

HUBER+SUHNER Group
Global GHG emission inventory 2017

Background

sinum AG, pioneers and experts in corporate ecobalancing and environmental communication with more than 20 years of experience, has been advising and supporting the HUBER+SUHNER Group in the realization of its environmental and greenhouse gas (GHG) accounting and reporting since 2007. The Global GHG emission inventory in its current form has been in place since business year 2012 and forms the basis for the verification of the HUBER+SUHNER's Group GHG emissions and for climate-related communication.

Methods, tools and procedures

The inventory is based on the results of the annual ECOPRO Efficiency Profile¹ and complies with the WRI/WBCSD Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition). The HUBER+SUHNER Group has been responsible for providing the data, which form the basis for calculating GHG emissions. To ensure data quality, sinum checked the data received and generated questionnaires to clarify uncertainties. Recommendations were also made for continuous improvement of data collection and management. As recommended by CDP and the GHG Protocol since 2015, the global warming potential (GWP) factors have been taken from the IPCC Fifth Assessment Report (AR5). The inventory results were calculated by using expert system REGIS and ecoinvent database version 3.4.

Covered boundaries and known exclusions

The scope of the GHG inventory considered the activities of the HUBER+SUHNER Group in Switzerland (2 sites) and since 2013 also the most important international sites (currently eight international sites²). For the Swiss sites and China (boundary extension setup in 2015 with inclusion of own copper wire and plastics consumption) an exhaustive GHG inventory was compiled. Whereas the other international sites received intermediate goods from the sites in Switzerland, the inventory of the international facilities

included auxiliary materials, packaging, energy, disposal, water, transports of products and business travel. Scope 3 included GHG emissions from fuel-and-energy-related activities not included in Scope 1 and 2, purchased goods and materials, business travel, downstream transports, water consumption, waste generated in operations and commuting (Switzerland only). Data recording has been continuously expanded and improved, e.g. in 2017 data for SF₆ emissions and rail freight in China, air travel in Poland and UK, ethanol and glass fibre consumption in Brazil, sea and air freight in Tunisia and cooling agent in India were made available and included for the first time. Overall, data availability and quality can be considered as good.

GHG emissions of the HUBER+SUHNER Group for 2017

Total GHG emissions:

74'166 t CO₂eq (increase of 5 % in reference to 2016 v34)

Scope 1:

8'078 t CO₂eq (increase of 113 % in reference to 2016 v34)

Scope 2:

15'957 t CO₂eq (increase of 12 % in reference to 2016 v34)

Scope 3:

50'131 t CO₂eq (decrease of 4 % in reference to 2016 v34)

The trend of rising in total GHG emissions, which began in 2016, continued in 2017 (same growth rate as net sales). This was mainly due to the increase in Scope 1 resulting from the SF₆ emissions at the Pfäffikon site in Switzerland and, secondly, from the inclusion of SF₆ emissions in China. The production-related increase of electricity consumption in China was the main driver for the increase in Scope 2 emissions. Although air freight in Poland, truck transport, car expenses and packaging materials in India increased significantly, the strong decline in air freight in Switzerland led to a slight decrease in Scope 3 emissions.

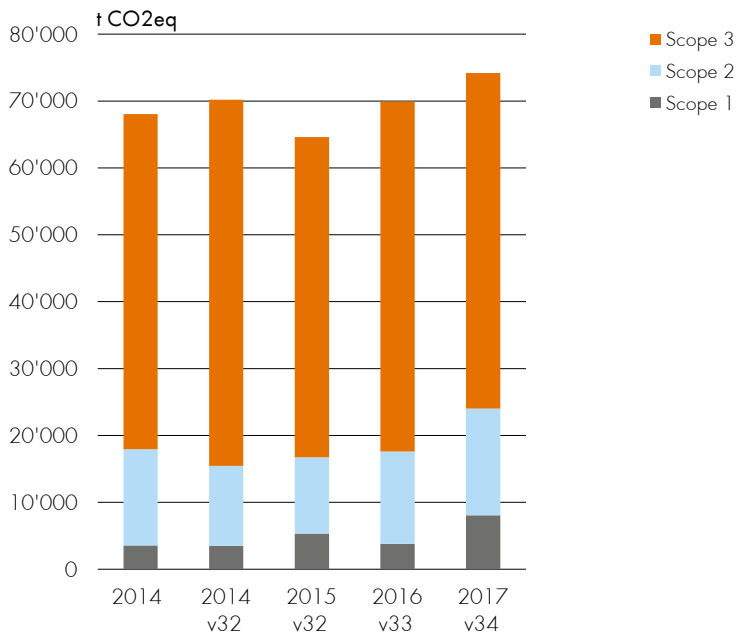
The following figures show relevant breakdowns of the HUBER+SUHNER Group GHG emissions for 2017³.

¹ Extended corporate ecobalancing including internal peer review, standardised since mid-nineties.

² The Derby site was merged with the Bicester site at the end of October 2017.

³ For the 2017 inventory the actualized database v3.4 was used. Due to no significant changes respective to all scopes and former version v3.3 (<1% difference in total emissions) recalculated period 2016 (2016 v34) is not shown in the figures. To facilitate the annual comparison, periods 2014 and 2015 are shown according to previous year's calculations (2014 v32, respectively 2015 v32).

Overview scopes



Overview sites

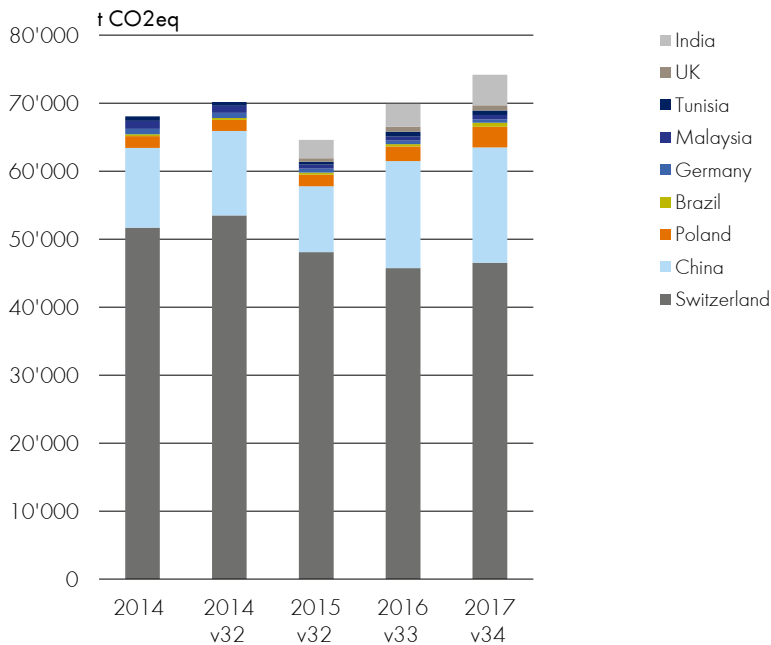
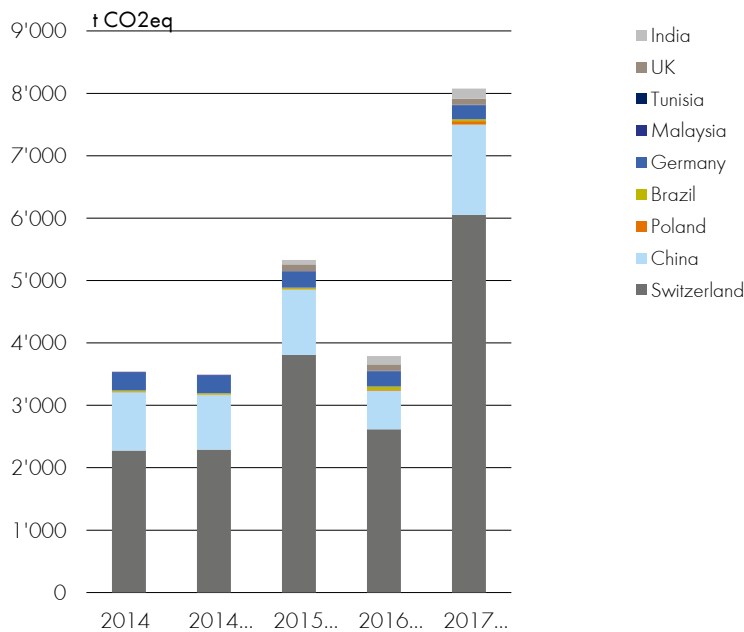


Fig.1: Total GHG emissions 2014-2017: Breakdown on Scopes (top) and breakdown on countries (bottom)

Scope 3 emissions (see figure 3 and 4) and the Swiss sites dominate the breakdowns by scopes and countries. The decentralisation of production is reflected in the reduction of emissions in Switzerland and the observed increase since 2016, especially in China, Poland and India.

Scope 1



Scope 2

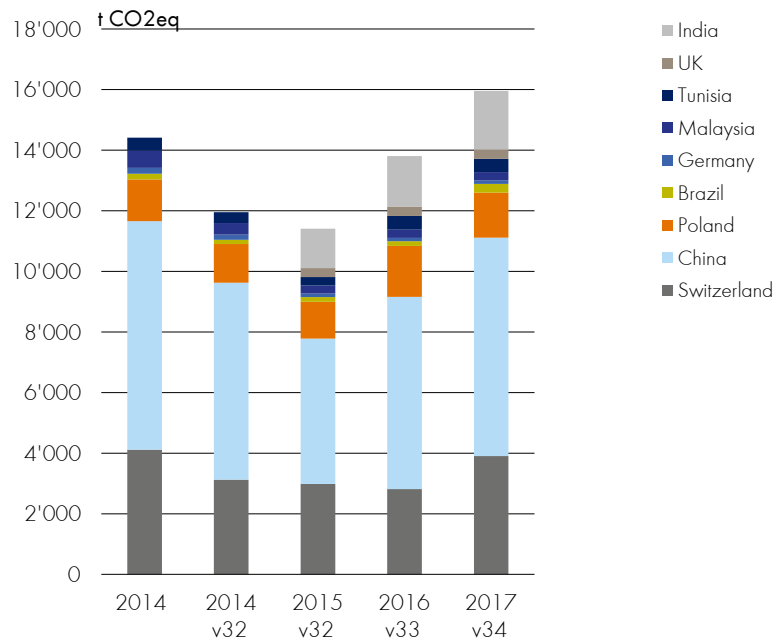


Fig.2: Breakdown of GHG emissions by country 2014-2017: Scope 1 (top) and Scope 2 (bottom)

The main GHG emitters in Scope 1 were SF₆ emissions with 56 % (strong increase in 2017; see last row in table on page 7) and heating with 18 % in Switzerland. In China, the newly integrated SF₆ emissions also were the main reason for the increase in 2017. In Scope 2, the continuing production-related growth in electricity consumption in China and the high impact of the coal-based electricity mix were responsible for its relevance (45 %). The increase in Switzerland was caused by changes in the energy mix for heat supply at the Pfäffikon site.

Scope 3

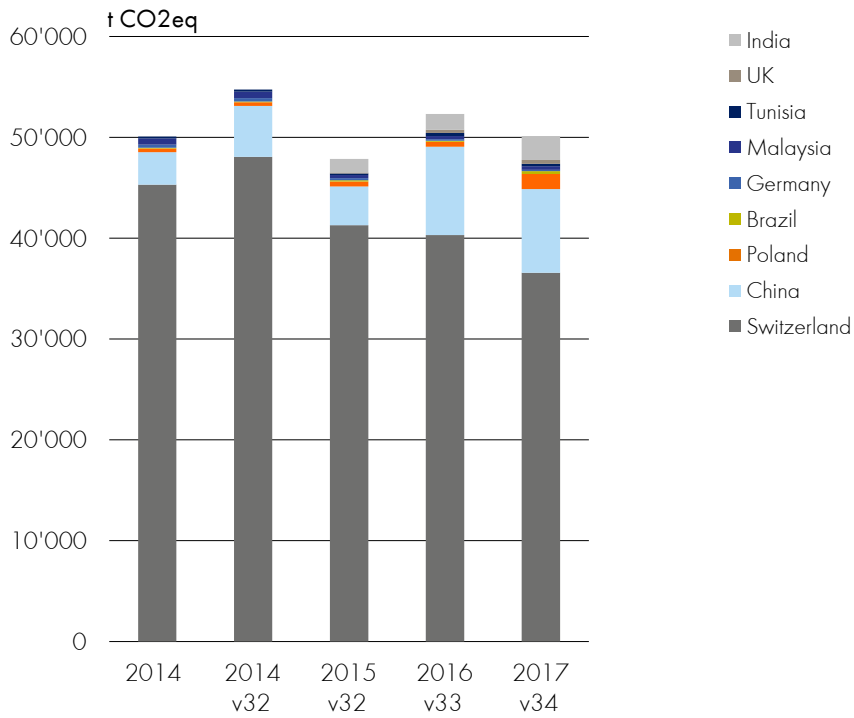


Fig.3: Breakdown of Scope 3 GHG emissions on countries 2014-2017

Scope 3 was dominated by the intermediate goods produced in and shipped off the Swiss sites. The decrease of emissions at the sites in Switzerland was directly linked with the reduction of air freight. Whereas, air freight in Poland and increased truck transports, car expenses and packaging consumption in India led to a noticeable growth.

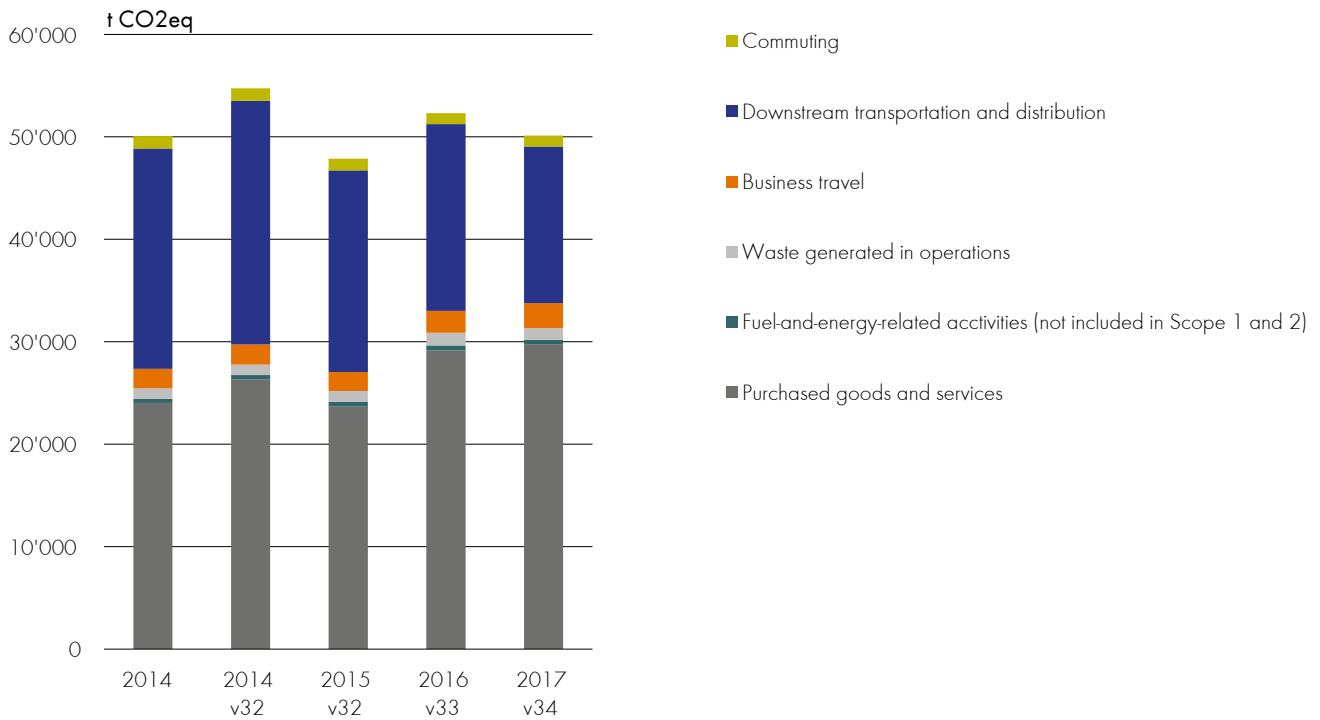


Fig.4: Breakdown of Scope 3 GHG emissions on sources 2014-2017

53 % of emissions from downstream transportation and distribution were caused by air freight from Switzerland (international sites contributed an additional 10 %). The share of the Group’s truck transports amounted to 27 %. For purchased goods and services copper consumption of the Swiss sites accounted for 44 % and plastic consumption for 22 %. The share of copper consumption in China amounted to 18 %.

Performance Scope 1+2

Declaration of performance in accordance with CDP Reporting (Questions CC7.9, CC7.9ab). Emissions performance calculations were market-based. Compared to the previous reporting year the Scope 1+2 emissions⁴ of the HUBER+SUHNER Group increased 37 % corresponding to 6'442 t CO₂eq.

Reason	Change in emissions (t CO ₂ e)	Direction of change	Emissions value (%)	Comments
Change in renewable energy consumption	0	No change	0	No change in renewable energy consumption
Other emissions reduction activities	128	Decreased	1	Various energy efficiency initiatives have been undertaken and are ongoing at all H+S sites. Major number of measures with reduced impact and measures, like replacement fluorescent lamps with LED lights, optimization of control/steering mechanism, closed-loop cooling system, heat recovery with significant impact.
Divestment	0	No change	0	No divestment
Acquisitions	0	No change	0	No acquisitions
Mergers	0	No change	0	No mergers
Change in output	1126	Increased	6	Calculation via splitting of net sales increase: 2 % for Switzerland sites and 8 % for international sites.
Change in methodology	768	Increased	4	Change from ecoinvent database version v3.3 to version v3.4 for the background processes.
Change in boundary	58	Increased	0.3	At end of October 2017 the Derby site was closed and in Poland the energy reference area decreased.
Change in physical operating conditions	29	Decreased	0.2	Due to a slightly warmer winter in Europe, less heating energy was required at the sites in Europe.
Unidentified	0	No change	0	No unidentified changes
Other	4647	Increased	26	The management of SF ₆ emissions through monitoring and adaption of measures is ongoing, but nevertheless a very strong increase compared to 2016 had to be recorded for 2017 (mainly due to a leak at a seal in the Pfäffikon plant and first integration of emissions in China). Measures have been implemented to detect leakages early on. Additionally, the district heat (supplied by the municipal utilities) at the Pfäffikon site in Switzerland was delivered with a higher CO ₂ emission factor.

4 Difference to value 2016 ecoinvent database version v3.3.

Performance science based targets

HUBER+SUHNER Group is one of 100+ leading companies aligning their strategy with the Paris Agreement through science based targets (SBT). HUBER+SUHNER aims to reduce greenhouse gas emissions by 30 percent between 2015 and 2025 in relation to the added value⁵ generated. Two intensity targets were defined in 2017, for scope 1+2 emissions and also for scope 3 emissions.

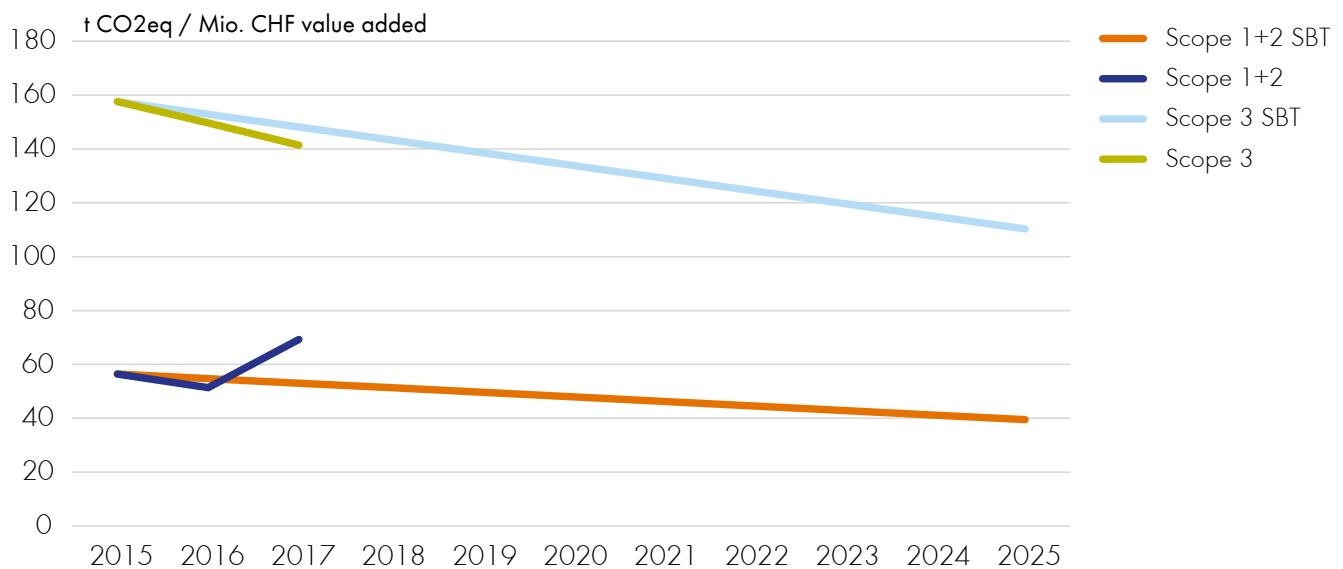


Fig.5: Monitored greenhouse gas emissions versus science-based targets reduction path

In Scope 1+2, the intermediate target 2016 was achieved, while the intermediate target for 2017 was missed. The strong increase in SF₆ emissions is the main reason for exceeding the base year emissions per value added by 23 % in the year under review.

In Scope 3, the company has so far exceeded its intermediate reduction target. In 2017 by 10 % compared to the base year emissions per value added. This reduction was mainly due to the strong decline in air freight.

⁵ Between 2015 and 2025, an increase in value added (activity indicator) of 15% is estimated for H+S group (all sites). Value added is calculated from profit before income tax, depreciation and amortization plus personnel costs minus other financial result.

INDEPENDENT ASSURANCE STATEMENT

To Huber+Suhner Group

Objective of the engagement

Huber+Suhner Group has engaged true&fair.expert llc, CH-3013 Bern (t&f), to provide a moderate independent assurance of its global greenhouse gas inventory 2017.

Scope

The assurance covers data and information provided in the global greenhouse gas inventory 2017 of Huber+Suhner Group, which was prepared by sinum AG, CH-9000 St. Gallen, on May 29, 2018. The greenhouse gas inventory includes the scopes 1, 2 and 3.

Criteria for report preparation

Huber+Suhner Group's global greenhouse gas inventory 2017 is based on

| The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, revised edition, by WRI/WBCSD

Assurance standards

t&f used the AA1000 Assurance Standard (2008), type 2, to guide its approach to this assurance.

Activities

Following is a summary of t&f's actions to check the accuracy, plausibility and relevance of the greenhouse gas disclosures covered by the assurance:

- Assessment of the approaches used for reporting (including materiality) and the basic concept of data analysis and aggregation;
- Interviews with management personnel responsible for the analysis and report;
- Interviews with those responsible for the collection and analysis of information;
- Validation (at the group and country level) of the systematic approaches to the collection, assembly and evaluation of information, as well as to reporting;
- Assessment (at the group and country level) of the calculation, consolidation and quality control of the information used;
- Validation of the collection, processing and forwarding of data at selected locations – a sample of sites selected according to e.g. customer expectations, feasibility;
- Validation of the collection, processing and forwarding of data at selected locations – a representative sample of sites selected.

Conclusion

t&f's conclusion has been formed on the basis of, and is subject to the inherent limitations outlined above.

Adherence to AA1000 AccountAbility Principles

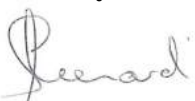
| Full adherence to all three principles: Inclusivity, Materiality, and Responsiveness.

Reliability of data and assertions

Based on our work described above, nothing has come to our attention to indicate that the data and assertions in Huber+Suhner Group's global greenhouse gas inventory 2017 are not

| fairly presented,
| free of material misstatements, and
| reported in accordance with reporting criteria.

Bern, July 5, 2018



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HUBER+SUHNER ist nach EN 9100, ISO 9001, ISO 14001, ISO/TS 16949 und IRIS zertifiziert.

Hinweis

Die Angaben in diesem Dokument dienen ausschliesslich Informationszwecken.