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GUIDE

# CO<sub>2</sub> REDUCTION FOR COMPANIES

Measures to reduce the CO<sub>2</sub> footprint of your company

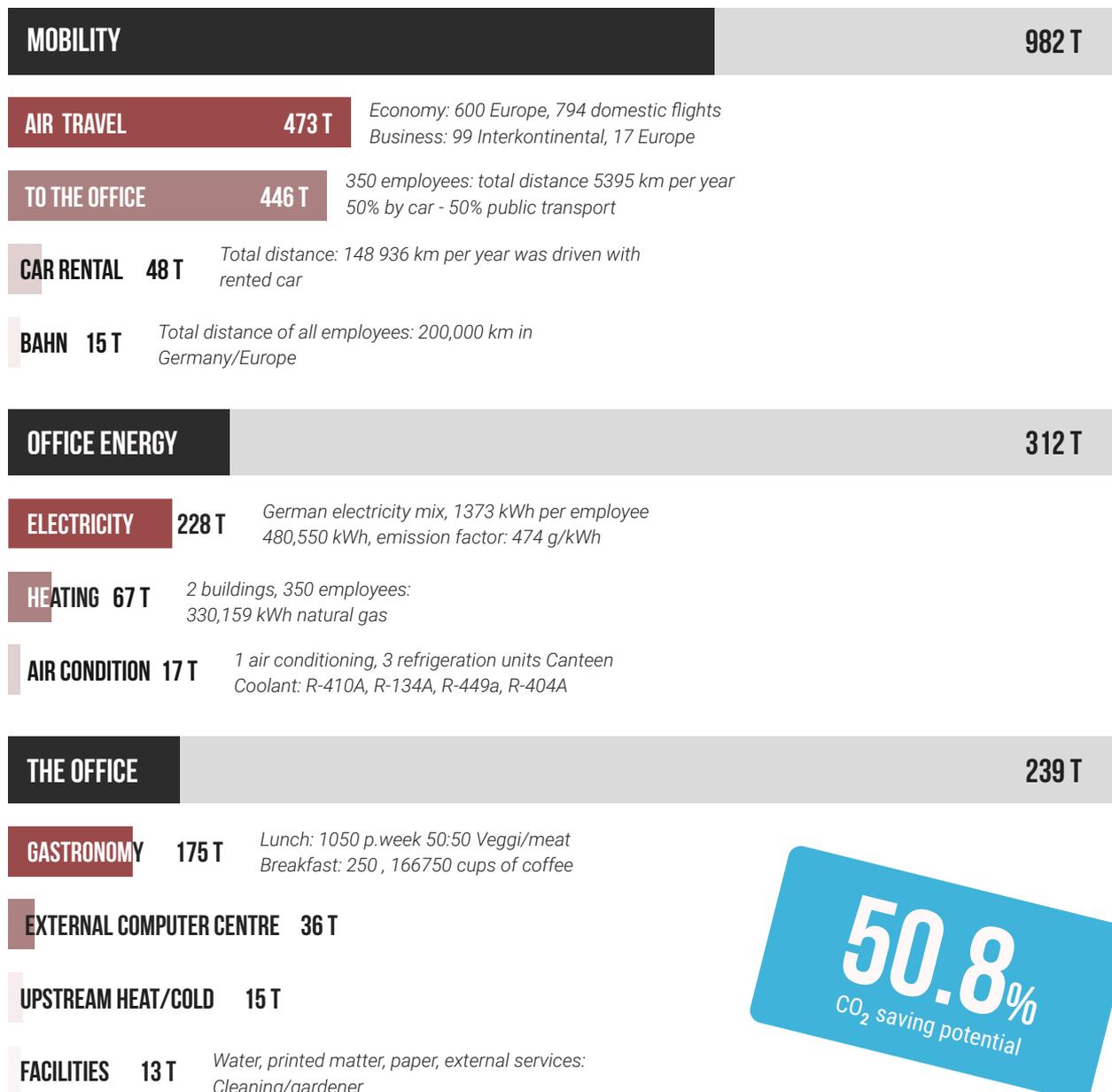
- General information package

Free access for companies and other organisations

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# LET'S GO!

To help your company become more climate conscious and to reduce the CO<sub>2</sub> emissions, we have created a reference company based on our data and a CO<sub>2</sub> calculator, which represents a typical digital company with 350 employees in Germany. This company - let's call it SUSTAINIA - has an annual CO<sub>2</sub> footprint of **1,533 tons**, which can be reduced by 50.8% with the help of this guide. SUSTAINIA'S CO<sub>2</sub> footprint is made up as follows:



**50.8%**  
CO<sub>2</sub> saving potential

# REDUCTION MEASURES

## 1. Mobility

### Business Trips & Conferences

The easiest way to improve your company's CO<sub>2</sub> balance is to reduce air travel. For short domestic routes, it is recommended to change to trains. Although this increases the travel time, the journey is less stressful, more comfortable and usually even cheaper. Railway stations are often more centrally located than airports, which makes arrival and departure easier. You can also change to long-distance buses.

Nowadays, conferences and meetings can also be held online via video conferencing. High quality video conferencing equipment is a sensible investment, as an alternative to regular air travel and more comfortable for employees. Hotel costs can also be reduced this way.

For intercontinental travel, a business flight produces two to three times as much CO<sub>2</sub> as an economy flight. First class seats even release up to six times as much CO<sub>2</sub>. Therefore, it is more environmentally friendly to fly economy class on long-haul trips.

Think about where you can save CO<sub>2</sub> with your company:

- **Reduce domestic flights, ideally switch completely to rail**
- **Fly Economy Class, instead of Business Class**
- **The lower the flight class, the lower the CO<sub>2</sub> emissions**
- **Video conference systems can replace air travel**

Find more information about video conferencing systems online and consider it for your office.

### To the Office

When choosing a location for an office, a well connected location can save a lot of CO<sub>2</sub>. If employees travel by public transport, bicycle or foot, this not only reduces CO<sub>2</sub>, but also reduces stress.

**-452<sub>T</sub>**

If it has to be the car after all, car pools should be set up, or shared car services should be used. Car sharing can also make a contribution if it helps employees decide against purchasing their own car. If your company has its own car pool, investing in electric company cars can improve the environmental balance as long as the electric cars run on green electricity.

## Flexible working

The option of working from home can offer many advantages for employees and the company: The savings include, in particular, fuel savings, as commuting distances are reduced. However, heat and electricity per employee within the company are also reduced, as spatially flexible working leads to a reduction in heated, lighted and ventilated work surfaces. The employee also produces emissions at home, but these are lower. This saves energy in your company and minimizes the arrival and departure stress of your employees.

For more comparisons and information about different models of Flexwork and how you implement them, click [here](#).

What possibilities for optimisation do you have in your company?

- **Choose a location with easy transport connections**
- **Low-emission access by public transport, bicycle or on foot**
- **Introduce carpooling**
- **Subsidy program to optimize the journey with for example car sharing**
- **Set up a FlexWork program**

## Sustainia's reduction methods

Flights: cancel 15%, change to economy class, 50% of flights within Germany change to rail

**-215<sub>T</sub>**

Approach: 350 employees: 5395 km in total per year, 75% public transport - 15% car - 10% on foot/bike

**-213<sub>T</sub>**

Rental car: conversion to e-car, max. 100,000 km  
Rail ( $\pm 0$ ): limit to 200,000 km

-23<sub>T</sub>

## 2. Office Energy

### Green electricity - especially here

Especially companies that obtain their electricity from fossil fuels, for example by using the German electricity mix, can significantly reduce their CO<sub>2</sub> footprint by switching to renewable energy sources. This can be by switching to a green electricity provider or installing energy-efficient solar modules. For example, you can generate your own electricity in an environmentally friendly and independent way.

You can find a comparison of the best eco-power providers [here](#).

### Correct heating

To reduce CO<sub>2</sub> emissions and heating costs, the insulation of the office building is crucial. Old buildings can be retrofitted by thermal refurbishment and in new buildings energy efficiency can be prioritised from the outset. In general, the following applies: 6% reduction in CO<sub>2</sub> and energy with a temperature reduction of 1°C. Thus a minimal change can have a major impact on the environmental balance.

Permanently open windows do provide a lot of fresh air, but unfortunately a large part of the heat is lost.

The installation of a smart thermostat can regulate your office climate optimally. By networking several rooms, the thermostat enables constant controlled temperatures and an automatic switch-off after closing time, as heating is not necessary at night.

### Energy efficiency

First of all, the most important thing: When buying operating equipment, such as dishwashers, coffee machines or refrigerators, always pay attention to the energy label.

-237<sub>T</sub>

So at best, invest in an A+++ appliance to keep your company's CO<sub>2</sub> emissions as low as possible. [Here](#) you can check how much your appliance consumes and find more energy-efficient appliances.

To increase your energy efficiency in the office and reduce your CO<sub>2</sub> emissions, pay attention to the 'working temperature' of household appliances. The dishwasher cleans just as well at 50°C as at 70°C and food stays as fresh at 7°C as it does at 5°C. With these small temperature changes you can save a lot of energy and CO<sub>2</sub>.

Use LED lights. These consume up to 90% less energy, are very durable and there is no delay in switching on.

Electrical appliances such as computers, printers or laptops consume a lot of power in standby mode. For this reason, a disconnectable power strip can be used to completely shut down devices during periods of non-use. Otherwise, disconnecting the devices from the mains saves a lot of energy and CO<sub>2</sub>.

### **Air conditioning**

The refrigerants used in air conditioning systems consist of fluorinated hydrocarbons, which have a much higher greenhouse effect than CO<sub>2</sub> with minimal leakage. Even the most 'environmentally friendly' of these F-gases, R134a, has a global warming potential 1430 times greater than CO<sub>2</sub>. Losses of these volatile gases are unavoidable during filling and disposal of the plant, as well as through leakage in continuous operation.

Natural refrigerants pose less of a threat to the climate in the event of leakage, as their global warming potential is very low. These include hydrocarbons (H<sub>x</sub>C<sub>y</sub>), carbon dioxide (CO<sub>2</sub>) and ammonia (NH<sub>3</sub>). These natural gases usually work even more efficiently than fluorinated hydrocarbons. Thus, energy and CO<sub>2</sub> can be saved.

However, natural refrigerants are associated with higher technical challenges: Hydrocarbons are flammable and ammonia is toxic, so appropriate safety precautions must be taken when using them.

Our energy saving tips are summarized here:

- Pay attention to the building insulation, refit old buildings with a thermal renovation
- Thermostats optimally regulate your office climate
- Heat only when windows are closed, airing intermittently
- Pay attention to the energy label: Invest in A+++ equipment
- use "natural" air conditioners for cooling
- use LED's

### Sustainia's reduction methods

Electricity: Switch to a real green electricity provider with 35 g/kWh

**-211<sub>T</sub>**

Air conditioning: Use of environmentally friendly air conditioning with 'natural' coolants (CO<sub>2</sub>/R-744)

**-16<sub>T</sub>**

Heat: 15% savings per employee,  
Total consumption: 280 635 kWh per year

**-10<sub>T</sub>**

## 3. Office all around

### A cloud-based infrastructure

By making your company paper-free, you not only contribute to energy and resource efficiency, but also save space, money and offer employees the opportunity to work flexible. Costs for printer paper, flipcharts, post-its and writing paper can be replaced by smart technologies in the long term. Tablets enable employees to mark, comment on and share presentations, for example, documents can be edited and forwarded together and can no longer be forgotten at home.

### Office furniture

Furniture that is not produced in an environmentally friendly way or comes from non-sustainable forestry increases your CO<sub>2</sub> emissions and the level of pollutants in your immediate surroundings.

**-76<sub>T</sub>**

Wood-based materials, adhesives and paints often contain volatile organic compounds such as solvents, terpenes, aldehydes and plasticizers. The German Federal Forest Act stipulates sustainable management and resource-saving use of forests. Therefore you should consume office furniture sparingly, durable, regional and thus sustainable.

## **Paper**

The same applies to paper: recycling! In the production of fresh fibre paper, wood is used as the primary raw material and waste paper as the secondary raw material. Recycled paper, on the other hand, is made from 100% old paper, saving resources and water. Although the recycled paper is no longer pure white, it is also free of peroxides, sodium carbonate and sodium hydroxide. These chemicals are used both in the production of fresh fibre paper and for bleaching recycled paper. Recycled paper has a two to three times lower energy consumption during production and is therefore 5-10% cheaper in 'natural' terms.

## **Supply - Food & Drinks**

Also in catering for companies, attention should be paid to the appropriate quality of the products. It is advisable to use regional and seasonal foods and to offer a meat-reduced menu. Organic food should also be emphasized.

You can also avoid CO<sub>2</sub> on drinks by switching your company to reusable glass bottles instead of disposable plastic bottles. This way you also avoid waste, as glass bottles are 100% recyclable and do not have to be made from fossil fuels.

But it is not only with glass bottles that waste can be avoided: Coffee capsules can hardly be recycled and cause tons of packaging waste.

With an environmentally friendly and energy-efficient fully automatic coffee maker, you protect the environment and can use your preferred Fair Trade organic coffee.

## Correct separation and recycling

What belongs where? And what else can I use? When it comes to waste separation, there are a few points to consider in order to recycle the paper, packaging and residual waste as effectively as possible.

These five points can help you separate properly:

- **Light packaging:** This includes plastics, metal and composite materials
- **Container glass:** is sorted into amber, green and white glass
- **Waste paper:** This includes all cardboard, cartons and paper
- **Organic waste:** fruit and vegetable remains, tea bags and coffee grounds and egg shells
- **Residual waste:** Everything about hygiene articles, cigarette butts, candles or light bulbs

In general, the less waste you produce, the better for the environment and the CO<sub>2</sub> balance. Pay attention to reuse as well.

More about waste separation and what you have to consider can be found [here](#).

For less waste in your office you can find environmentally friendly alternatives in Zero Waste Shops online.

Of course, the points under "Office all around" do not reduce CO<sub>2</sub> emissions nearly as much as mobility - nevertheless, a climate-conscious company should pay attention to these points to ensure a healthy and green working environment.

Since CO<sub>2</sub> is not our only problem, measures for waste separation, plastic avoidance and sustainable raw materials should not be underestimated.

Here is our summary again:

- **switch to a cloud based infrastructure in the company**
- **Investing in sustainable office furniture**
- **Use recycled paper instead of fresh fibre paper**
- **Switch to environmentally friendly catering and coffee**

- Establish waste separation programs

Best of all: produce as little waste as possible!

### Sustainia's reduction methods

Gastronomy: complete vegetarian lunch, no breakfast, coffee from Oromo

-66<sub>T</sub>

Paper: climate-neutral paper

-9,8<sub>T</sub>

SUSTAINIA'S emissions have decreased  
by 50.8% after the reduction measures:

<b>MOBILITY</b>	<b>531 T</b>
<b>OFFICE ALL AROUND</b>	<b>163 T</b>
<b>OFFICE ENERGY</b>	<b>74 T</b>

The footprint decreased to only **768 t** instead of **1533 t** CO<sub>2</sub> per year. In the last step SUSTANIA compensates the remaining tons of CO<sub>2</sub> with a reputable supplier - you can find out more about this in our [guide for CO<sub>2</sub> compensation](#).

### Concluding words

With these three major points you will be able to reduce your company's CO<sub>2</sub> emissions and contribute to climate protection. Please spread the idea and talk about it with your friends and colleagues so that each individual develops an awareness of the consequences of his or her actions and we work together to create a healthy living environment.

But regardless of these points, you as a company should consider whether your business is environmentally friendly in itself. If not, what are the options for changing this? Can you save CO<sub>2</sub> in production, import/export or in the execution of the service? What improvements can your company strive for?

Be advised by one of the compensation providers personally in addition and become climate neutral with your company now!

## CHECKLIST: WHAT HAS YOUR COMPANY ACHIEVED?

**CHECK IT**

reduced air travel, mainly bus or train

Switched to green electricity

Staff travel by car reduced

invested in a sustainable air conditioning system

FlexWork established

increasing access with public transport

Energy saving measures implemented

Changed to returnable glass bottles

Waste separation system available

recycled paper is used