



Company Carbon Footprint Report

2017

Wünsche Group

Corporate Responsibility

Preface

Dear colleagues,

The CR department has so far focused on compliance with environmental and social standards by our suppliers in the production countries. However, we don't just want to point the finger at others, we also want to sweep our own backyard. For this reason, we have decided, among other things, to establish the Company Carbon Footprint.

It deals with the greenhouse gas emissions generated by our activities. Greenhouse gas emissions cause the average temperature worldwide to rise. As a result, the polar ice caps are melting and sea levels rising, or extreme weather events such as floods and droughts occur more frequently. As a company group, we also generate emissions and in order to keep them as low as possible, the status quo must first be examined. The following report first summarizes the procedure for recording the Company Carbon Footprint and then compiles the results.

On the one hand, the results serve to consider a development from year to year and to define realistic targets and measures for the reduction of greenhouse gases on this basis. On the other hand, the comparison between the individual companies and business units are supposed to help identifying above-average emissions and to enable the transfer of best practices from other areas.

Enjoy reading this report.



Thomas Wünsche



Björn Peters

Methodology

The basis for calculating the Company Carbon Footprint is the Greenhouse Gas (GHG) Protocol. It distinguishes between three scopes. Scope 1 covers all emissions generated at the company's own sites or by the company's own vehicles (direct emissions). The emissions caused by the energy consumed are referred to as scope 2 (indirect emissions). All downstream and upstream business processes are summarized under Scope 3. Scope 3 ranges from the production of raw materials for the respective products, their use by consumers through to disposal or recycling.

The following report covers scope 1 and scope 2 for all locations of the Wünsche Group. For this purpose, electricity and heating consumption as well as company car usage data were collected. These consumption values were then multiplied with the respective emission factor. The emission factor indicates the amount of emissions per consumed unit of a certain raw material. For example, 240g CO₂e are emitted when one kWh of natural gas is consumed. The "e" stands for equivalents, since not only CO₂ has a harmful effect on the climate, but other gases too. The emissions of these other gases are converted into CO₂ equivalents in the CO₂ calculations. For reasons of readability, we only use the abbreviation CO₂. Therefore, a calculation of CO₂ emissions might look like this:

Consumption	x	Emission Factor	=	CO ₂ -Emissions
10.000kWh natural gas	x	0,240kg CO ₂ /kWh	=	2.400kg CO ₂

Since our products must get to our customers from the producing countries and our business model entails many business trips, the logistics and flights of these business trips were also included in scope 3. In order to reduce the effort and make comparisons possible, only the ocean freight logistics of the German, Australian and American trading companies are considered for 2017. Emissions from ocean freight logistics were calculated using the DB Schenker Emissions Calculator on the basis of the start and destination ports and the number of TEUs.

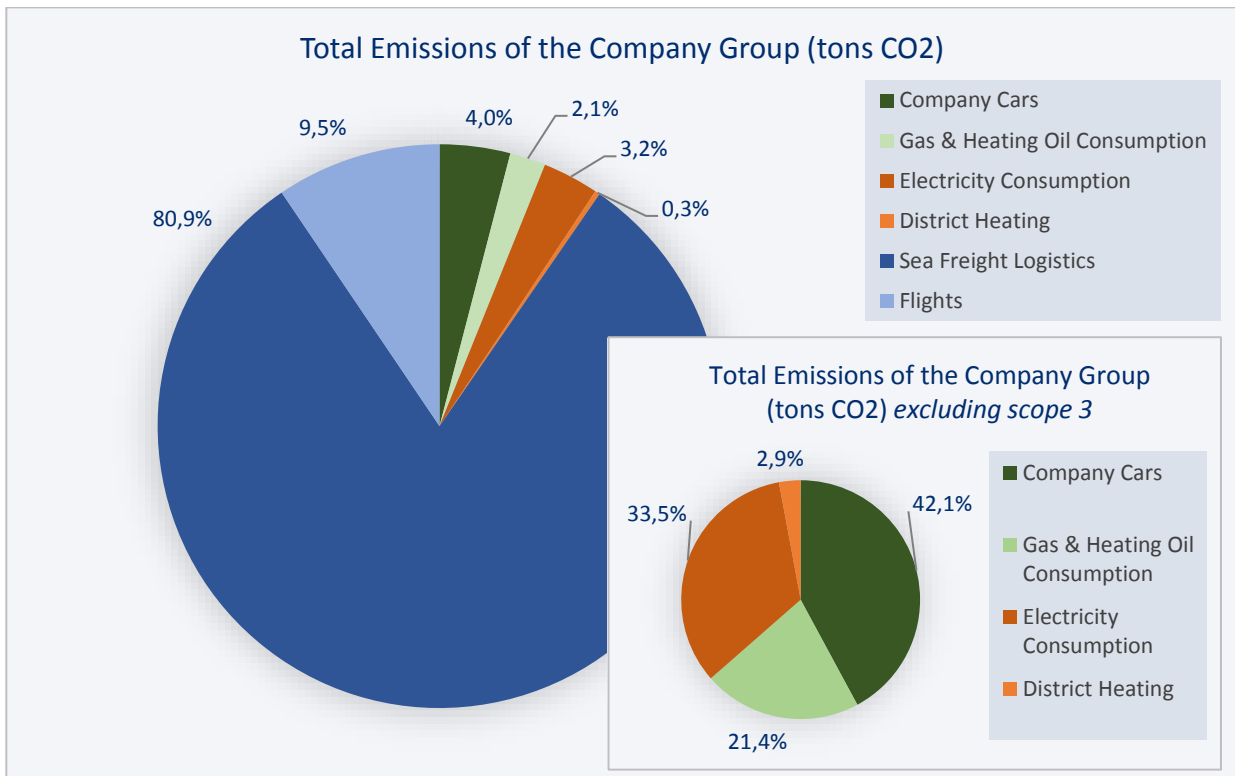
For business trips, only flights are included, as the use of rental cars or trains plays a very minor role compared with flight emissions. Thus, the effort required for the collection of such data is disproportionate to the actual impact of these emissions. Emissions from the company's own company cars are already included in scope 1 in accordance with the GHG Protocol. The emissions calculator from atmosfair was used to record the CO₂ emitted by flights.

In cases where no specific data was available, projections or estimates were made. For example, if a German company did not report heating consumption, an average consumption value for natural gas of 87.5kg CO₂/m² was taken into account.

The Wünsche Group as a whole

The Group's total emissions amount to 24,211 tons of CO₂. 980 tons of CO₂ are accounted for by company cars and 499 tons by gas consumption and heating oil, while electricity consumed causes emissions of 780 tons of CO₂ and flights 2,291 tons of CO₂. Logistics is the largest contributor with 19,594 tons of CO₂.

The total paper consumption of the Wünsche Group in 2017 was almost 6 million sheets (5000 sheets per employee). To date, only a few companies in the group use paper from sustainable sources (e.g. FSC), and the proportion of this more climate-friendly paper is only 53.9% overall. The amount of paper consumed currently corresponds to 286 trees or an area of 1.26 football fields.



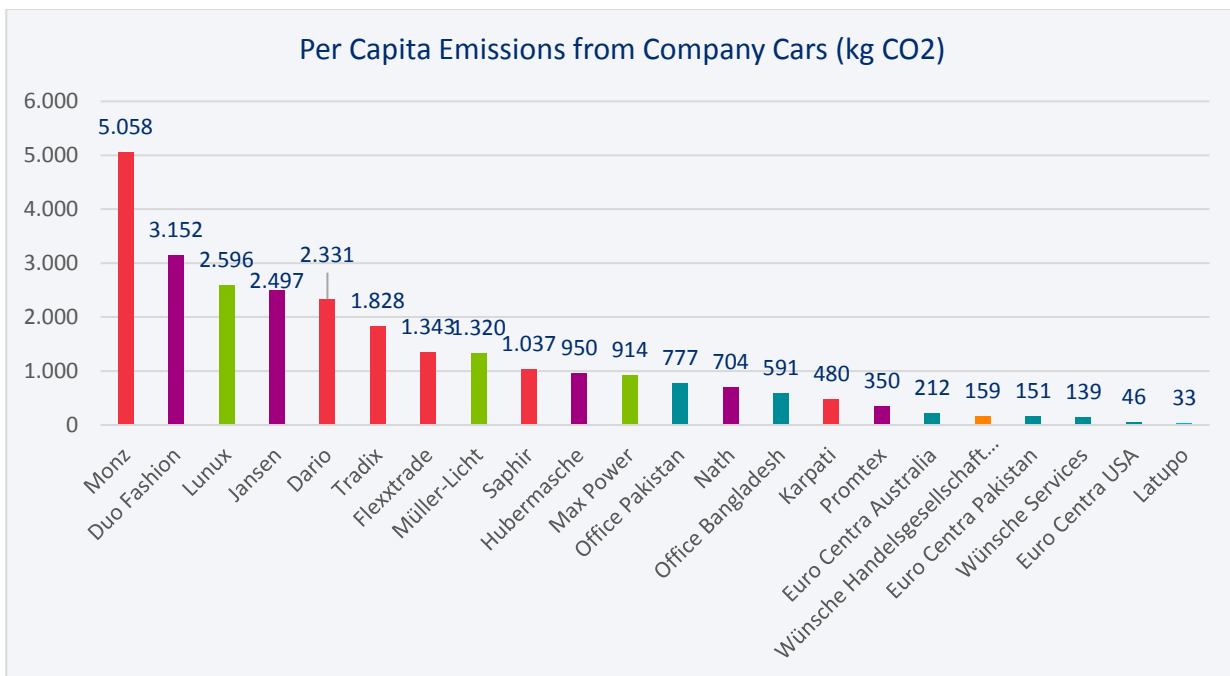
The individual calculation categories

In the following, the results of the Company Carbon Footprint assessment are presented and examined in exemplary manner. For the presentation of the proportional correlations of the emissions from scope 1 and 2, the emissions from scope 3 are initially excluded. As more than 90% of the Group's total emissions are found in scope 3, mainly due to the immense emissions caused by shipping fuel, comparability would otherwise be greatly reduced.

Scope 1: Company cars & gas and heating oil consumption

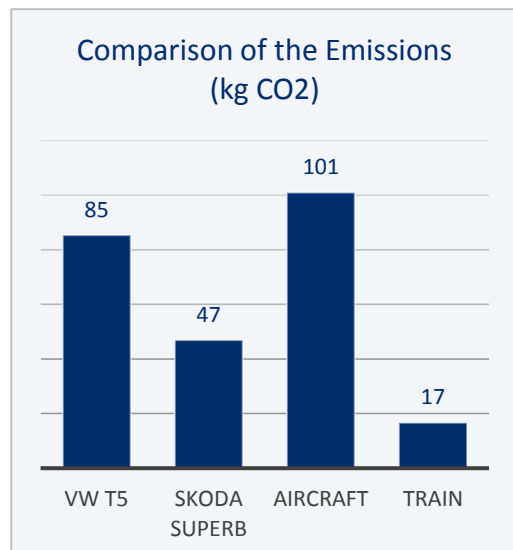
Company cars

The distance travelled annually by employees of the Wünsche Group in their company cars is equivalent to one hundred and twelve times the distance travelled around the equator (4,493,787 km). In total, the use of company cars results in emissions of 980 tons of CO₂, which account for 42,1% of the emissions recorded in Scope 1 and 2. The following distribution of per capita emissions from company cars (in kg CO₂) can be seen for the Group companies in 2017.



The calculation clearly shows in particular the influences of the different emission factors of the vehicles and the kilometres driven. Comparing the amount of CO₂ emitted to cover the distance Hamburg-Cologne (438km), covered by different vehicles, the airplane and the train, the following figure results:

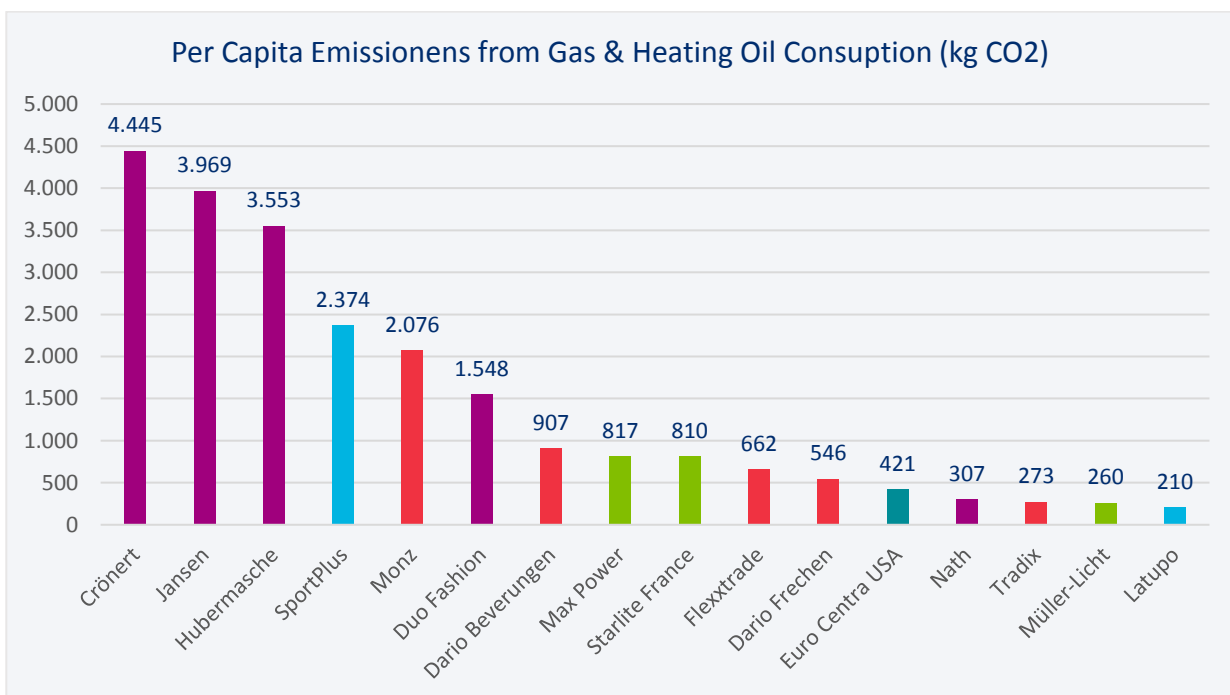
While covering this distance (considered for one person at a time) has a comparatively positive effect on the CO₂ balance with the choice of train and a negative effect on the CO₂ balance with that of the aircraft, the difference between different vehicle models is also evident. For example, the decision in favor of a lower-consumption car can almost halve CO₂ emissions.



The less frequent use of a company car can also have a positive effect on the amount of CO₂ emitted. Latupo, for example, achieves its low emission level both through a fuel-efficient model and by covering a relatively short distance.

Gas and heating oil consumption

Natural gas is usually used to heat the buildings. However, not all locations in the Wünsche Group need to heat their buildings. We are also active in countries with different climatic conditions (such as Bangladesh), where air-conditioning of buildings plays a much greater role. This is reflected in scope 2 in the emissions from electricity consumption. Some companies also rely on district heating. In this case, the resulting emissions are also included in scope 2 in accordance with the GHG Protocol. Therefore, the graph below of per capita emissions from gas and heating oil consumption (in kg CO₂) only includes those sites that achieve their heating performance through the combustion of gas or, in the case of Crönert, through heating oil.

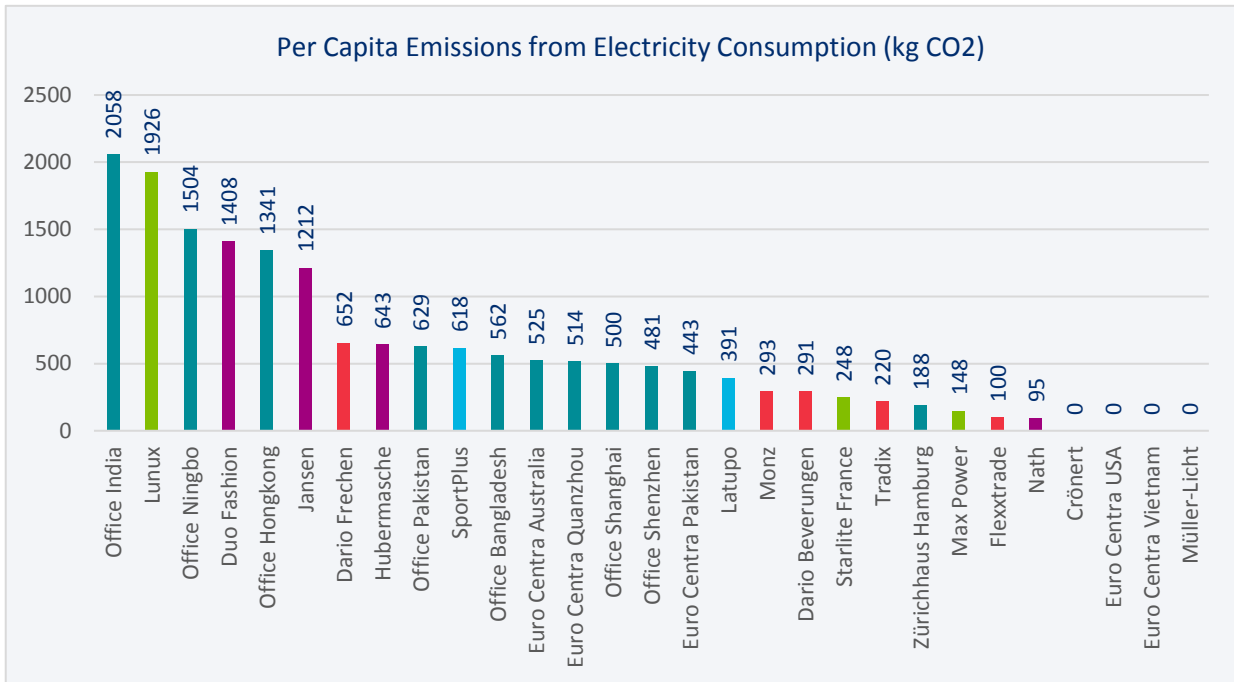


In some cases significant differences can be seen. These are mainly due to the fact that the locations have a different ratio of area to employees. A larger area also requires a larger quantity of the energy source in order to achieve a corresponding heating output. The type of energy source also has a decisive influence, as heating oil generates more than twice as many emissions per kWh as district heating. A further factor, however, can also be the way the building is built, i.e. the insulation. However, since the values in the table are set in relation to the number of employees, a larger office (or a location with a warehouse) and a small number of employees can be noticeable.

Scope 2: Electricity consumption & district heating

Electricity consumption

Without electricity we would not be able to carry out our work at the Wünsche Group - no light, no computer, no coffee machine would support us. The importance that electricity has for us is also reflected in its share in our CO₂ balance. This amounts to 33,5% of the Group's emissions (excluding scope 3). The distribution of per capita emissions by electricity consumption (in kg CO₂) among the individual companies and locations breaks down as follows.



In the electricity calculation category, the differences in the amount of emissions per employee can mainly be explained by the different emission factors. The latter result from the different proportions of renewable energies in the electricity mix.

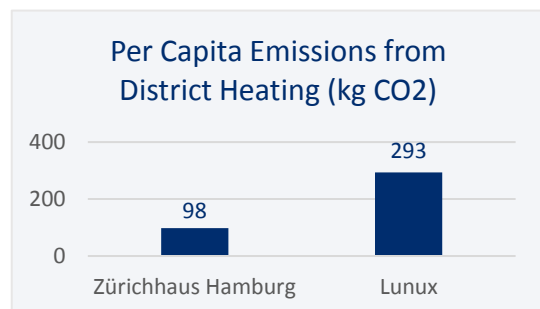
On this topic, a number of companies have to be listed that purchase an electricity mix in which the average share of renewable energies of 18% in the German electricity mix is exceeded or even amounts to 100%. These are listed in the adjacent table and have no or relatively low emission values in the graph above, as the emission factors are 0g CO₂/kWh (for 100% renewable energies) or relatively lower (for an increased share of renewable energies).

Companies with Green Electricity	Share (%)
Euro Centra Vietnam	100
Müller-Licht	100
Crönert	100
Euro Centra US	100
Flexxtrade	81,5
Nath	80
Monz	66
Max Power	63
Tradix	45,3
SportPlus	39

Müller-Licht and Hubermasche are particularly noteworthy when it comes to electricity. They even produce solar energy and thus contribute to the expansion of the range of renewable energies. The energy generated by Müller-Licht leads to a reduction in emissions of around 9 tons of CO₂ compared to the conventional electricity mix.

District heating

For heating, a few companies in the Wünsche Group use district heating instead of natural gas or heating oil. According to the GHG Protocol, the resulting emissions are therefore attributed to scope 2 and are calculated using a different emission factor that is only almost half that of natural gas. This means that an equally high consumption of kWh for district heating results in significantly lower CO₂ emissions.



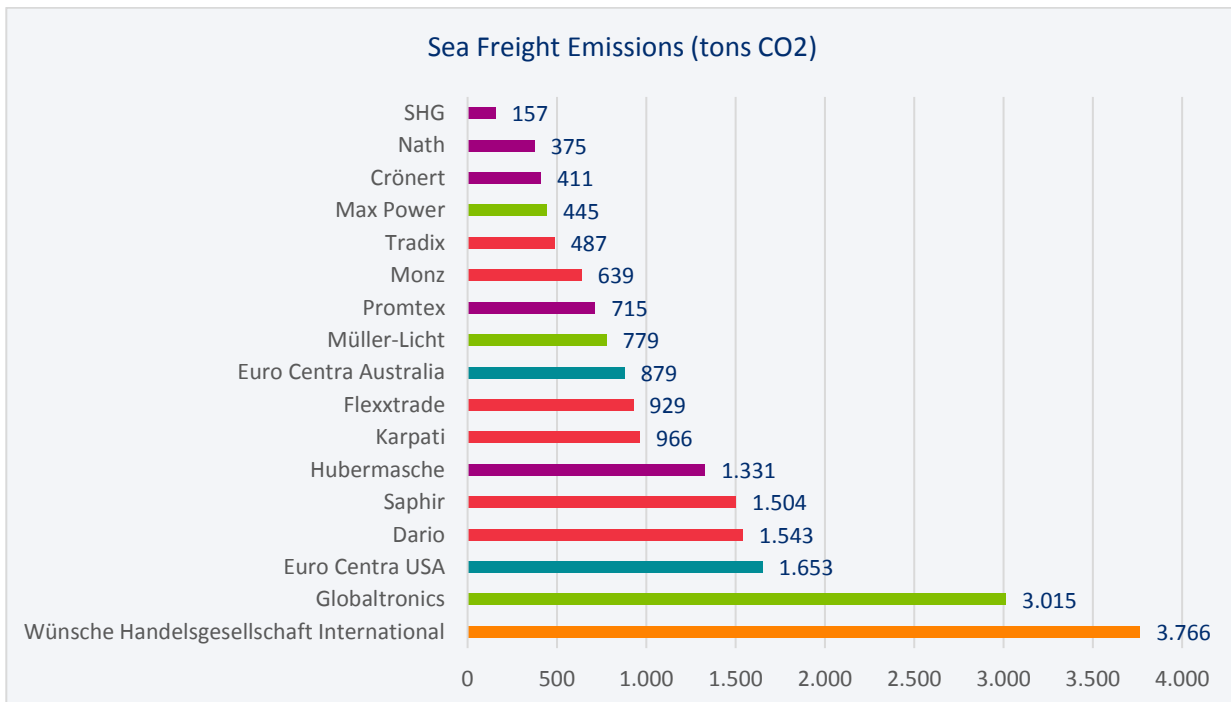
At present, district heating is only used in the Zürichhaus Hamburg and at Lunux. It should be noted that at Lunux the much larger area due to the associated production is also reflected in the emissions.

Overall, however, in terms of per capita emissions from district heating (in kg CO₂), both are far below the average per capita emissions from gas and heating oil consumption (in kg CO₂) from the scope 1 calculation category when it comes to heating.

Scope 3: Logistics & Flights

Logistics

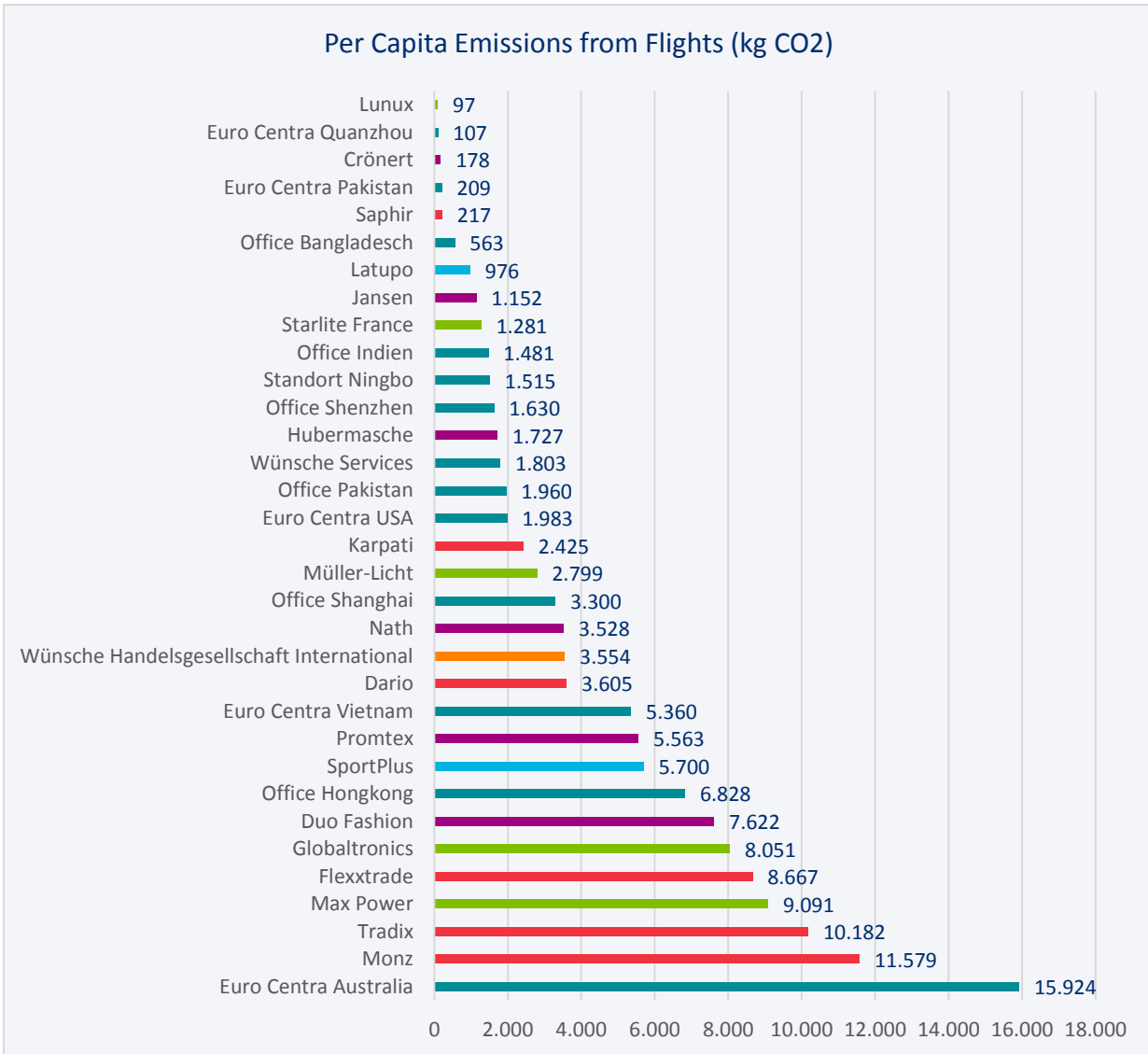
When capturing the CO₂ emissions, due to the diversity of the routes and means of transport used, simplifications had to be made to reduce complexity. For this reason, an explicit focus was placed on sea freight logistics, which accounts for more than 80% of total emissions. A total of 14,773 TEU were transported by sea freight over a distance of more than 10 million kilometers across the entire Wünsche Group. This distance corresponds to 13 times to the moon and back. FOB as well as logistics organized by us are taken into account. Air freight and distribution, however, were excluded from this first Company Carbon Footprint.



The emissions caused by sea freight logistics vary due to different distances and different transport volumes (TEU). For each ton and kilometer transported, an aircraft produces approximately 500g CO₂, whereas a train emits 30g to 100g CO₂ and a ship 10g to 40g CO₂.

Flights

Another category included in scope 3 relates to business trips by air. These have a significant influence on the CO₂ balance and account for 9.5% of the total emissions of the Wünsche Group. This makes them the second largest emitter after sea freight logistics.



In particular, the distance travelled and the transport classes have an effect on the result. Thus, on the basis of the data collected, it could be deduced that an average of 200kg CO₂ was emitted per person transported for a short-haul flight, 800kg CO₂ for a medium-haul flight and 3000kg CO₂ for a long-haul flight. The choice of transport class can also have an impact of 50% to 100% more emissions.

Conclusion

The quality of the data provided to us is decisive for the reliability of the calculated carbon footprint. For incomplete data, rough assumptions had to be made and these can hardly reflect reality.

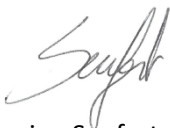
In summary, logistics is the most influential factor in our emissions. Logistics could also be considered more comprehensively. For example, this report does not cover emissions from rail or air freight, which are also used by our companies due to time pressure. In addition, distribution within the destination country (e.g. individual shipments by Latupo) has so far been neglected. These shall be increasingly included in future considerations.

In order to define medium- and long-term goals with regard to the Company Carbon Footprint, but also to gain a better understanding of possible developments in the various areas by comparing them over two years, a further calculation will be required next year. Thereby the data quality in some areas is to be further improved.

On the basis of the data collected for the first time, initial measures to reduce emissions are to be defined in coordination with the responsible employees. For example, the conversion to an increased share of renewable energies in the electricity purchased is an option, as this does not involve any additional operational effort. And when it comes to company cars, the fleet of vehicles at Zürichhaus Hamburg sets a good example by the use of an e-smart. In addition, it is also possible to make compensation payments for the emissions generated through compensation projects if a reduction is difficult to achieve. These payments save emissions elsewhere, i.e. climate protection projects are supported. For example, the compensation sum for a return flight from Hamburg to Shanghai amounts to € 95.

Finally, we would like to take the opportunity to thank all those involved in this project and look forward to future cooperation. Please feel free to contact us at any time if you have any questions or comments.

With best regards



Janina Seufert



Nils Tödter