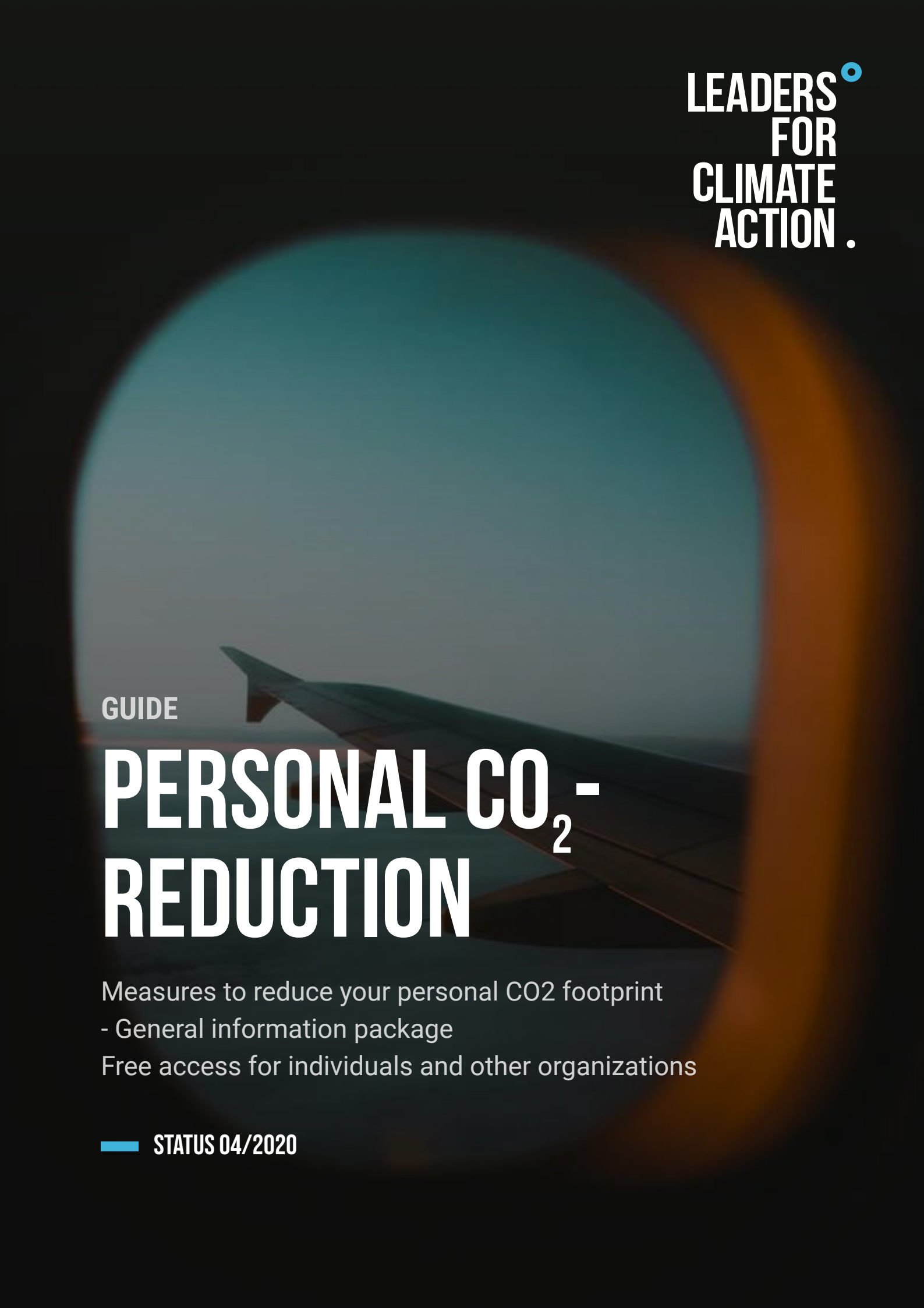
LEADERS FOR CLIMATE ACTION.



GUIDE

PERSONAL CO_2-REDUCTION

Measures to reduce your personal CO2 footprint
- General information package
Free access for individuals and other organizations

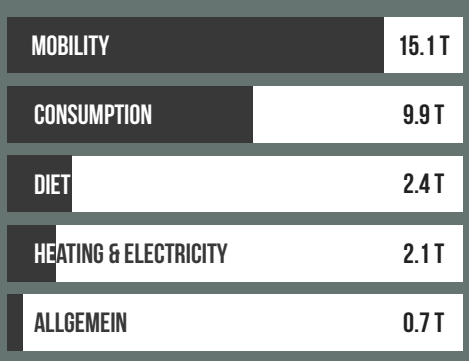
STATUS 04/2020

LET'S GO!

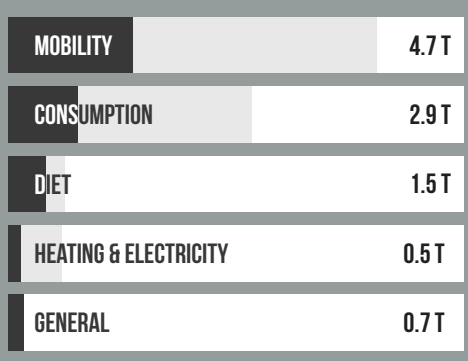
In order to help you to reduce your CO_2 footprint, we have created a reference person who represents a typical digital entrepreneur in Germany based on our data. This member - let's call her Christina - has a yearly CO_2 footprint of **30.19 t**, which consists of the following:

Mobility	1 car (10,000 km p.a.), 2 intercontinental trips, 3 short-haul trips (one of which in Business Class), 4 weeks in a hotel - **15.1 t**
Consumption	generous (approx. 900 € per month) - **9.92 t**
Diet	High meat consumption, partially regional/seasonal, occasionally organic - **2,38 t**
Heating & electricity	German power mix with 12,000 kwh p.a., with a 4-person household, per capita - **2.06 t**
General	Public emissions which she can not influence - **0,73 t**

In this guide, we would like to show you how Christina managed to reduce her CO_2 footprint from **30.19 t** to approximately **10 t**. Furthermore, she can indirectly save an additional 10 t via a green financial investment. We'll explain that to you at the end. Let's go!



CO_2-FOOTPRINT: **30.19** T CO_2



CO_2-FOOTPRINT: **10.4** T CO_2

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REDUCTION MEASURES

1. Environmentally friendly travel

-8 T

Long distance flights are one of the worst climate sins that the average entrepreneur commits on a regular basis. In doing without a long distance flight, e.g. to the USA, you can save approx. 4 tonnes of CO_2. In addition, business class flights contribute twice if not three times more to your CO_2 emissions, first class flights increase this as much as six-fold!

You should therefore consider:

- **When do I fly? Often you can combine several events to avoid having to fly more often**
- **Fly economy class rather than business class**
- **Is a video conference an option?**

For trips in and around Germany, we recommend you to take the train. For longer journeys your CO_2 emissions are only ⅙ in comparison to flying. Going on vacation? Check areas in and around Germany first: destinations in Germany, Europe's most beautiful cities, destinations for train travellers

And in case a special long distance trip is planned: you can find hand-picked, exclusive hotels and holiday homes that are environmentally friendly and sustainable on Greenpearls.

Christina's reduction measures

Avoiding a long distance flight by organizing appointments together	-3.4 T
Not travelling in Business Class on the remaining intercontinental flights	-1.6 T

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Travelling by train instead of flying for meetings within Germany	-2.0 T
Reduction of nights in hotels to under 2 weeks per year	-1 T

2. Not travelling by car

-2,4 T

Choosing an alternative transport method to the car not only reduces the amount of greenhouse gases being released, but also reduces fuel costs! Whether it's sunny, raining, or snowing - here are the top 5 alternatives to a car:

- **Local public transport: use the well-developed public transport infrastructure in Germany**
- **Electric cars: invest in an electric car, but make sure it's powered by green electricity**
- **Car sharing: if the weather's bad, be climate neutral and share vehicles and costs**
- **Car pooling: be green and save money**
- **Walk: 100% emission-free and good for your health**
- **By bike: either with your own bike or rent a bike**

Christina's reduction measures

Swapping from having a luxury car to the local public transport	-2.4 T

3. Your consumption

-7 T

Before buying new things, consider whether you can either borrow the item from someone or can get it second-hand. You can often find used items in almost new condition which are not only better for the climate but are often also cheaper.

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The four consumption areas with the highest CO_2 emissions are textiles, furniture, paper, & entertainment. These are an especially large burden on the environment as a substantial part of the upstream production chain is based abroad, e.g. cotton production for textiles or pulp production for paper. The domestic parts of the emissions per capita are vastly lower, but the entire production process must be taken into consideration.

Sustainable fashion

Those of us who feel the need to keep up with the latest trends are drastically increasing our CO_2 emissions. A cotton shirt produces on average 11 kg of CO_2 - and that's actually not much, as cotton is a natural fiber. Synthetic fibers, like polyester and PVC for example, generally produce 40% more emissions.

The golden rule for sustainable shopping is therefore: reduce - reuse - recycle. Sustainable consumption means, above all, consuming less! Buy high quality timeless fashion, wear it for longer, and repair it. As a last step, recycle it.

Thanks to these tips, you can ensure you keep with the trends and are also environmentally friendly:

- **Slow fashion is good for the climate! Wear your clothes for longer and go shopping less often**
- **Buy fair and sustainable clothes. Look out for the following seals to ensure this:**

- **When buying things, buy recycled materials - this way you save resources and CO_2**

Furniture

Furniture which is not produced in an environmentally friendly way or that originates from non-sustainable forestry increases your CO_2 emissions and the pollutant contents in the direct vicinity.

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Often wooden materials, adhesives, and varnishes contain volatile organic compounds like solvents, terpenes, aldehyd and softening agents. The German National Forest Act prescribes a sustainable management and resource-efficient use of forests. You should therefore ensure to use furniture sparingly, purchasing long-lasting, regional, and therefore sustainable furniture.

Paper

For paper the key is also: recycling! The primary raw material in the production of fresh fiber paper is wood, the secondary raw material being waste paper. Recycled paper, however, is comprised of 100% waste paper and therefore saves both water and resources. The recycled paper may not be perfectly white but it is free of peroxides, sodium carbonate, and sodium hydroxide. These chemicals are used not only in the production of fresh fiber paper, but also in the bleaching of recycled paper. Producing recycled paper uses 2 to 3 times less energy and is therefore 5-10% cheaper.

Entertainment

When purchasing entertainment devices, buying second hand products allows you to save a lot of CO_2. The average smartphone generates 47 kg of CO_2 emissions in its lifetime. 57% of these emissions are generated during production.

Christina's reduction measures

Reducing her spending to 300 € per month, buying second hand, sustainable, resource-saving, and long-lasting

-7 T

4. Green electricity - Now!

-1,55 T

When switching to green electricity, you should pay attention to the energy provider, where the energy is produced, and the certificate. We recommend providers who only produce green electricity. Transparency where the energy comes from is also important: from Germany. The most important certificates for this are the TÜV Nord, OK Power, and Grüner Strom Label Gold. These guarantee electricity from 100% renewable resources, further development to produce renewable energy, and the reduction of environmental impact.

You can find a comparison of the best eco-power providers here.

Christina's reduction measures

Switching her private electricity provider to green electricity	-1,55 T

5. Low CO_2 diet

-0,84 T

Plants are better for the climate than animals. In avoiding the consumption of meat, fish, and milk products, you can greatly improve your CO_2 emissions.

However, in order to offer fruit and vegetables all year round, tonnes of CO_2 go into heating greenhouses and transport every year.

Make sure that you purchase locally produced organic fruit and vegetables at the right time! Introduce vegetarian days and ensure that if you do buy meat or fish, you ensure they are organically reared or farmed. That way it's not only better for the climate, but also for both you and the animal! Switching from butter to margarine, for example, can save 47 kg of CO_2 per year

Our tips for a low CO_2 diet:

- **Introduce vegetarian days and reduce meat consumption**
- **If you buy meat, ensure its organic and regional**

- **Replace milk products with plant-based alternatives**
- **Regional and seasonal produce is especially environmentally friendly**
- **When purchasing food, ensure high quality in general**

You can find tasty and environmentally friendly recipes on Klimatarier!

When do things grow? Check the seasonal calendar. If you buy produce at local markets, you support smaller producers. Find weekly markets in your area.

Christina's reduction measures

Reduction in meat consumption, mainly regional and seasonal, organic	-0,84 t

Food Waste Movement

18 million tonnes of food produce are thrown away each year. This relates to approximately one third of produced goods. Over half of this can be avoided. Due to a surplus of supermarkets, restaurants, and produce, a lot of food is not purchased or goes off and has to be disposed of. As a rule of thumb: only purchase what you're sure you'll use!

6. Electricity & heating - Smart Home

Firstly, the most important point: when buying electrical goods such as a dishwasher, washing machine, or oven, always check the energy label. Purchase electrical goods with A+++ in order for the CO_2 emissions to be as low as possible.

Here you can check how much energy your electrical goods use and can find more energy efficient electrical goods.

Smart home technology can make your everyday life easier by connecting devices. This, in turn, enables you to adjust and save electricity and heating costs.

You can control your devices from wherever you are and can reduce energy waste. The costs to install such devices may be higher, but your CO_2 emissions will be reduced.

Clever heating

Optimizing your energy and heating costs is made easier if you have a thermostat. Often this is already part of smart home installations, allowing the room temperature to be adjusted automatically and thus, to avoid energy waste caused by permanent heating.

Installing a smart thermostat allows large areas including several rooms to be linked.

In general: the cooler, the better. Reducing the temperature by 1 °C saves around 6% energy. For an area of 70 m² that's approximately 160 kg CO_2 per year. Leaving windows open may ensure lots of fresh air, but the majority of thermal heat is lost.

Here are three tips to save energy:

- **20 °C in the living room, 18-20 °C in the kitchen, 23 °C in the bathroom and 16-18 °C in the bedroom - optimal for the energy budget**
- **Opening the windows wide for short periods of time rather than having them permanently tilted**
- **Showering instead of having a bath**

Save electricity - it's easy!

A 30 °C washing machine cycle saves ⅔ of electricity and CO_2 emissions in comparison to a 60 °C cycle. The dishwasher also cleans just as well on a 50 °C cycle instead of 70 °C, and food stays just as fresh when the fridge is set to 7 °C rather than 5 °C. These small temperature changes can save a lot of energy and CO_2.
Very important: electronic devices such as computers, televisions, microwaves, or printers use a lot of electricity in standby mode. Buying a plug with multiple sockets and an on/off switch is therefore helpful as you can switch off several devices with the flick of a switch. Otherwise, you can always just pull the plug out!

7. Too much (plastic) waste

This part has less of an effect on your total CO2, but it's still very important in order to ensure a healthy and existing ecosystem.

3.5 million tonnes of waste are produced by humans daily, and this figure is rising. Packaging is often comprised of different synthetic materials and therefore can't be recycled. Burning waste may generate energy, but it also produces greenhouse gases. As the extra energy would otherwise have been generated via fossil fuels, burning waste is the lesser of two evils for the climate. Nevertheless, the increase in waste is a huge issue in all ecosystems, whether on land or in the sea. Regardless of your total CO_2 output, you can concentrate on the following points in order to preserve living habitats and to ensure that nature is not damaged:

Separate waste correctly and recycle

What goes where? And what can I reuse? When separating waste, several points should be considered in order to recycle paper, packaging, & residual waste as efficiently as possible.

These five points can help you to separate waste correctly:

- **Lightweight packaging: this includes synthetic materials, metal, and composite materials**
- **Containers made of glass: this is separated into the respective brown, green, and white glass containers**
- **Waste paper: this includes cardboard, cartons, and paper**
- **Organic waste: fruit and vegetable remains, teabags, coffee grounds, and egg shells**
- **Residual waste: everything from hygiene articles, cigarette buds, and candles, to light bulbs**

The less waste you produce, the better it is for the environment and for your total CO_2. Try to reuse things. You can find more information about waste separation, including what points you need to consider here.

Zero Waste Please

In order to avoid waste, there are environmentally friendly alternatives to articles we use daily which don't contain plastic and have less waste packaging.

For example:

- **Straws made of glass, metal, wood**
- **Reusable coffee cups**
- **Fruit nets and carrier bags made of cloth**
- **Sheets made of beeswax instead of plastic wrap/cling film**
- **Toothbrushes made of wood**

You can find these and many more zero waste products online in zero waste shops.

Everything chemical?

Washing powder, shampoo, soap, all-purpose cleaner, and cosmetics - commercial products are often full of unnatural components, fragrances, and come in plastic bottles. Often unfiltered wastewater flows into the sea and causes huge damage. Despite CO_2 reduction, these ecosystems are severely at risk. Ecological versions of these products are free from optical brightening agents, surfactants, palm oil, and colorants. They don't damage the ecosystem and are also not made of PET packaging and microplastics.

Our tips and tricks for environmentally friendly washing:

- **Washing powder with an eco certificate**
- **Soap nuts and washing balls are natural, reusable, and cheap**
- **Soap and shampoo bars save on plastic packaging but make sure they are free of palm oil**
- **Citric acid is an all-purpose cleaner that is natural and only has a light scent**

Last but not least: save CO_2 indirectly - green investments

Do you know which projects your bank invests in?

While you are trying to reduce your personal footprint, maybe your bank is supporting nuclear or coal power, gun production, or rainforest clearing to produce palm oil. Green banks invest your money in accordance with strict sustainability criteria and with high transparency. You can therefore be sure that your fortune is only invested in a social and ecological way.

You can find out more about green finances here.

Concluding words

These seven points enable you to reduce your CO_2 emissions and to make your own contribution to climate protection. Please spread the word and speak to your friends and colleagues about this so that everyone develops a consciousness for the consequences of their actions and we can work together to ensure a healthy living environment.

A guide by Flora Voelcker
Leaders for Climate Action

CHECK LIST:
WHAT DID YOU CHANGE?

- [ ] reduced air travel, mainly bus or train
- [ ] changed to green electricity
- [ ] reduced car journeys, more public transport/etc.
- [ ] consumed Sustainable clothing
- [ ] reduced meat consumption
- [ ] bought sustainable furniture
- [ ] Energy saving measures implemented
- [ ] Changed to returnable glass bottles
- [ ] Waste separation system available
- [ ] avoided (pastic) waste