>2</sub>eq.

| Reason                                  | Change in emissions [t CO <sub>2</sub> eq] | Direction of change | Emissions value [%] | Comments  |
|---|--|---------------------|---------------------|---|
| Change in renewable energy consumption  | 2 119                                      | Decreased           | 18.4                | Purchase of green electricity (Expansion of strategic purchasing of relevant production sites):<br>CH: 12.4 GWh (hydro power, 2021: 9.3 GWh),<br>CN: 3.0 GWh (solar power, 2021: 2.25 GWh),<br>IN: 0.68 GWh (wind power, 2021: 0.51 GWh),<br>PL: 0.52 GWh (wind power, 2021: 0.39 GWh),<br>DE: 0.52 GWh   |
| Other emissions reduction activities    | 813  | Decreased           | 7.1                 | Various energy efficiency initiatives have been undertaken and are ongoing at all H+S sites, as replacement fluorescent lamps with LED lights, optimization of control/steering mechanism, closed-loop cooling system and heat recovery.  |
| Divestment                              | 0  | No change           | 0                   | No divestments.   |
| Acquisitions                            | 0  | No change           | 0                   | No acquisitions.  |
| Mergers                                 | 0  | No change           | 0                   | No mergers.   |
| Change in output                        | 1 550                                      | Increased           | 13.5                | Increase of net sales by 11%. Only production related emissions (electricity, fuel) were considered.  |
| Change in methodology                   | 1 288                                      | Decreased           | 11.2                | IPCC2021 (e.g. SF <sub>6</sub> new 25'200 instead of 23'500 kg CO <sub>2</sub> eq) and change from ecoinvent database version v38 to version v391 for the background processes.   |
| Change in boundary                      | 1 159                                      | Increased           | 10.1                | New sites Frenchs Forest, Charlotte, Heredia, Krzeszowice and Hückelhoven.  |
| Change in physical operating conditions | 291  | Decreased           | 2.5                 | The number of heating degree-days has decreased in Switzerland and in heating energy demand across the international sites.   |
| Unidentified                            | 0  | No change           | 0                   | No unidentified changes.  |
| Other                                   | 285  | Decreased           | 2.5                 | The management of SF <sub>6</sub> emissions in Switzerland and China by monitoring and adapting measures is ongoing. In addition, district heating (supplied by the municipal utilities with an annually changing share of energy sources) at the Pfäffikon site in Switzerland was again supplied with a lower CO <sub>2</sub> emission factor. Additionally the changes of the cooling agents releases into air are included. |



## ADDENDUM 2: DETAILED ENVIRONMENTAL PERFORMANCE INDICATORS (2018–2022)

Ernst & Young Ltd performed a limited assurance engagement on selected EPIs marked with ✓ for 2022. Ernst & Young Ltd also performed a limited assurance engagement on the same set of KPIs (except water) for 2021 and 2020. On all EPIs related to previous years except for the greenhouse gas emissions no external assurance was obtained.

| EPIs                           |                | 2018      | 2019      | 2020    | 2021    | 2022    | Difference<br>2021/2022 | Difference<br>2018/2022 | GRI          |
|--------------------------------|----------------|-----------|-----------|---------|---------|---------|-------------------------|-------------------------|--------------|
| <b>Energy ✓</b>                |                |           |           |         |         |         |                         |                         | <b>302-1</b> |
| Total Energy                   | MWh            | 53 186    | 53 376    | 48 180  | 54 540  | 57 296  | +5%                     | +8%                     |              |
| renewable                      | %              | 30%       | 13%       | 21%     | 26%     | 38%     | +12                     | +8                      |              |
| Purchased electricity          | MWh            | 41 008    | 40 676    | 37 186  | 42 296  | 43 264  | +2%                     | +5%                     |              |
| renewable                      | %              | 39%       | 12%       | 24%     | 29%     | 40%     | +10                     | +1                      |              |
| Purchased heat                 | MWh            | 3 117     | 3 334     | 2 831   | 3 324   | 3 211   | (3%)                    | +3%                     |              |
| Self-generated electricity     | MWh            | 77        | 76        | 78      | 66      | 1 780   | +2 596%                 | +2 210%                 |              |
| renewable                      | %              | 100%      | 100%      | 100%    | 100%    | 100%    | +0                      | +0                      |              |
| Total fuel                     | MWh            | 8 983     | 9 290     | 8 084   | 8 854   | 9 042   | +2%                     | +1%                     |              |
| renewable                      | %              | 0.2%      | 2%        | 3%      | 2%      | 6%      | +4                      | +6                      |              |
| Natural gas                    | MWh            | 4 996     | 5 805     | 5 236   | 5 564   | 5 471   | (2%)                    | +10%                    |              |
| Biogas                         | %              |           |           |         |         | 6%      |                         |                         |              |
| Heating oil                    | MWh            | 1 536     | 1 181     | 1 327   | 1 637   | 1 847   | +13%                    | +20%                    |              |
| Diesel                         | MWh            | 1 882     | 1 520     | 972     | 1 022   | 1 368   | +34%                    | (27%)                   |              |
| Petrol                         | MWh            | 548       | 558       | 332     | 455     | 177     | (61%)                   | (68%)                   |              |
| Ethanol                        | MWh            | 21        | 18        |         |         |         |                         |                         |              |
| Wood                           | MWh            |           | 208       | 217     | 177     | 178     | +1%                     |                         |              |
| <b>Water ✓</b>                 |                |           |           |         |         |         |                         |                         | <b>303-3</b> |
| Total water                    | m <sup>3</sup> | 1 098 132 | 1 127 378 | 915 933 | 979 079 | 925 796 | (5%)                    | (16%)                   |              |
| Tap water                      | m <sup>3</sup> | 96 201    | 81 521    | 64 299  | 70 498  | 72 420  | +3%                     | (25%)                   |              |
| Groundwater (PL, CH)           | m <sup>3</sup> | 102 423   | 104 269   | 87 654  | 99 614  | 64 786  | (35%)                   | (37%)                   |              |
| Surface water (lake CH)        | m <sup>3</sup> | 899 508   | 941 588   | 763 980 | 808 967 | 788 590 | (3%)                    | (12%)                   |              |
| <b>Materials* ✓</b>            |                |           |           |         |         |         |                         |                         | <b>301-1</b> |
| Total materials                | t              | 17 894    | 17 517    | 17 374  | 21 544  | 27 783  | +29%                    | +55%                    |              |
| renewable (cardboard and wood) | %              | 9%        | 13%       | 18%     | 16%     | 11%     | (5)                     | +1                      |              |
| VOC                            | kg             | 20 828    | 14 542    | 15 563  | 13 846  | 17 056  | +23%                    | (18%)                   |              |
| SF6                            | kg             | 51        | 36        | 27      | 46      | 14      | (70%)                   | (72%)                   |              |
| Cooling agent (losses)         | kg             | 213       | 334       | 264     | 305     | 611     | +101%                   | +186%                   |              |
| Copper                         | t              | 8 961     | 8 360     | 7 569   | 8 715   | 8 159   | (6%)                    | (9%)                    |              |
| Plastics                       | t              | 5 741     | 5 134     | 4 860   | 6 179   | 5 489   | (11%)                   | (4%)                    |              |
| Glass fiber**                  | t              | 35        | 37        | 23      | 239     | 223     | (7%)                    | +544%                   |              |
| Packaging                      | t              | 1 819     | 3 266     | 4 200   | 4 377   | 5 157   | +18%                    | +183%                   |              |
| renewable (cardboard and wood) | %              | 91%       | 72%       | 76%     | 77%     | 57%     | (20)                    | (34)                    |              |

| EPIs  |                     | 2018    | 2019    | 2020    | 2021    | 2022      | Difference<br>2021/2022 | Difference<br>2018/2022 | GRI                              |
|---|---------------------|---------|---------|---------|---------|-----------|-------------------------|-------------------------|----------------------------------|
| <b>Waste ✓</b>                                |                     |         |         |         |         |           |                         |                         | <b>306-5</b>                     |
| Total   | t                   | 4 729   | 4 604   | 3 941   | 5 285   | 4 449     | (16%)                   | (6%)                    |                                  |
| Municipal waste<br>(incineration)             | t                   | 226     | 205     | 175     | 198     | 156       | (21%)                   | (31%)                   |                                  |
| Municipal waste<br>(landfill)                 | t                   | 225     | 234     | 170     | 189     | 194       | +2%                     | (14%)                   |                                  |
| Inert waste (landfill<br>CH)                  | t                   | 132     | 11      | 2       | 5       | 0.3       | (93%)                   | (100%)                  |                                  |
| Hazardous waste                               | t                   | 422     | 487     | 450     | 474     | 424       | (10%)                   | +1%                     |                                  |
| Waste (energy<br>recovery)                    | t                   | 678     | 665     | 576     | 648     | 632       | (2%)                    | (7%)                    |                                  |
| Recycling                                     | t                   | 3 046   | 3 001   | 2 568   | 3 772   | 3 043     | (19%)                   | (0%)                    |                                  |
| <b>Business travel</b>                        |                     |         |         |         |         |           |                         |                         |                                  |
| Total***                                      | Mio.<br>km          | 17      | 16      | 1.8     | 2.0     | 9.0       | +352%                   | (48%)                   |                                  |
| Car (expenses,<br>rented)                     | %                   | 11%     | 10%     | 33%     | 23%     | 3%        | (19)                    | (7)                     |                                  |
| Aircraft                                      | %                   | 89%     | 90%     | 67%     | 77%     | 96%       | +18                     | +6                      |                                  |
| <b>Product<br/>transport****</b>              |                     |         |         |         |         |           |                         |                         |                                  |
| Total   | Mio.<br>tkm         | 109     | 90      | 76      | 94      | 101       | +8%                     | (7%)                    |                                  |
| Trucks  | %                   | 32%     | 32%     | 30%     | 31%     | 35%       | +4                      | +3                      |                                  |
| Sea freight                                   | %                   | 52%     | 57%     | 56%     | 27%     | 41%       | +14                     | (11)                    |                                  |
| Air freight                                   | %                   | 14%     | 11%     | 13%     | 32%     | 21%       | (11)                    | +7                      |                                  |
| Rail freight                                  | %                   | 1%      |         | 1%      | 11%     | 3%        | (8)                     | +2                      |                                  |
| <b>GHG emissions<br/>(CO<sub>2</sub>eq) ✓</b> |                     |         |         |         |         |           |                         |                         | <b>305-1<br/>305-2<br/>305-3</b> |
| Scope 1 ‡                                     | tCO <sub>2</sub> eq | 3 663   | 3 523   | 2 802   | 3 692   | 3 572     | (3%)                    | (2%)                    |                                  |
| Scope 2                                       | tCO <sub>2</sub> eq | 14 113  | 10 735  | 8 401   | 7 824   | 5 931     | (24%)                   | (58%)                   |                                  |
| Scope 3                                       | tCO <sub>2</sub> eq | 63 786  | 58 635  | 84 296  | 121 878 | 182 454   | +50%                    | +186%                   |                                  |
| <b>Environmental<br/>impact</b>               |                     |         |         |         |         |           |                         |                         |                                  |
| Core balance                                  | Mio.<br>EP          | 34 971  | 34 456  | 24 484  | 26 710  | 23 598    | (12%)                   | (33%)                   |                                  |
| Total balance                                 | Mio.<br>EP          | 673 815 | 625 576 | 576 288 | 769 979 | 1 094 431 | +42%                    | +62%                    |                                  |
| <b>References</b>                             |                     |         |         |         |         |           |                         |                         |                                  |
| Added value                                   | Mio.<br>CHF         | 386     | 386     | 352     | 417     | 420       | +1%                     | +9%                     |                                  |

\* Breakdown only shows production-relevant raw material plus packaging material and does not add up to 100 %.

\*\* Glass fiber plus aramid yarn, 2020 excluding Brazil

\*\*\* Excluding km own vehicles (included in fuels)

\*\*\*\* Since 2021 including Transport (intercompany)

‡ Biogenic carbon dioxide (CO<sub>2</sub>) emissions were 140 t in 2022.

Environmental impact: all figures 2018–2021 calculated using ecoinvent database version v38, 2022 v391

GHG emissions: values according to published GHG Inventories. Used ecoinvent database versions: 2018 v35, 2019 v36, 2020 v371, 2021 v38, 2022 v391; based on IPCC2013 (2018 –2021) and IPCC2021 for 2022.

## Scope 1

2019: Too low a value for Pfäffikon heating oil. Detected during data collection 2020 but not adjusted. Difference: +440 MWh resp. +120 t CO<sub>2</sub>eq

## **Scope 2**

Data are market-based. Location-based emission data have been and will be published on the CDP platform.

## **Scope 3**

Packaging data CH: in 2020 also newly collected for 2019 but not adjusted. Difference: +2000 t CO<sub>2</sub>eq

2020: Adjustments (as shown below) led to significant increase in Scope 3 (2020) compared to previous year. However, the difference between the recalculated 2019 to 2020 total is < -1 % despite the expansion of the corporate standard (see below).

- ecoinvent v37l remodeled the metal sector strongly increasing the CO<sub>2</sub> footprint of copper.
- Expansion of the corporate standard and data collection (i.e. commuting and packaging data).

As part of the expansion of Scope 3, data on commercial products, product use and EoL (end of life of products) will be included in the company model in the medium term. Furthermore, the existing data collection/quality will be continuously improved wherever possible.

In 2021, the system boundaries were expanded to include, for the first time, part of the commercial products purchased. The quality and the granularity of the collected goods transport data (transport to customers and within the production network) have been significantly improved. The same applies to metal and polymer data. In 2022, raw material and commercial goods data were taken from a new central data source, enabling an extended modelling and a further improved data granularity and quality.

GHG emissions included were from purchased goods and services, fuel- and energy-related activities (not included in scope 1 and 2), waste generated in operations, business travel, upstream transportation and distribution, and commuting (see Figure 8 in chapter "Greenhouse gas emissions and climate change").



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To the management of  
HUBER+SUHNER AG, Herisau

Zurich, 1 March 2023

## Independent assurance report

We have been engaged to perform a limited assurance engagement on the metrics marked with a “✓” (hereafter «the KPIs») in the Annual Report 2022 of HUBER+SUHNER AG for the reporting period from 1 January 2022 to 31 December 2022:

- ▶ Table in Addendum 2 on detailed environmental performance indicators on pages 173-175
- ▶ Social performance indicators in the chapter «Relationships» on pages 130, 132 and 134

Our engagement was limited to the KPIs listed above. We have not assessed the following KPIs, or information disclosed in the Annual Report 2022:

- ▶ Information other than the KPIs indicated above
- ▶ KPIs related to previous reporting periods
- ▶ Qualitative statements



### Applicable criteria

HUBER+SUHNER AG defined as applicable criteria (hereafter «applicable criteria»):

- ▶ Selected GRI Standards

A summary of the standards is presented on the GRI homepage. We believe that these criteria are a suitable basis for our limited assurance engagement.

The quantification of greenhouse gases (GHG) is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emission factors and the values needed to combine emissions of different gases.



### Responsibility of the management of HUBER+SUHNER AG

The management of HUBER+SUHNER AG is responsible for the selection of the applicable criteria and for the preparation and presentation of the disclosed KPIs in accordance with the applicable criteria. This responsibility includes the design, implementation, and maintenance of internal controls relevant to the preparation of the KPIs that are free from material misstatement, whether due to fraud or error.



### Independence and quality control

We have complied with the independence and other ethical requirements of the *International Code of Ethics for Professional Accountants (including International Independence Standards)* of the International Ethics Standards Board for Accountants (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies the International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



### Our responsibility

Our responsibility is to express a conclusion on the above mentioned KPIs based on the evidence we have obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*. This standard requires that we plan and perform this engagement to obtain limited assurance about whether the KPIs in the Annual Report are free from material misstatement, whether due to fraud or error.

In accordance with the engagement agreement, our duty of care for this engagement only extends to the management of HUBER+SUHNER AG.

Based on risk and materiality considerations we have undertaken procedures to obtain sufficient evidence. The procedures selected depend on the practitioner's judgment. This includes the assessment of the risks of material misstatements in above mentioned performance measures. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in scope than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.



### Summary of work performed

Our limited assurance procedures included, amongst others, the following work:

- ▶ Assessment of the suitability of the underlying criteria and their consistent application
- ▶ Inquiries of company's representatives responsible for collecting, consolidating, and calculating the KPIs in order to assess the process of preparing the data, the reporting system, the data capture and compilation methods as well as internal controls to the extent relevant for the limited assurance engagement
- ▶ Inspection of the relevant documentation of the systems and processes for compiling, analyzing, and aggregating sustainability data and testing such documentation on a sample basis
- ▶ Analytical procedures and inspection of documents on a sample basis with respect to the compilation and reporting of the performance measures
- ▶ Analytical procedures of the Annual Report 2022 regarding plausibility and consistency with the KPIs

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.



### Our conclusion

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the KPIs have not been prepared, in all material respects, in accordance with the applicable criteria.

Ernst & Young Ltd



Partner

Mark Vesper  
(Qualified  
Signature)



Manager

Claude-Aline  
Dubi (Qualified  
Signature)