



A CLIMATE-NEUTRAL LIFESTYLE:

**Consumers Lead the Way
in Climate Protection**

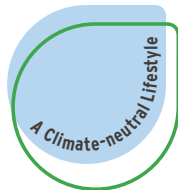
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1 CLIMATE PROTECTION:

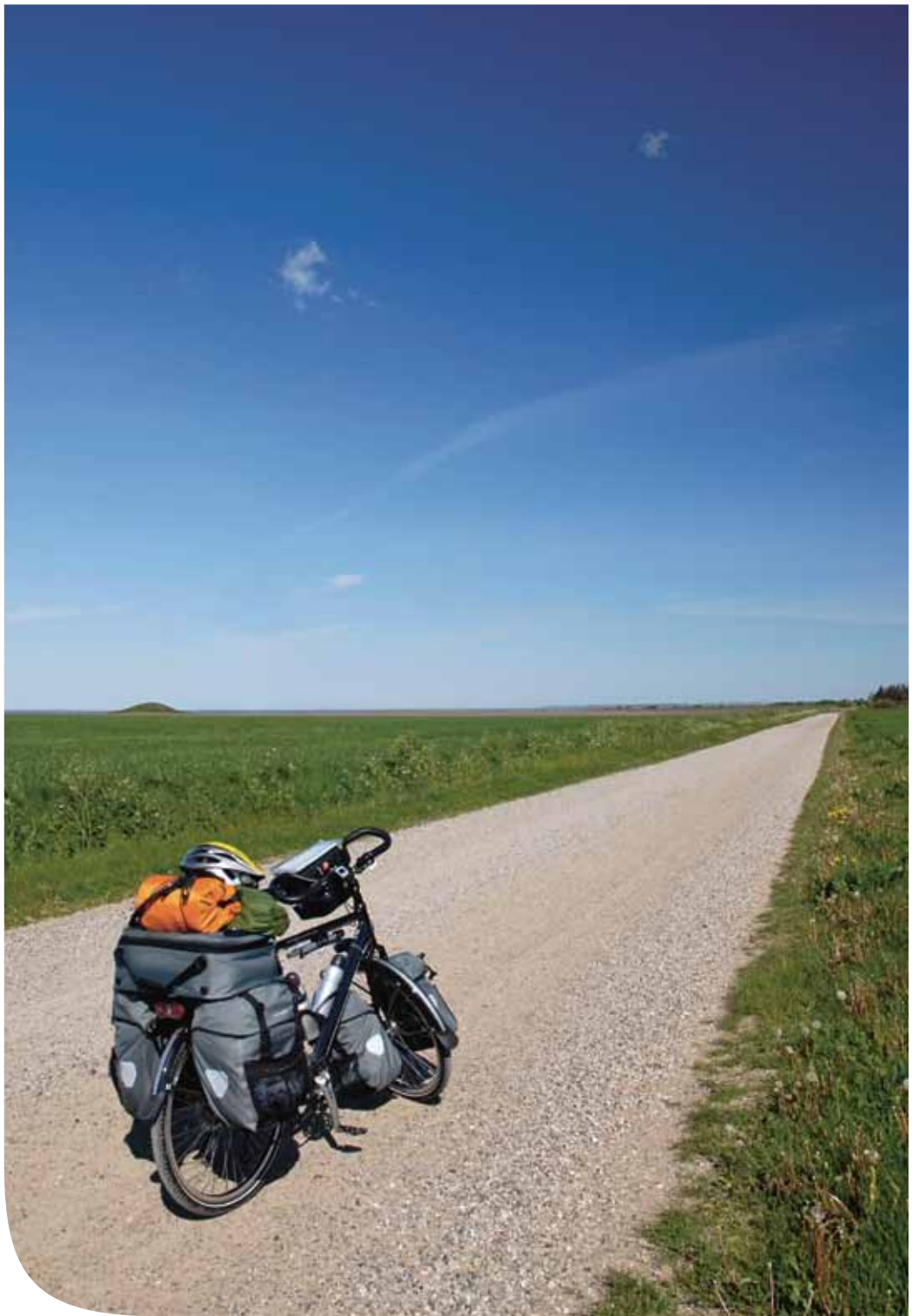
A CLIMATE-NEUTRAL LIFESTYLE

We are all aware of the importance of climate protection. We are also aware that time is running out. Scientists are intensifying their warnings, demanding that ambitious targets be set and effective measures taken to mitigate climate change and its devastating consequences. What is needed is the creation of a climate-neutral society where the amount of CO₂ and other climate-damaging gases released into the environment does not cause further damage. Such a society is still a long way away. What we need are ambitious, internationally binding emission reduction targets and effective abatement measures. This can only be achieved if we overcome the vested interests of individuals and nations.

Climate-conscious citizens can lead the way in climate policy

The term “climate-neutral society” does not describe an abstract concept, but a very concrete idea of shaping the future of everyday life. It will bring about fundamental changes to many aspects of our lives, while others will remain largely unaffected. Some of the key elements that will change our daily lives are obvious and are already being implemented by an increasing number of people committed to a “climate-neutral life”.

Their example shows that it is possible for us as climate-conscious individuals to lead the way. The Copenhagen Climate Conference revealed that now, more than ever before, international climate policy must be pushed forward. Climate protection cannot wait until 2020 or 2050. We must therefore start now and make essential elements of a climate-neutral lifestyle part of our daily lives. This brochure will encourage you to take the first steps. There are many ways towards climate neutrality, and one lifestyle does not suit everyone. **However, a climate-neutral lifestyle is a worthwhile and achievable goal!**



2 CLIMATE CHANGE:

2 °C IS PLENTY!

Climate change is happening. It is one of humankind's biggest challenges. Scientific evidence on the imminent danger for humans and nature and the resulting cost has been increasing dramatically over the past decades, as has the knowledge about possible action to avert it.

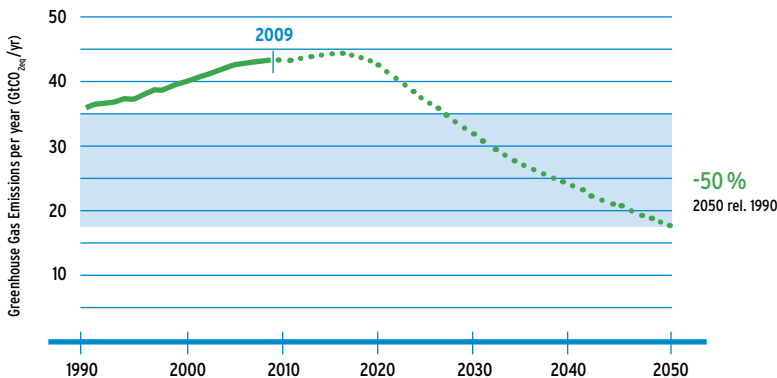
In spite of our knowledge, global emissions of greenhouse gases continue to rise, in particular emissions of carbon dioxide (CO₂). They are, after all, the cause of man-made (anthropogenic) climate change. It is therefore all the more important to take the relevant decisions for the future today. What is needed is a political and economic U-turn in favour of climate protection.

The Federal Environment Agency (Umweltbundesamt, UBA) is strongly in favour of limiting global

warming to a maximum of 2 °C.¹ Above that limit, risks to humans and the environment will be more serious than previously thought, as recent studies have shown. The German Government is therefore right in making the limit of 2 °C maximum temperature rise the basis of their national and international climate policy.

In order to abide by the two-degrees-centigrade limit, humankind must stop its annual increase in greenhouse gas emissions between 2015 and

FIGURE 1: GLOBAL GREENHOUSE GAS EMISSIONS: ACTUAL AND NOMINAL²

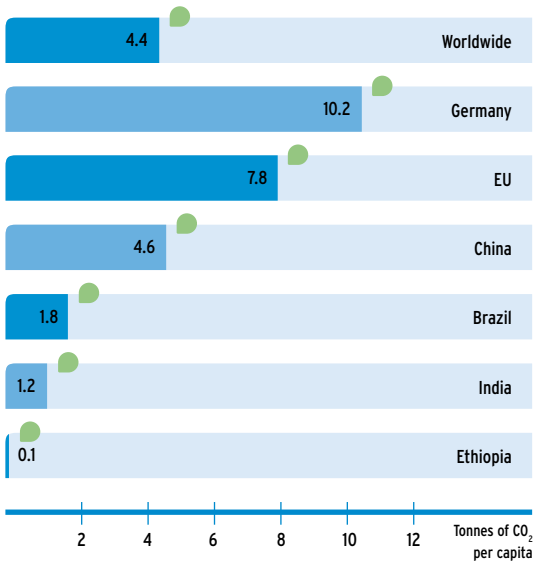


2020 at the latest and then reduce them without further delay by a minimum of five percent per annum.³ By the middle of the 21st century, annual global emissions must not exceed half the emission levels of 1990 (Figure 1). The efforts countries have to make to meet this target vary, as greenhouse gas emissions are unevenly distributed at present, as shown in the diagram of emissions per capita per country in Figure 2. The two-degrees-centigrade limit thus implies for Germany that its greenhouse gas emissions must be reduced by 40% by 2020

compared to 1990 levels and by 80–95% by 2050.⁴

An ambitious goal, no doubt, but it can be done. Many potential solutions to the problem are already available, whether it is the reduction of greenhouse gas emissions, comprehensive switch to renewable energies in our country or sustainable agriculture and forestry. Implementing these solutions is not just a matter for politicians, but also for us as individuals. We can make the changes in our daily lives that are needed to reduce CO_{2eq} emissions, bearing in mind that there are other climate-damaging greenhouse gases such as methane and nitrous oxide. CO_{2eq} equivalents (CO_{2eq}) is a term that covers all three.

FIGURE 2: PER CAPITA CO₂ EMISSIONS IN VARIOUS COUNTRIES (2007)⁵





3 GREENHOUSE GAS EMISSIONS:

WHERE CAN ADJUSTMENTS BE MADE?

In Germany, we have an average per-capita output of approximately 11 tonnes of CO_{2eq}. This is a considerable amount, and we must do our homework if Germany is to achieve the aspired reduction by 80 to 95%.

To find out how your own emissions shape up, use the UBA CO₂ calculator.⁶

It asks you to enter mainly data regarding energy consumption in your home (heating and electricity) and transport as well as on food consumption. These areas reflect what is called priority fields of action – building and housing, transport and food. These are areas where greenhouse gas emissions are particularly high and there is therefore much scope for emission avoidance. The calculator covers two further areas – “other consumption” looks at purchase decisions to give a rough estimate of the resulting CO_{2eq} emissions, while “public infrastructure” gives an overview of emissions caused by public administrative and educational institutions, which are only indirectly affected by individual decisions. The CO₂ calculator therefore automatically assigns each participant 1.1 tonnes of CO_{2eq}.

On average, 25% of greenhouse gas emissions come from heating and electricity, 23% from transport and 14% from food. That leaves 28% for other consumption and 10% for public infrastructure (Figure 3).

However, there are significant deviations from average CO_{2eq} emissions, as Figure 4 shows. CO_{2eq} emissions of three individuals are shown in the graph. The central column represents the German average

of 11 tonnes. CO_{2eq} emissions of the “Travel” individual (right column) exceed the “Average” person’s emissions by 5.4 tonnes (49%). This is due to just two items – a long-distance flight to New York and a daily commute of 40 km. The “Insulation” person, by contrast, has 9.0 tonnes of CO_{2eq}, 2.0 tonnes of CO_{2eq} (18%) below the average, also due to two items. The person lives in a “passive house”, occupying 40 m² rather than 60 m². These two examples show that deviations from the average can be considerable, as is the individual scope for action. The items that most affect individual CO_{2eq} emissions are:

- Transport – long-distance travel, distances travelled by car and the car’s fuel consumption.
- Housing – size of living area and insulation standard affect energy consumption.

Food consumption also has an impact on CO_{2eq} emissions, in particular the quantity of meat consumed and the purchase of organic produce. Available income seems to have a major influence on individual greenhouse gas balances. CO_{2eq} emissions usually increase with income, as people tend to live in bigger houses, travel more frequently, drive bigger cars and consume more. However, a higher income also allows the purchase of products with a better climate balance and which were more laborious to produce. A higher income gives us more opportunities and responsibilities for a more climate-conscious lifestyle.

The pre-set item in the CO₂ calculator for “public infrastructure” emissions indicates that

FIGURE 3: AVERAGE CO_{2eq} EMISSIONS IN GERMANY BY FIELDS OF ACTION⁷

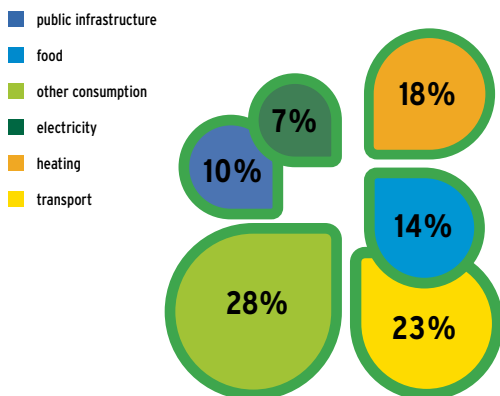
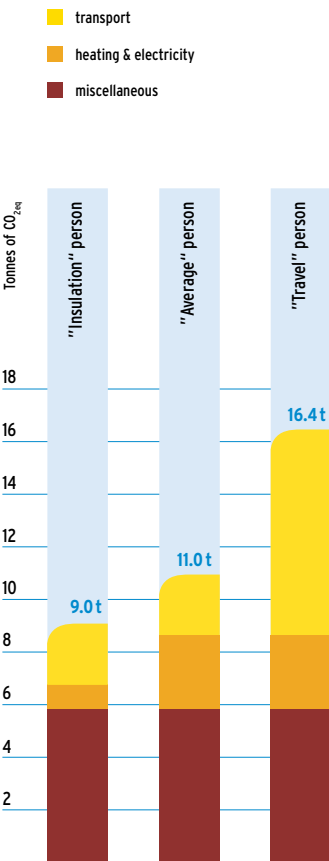


FIGURE 4: EXAMPLES OF DEVIATION FROM AVERAGE CO₂eq EMISSIONS



climate protection is not just a matter for the individual. Only if public infrastructure becomes more sustainable it will be possible to achieve the goal of reducing greenhouse gas emissions by 80 to 95%. We can influence not only our own CO₂eq emissions, but also those of other people or companies. Investment in renewable energies and other investments that help the environment are direct and indirect contributions to CO₂eq reductions. At the workplace, a committed workforce may even achieve greater CO₂eq reductions than can be achieved at the individual level. Social commitment (such as membership in environmental groups) could further the introduction of more environmentally friendly legislation. The fields of action we have looked at illustrate in how many ways we can act in order to take the effectiveness of climate protection to a higher level.

4 EYES ON THE TARGET:

FIVE INDIVIDUALS IN COMPARISON

We would like to introduce you to five people who all pursue the aim of leading a climate-neutral personal lifestyle, and yet they pursue it by very different means.

We have matched their individual CO_{2eq} emissions with the avoidance of CO_{2eq} emissions initiated by carbon offset payments, green investment or political commitment (see box).

Whether this is a legitimate approach remains a matter for debate.

There is a strong ethical component to this question. Some say it does not matter where greenhouse gas emissions are avoided, at our own doorstep, at our neighbours or even in other countries. Others say that we must take responsibility and start at home. We are convinced that it is important to reduce our own CO_{2eq} emissions drastically, but as responsible citizens, we have further options to reduce CO_{2eq} emissions beyond our personal consumption levels. This is why our diagrams contain not only individual

CO_{2eq} emissions, but also “CO_{2eq} emission avoidance elsewhere”. We have, however, also methodological reservations, as a robust calculation of such complex and indirect effects is very difficult. Nevertheless, it is possible to give some rough orientation. The columns “CO_{2eq} emission avoidance elsewhere” have therefore a dotted outline, indicating that these values are very uncertain.

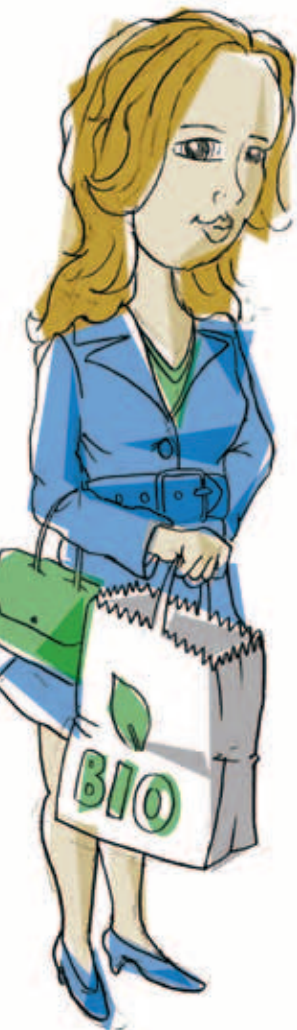
LIMITATIONS OF THE CO₂ CALCULATOR:

The CO₂ calculator is a general indicator of your personal CO_{2eq} emissions, but cannot generate precision profiles. It is based on many assumptions and simplifications. For any purchased product, the number of greenhouse gas emitted can only be estimated. The CO₂ calculator only takes into account the individual's own CO_{2eq} emissions, but not the encouragement of good deeds by other people. These effects, however, are important and will be represented in the following as dotted light-blue columns or, without quantification, as white columns in order to underline their importance.



Go green

Unashamed joie de vivre



WHAT SABINE T. DOES:

1. lives in a well-insulated flat
2. participates in car sharing
3. uses bicycle for short trips
4. buys green electricity
5. buys organic produce
6. buys energy-efficient household appliances (A++)
7. supports environmental organisations

→ For further information, see:

- www.uitp.org/Public-Transport/carsharing/index.cfm
- www.ec.europa.eu/agriculture/organic
- www.energy.eu/focus/energy-label.php

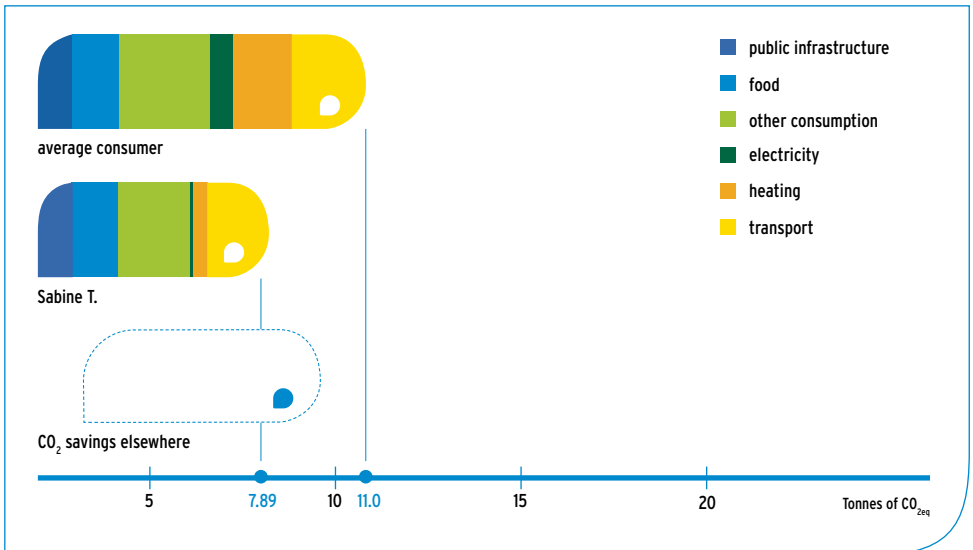
Sabine T. loves the good life. She represents a group of individuals named LOHAS, which stands for Lifestyles of Health and Sustainability. What is good for me must be good for the environment and vice versa. Both are important to her, but she does not want to suffer any hardship for her environmental commitment. Helping others is okay as long as it does not hurt. “Abstinence is not my thing” says Sabine. Good food is one of life’s great joys for Sabine. “I love cooking and shopping in the organic supermarket.” She and her partner live on 120 m² in a well-insulated multi-family house in a big city. Owning a car simply adds to stress levels, so when she last moved house, she disposed of her car and has since become a member of a car-sharing club. She uses her swish new city bicycle for short distances. She no longer wastes her time searching for parking spaces, but whenever she needs a car, she has access to an appropriate vehicle. Switching from her previous provider to a green electricity provider took her just half an

hour. However, “using green energy is no excuse for wasting electricity”. On the contrary – when buying a new refrigerator or other white goods, she took great care to choose the most efficient devices. She now has a clean conscience as well as a lower electricity bill. However, Sabine’s commitment does not end with consumption. “I am

a member of various environmental organisations and donate on a regular basis.”

Sabine’s personal CO_{2eq} emissions are, at 7,9 t CO_{2eq}, 30% below the German average. The indirect effect of her member subscriptions on CO_{2eq} emissions cannot be expressed in figures. However, it is evident that strong environmental organisations have an important role to play in working towards ambitious greenhouse gas abatement legislation.

FIGURE 5: SABINE T'S CO_{2eq} BALANCE



Charity begins at home



Peter B. is neither a schoolmaster nor a penny pincher, but he has a sharp eye on his finances. Nothing escapes his scrutiny; everything is worked out to the last decimal point. His view is “We cannot afford to buy cheap products.” Peter B. is fond of quotations – his favourite “Be the change you want to see in the world”. In other words, changes must begin at your own doorstep. “That is something I keep telling our two children.” He has no wish to attract attention, “but it is my duty to do my bit for climate protection.” This is why his 140 m² house is a “passive house”. It is so well insulated that no extra heating is required. It took him a long time to believe that it really works, but now he is convinced he did the

WHAT PETER B. DOES:

1. lives in a passive house
2. has a solar panel on his roof
3. drives an economical car (3.5 l/100km)

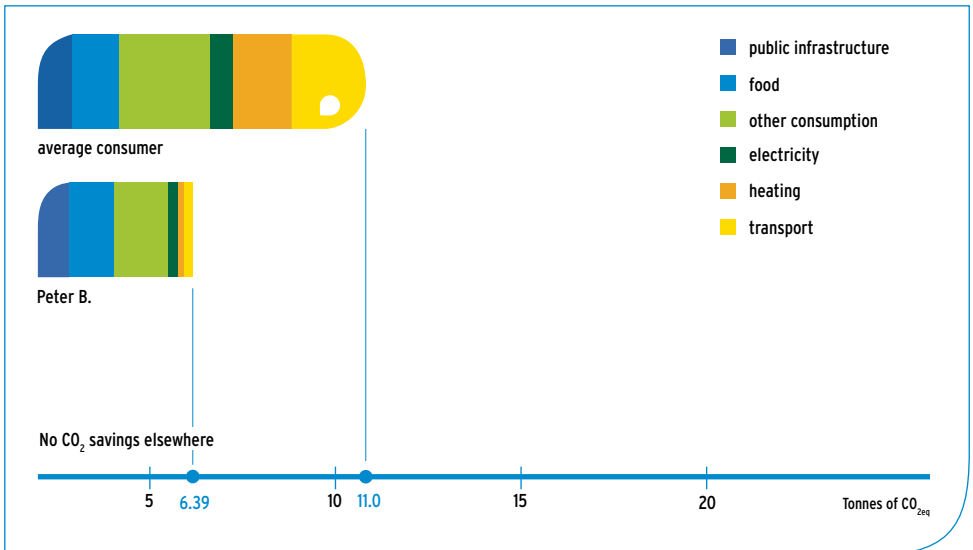
→ Further information e.g. in:

- www.passivehouse-international.org
- www.topten.info

right thing. From the outside, it does not look much different from the neighbouring houses. He is almost apologetic for the large solar panels on his roof, but they pay for themselves. “It is fantastic to shower with water heated by the sun.” His car looks like an average family car, but it tops the league table of low-fuel consumption cars, using

approximately 3.5 litres of diesel per 100 km and emitting less than 100 g of CO₂/km. What about long-distance travel? Peter B. finds this far too expensive. “Why travel far and wide if there is so much to discover nearby?” At 6.4 tonnes of CO₂, which is 40% below the German average, his CO_{2eq} emissions are exemplary, thanks to three major steps he has taken. Peter B. does not think much of carbon offsetting. He believes in reducing his own carbon emissions rather than pay others to reduce emissions on his behalf.

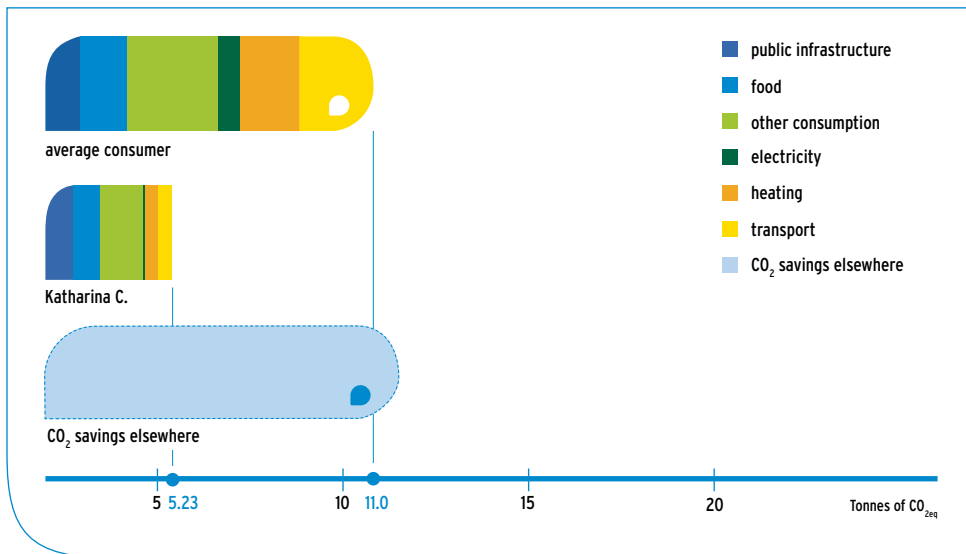
FIGURE 6: PETER B.'S CO_{2eq} BALANCE



Less is more

Katharina C. is as good as her word – compromises are not for her, especially dubious ones. She is convinced that happiness depends not on what you have but what you are. “Less is more is my motto.” What others say about her does not bother her, but her family has a say when it comes to decisions. So even she has to settle for a compromise sometimes. “My family is very important to me.” She works part-time because that is what she wants. Having lots of money does not mean much to her, whereas having time is important – for the family and for herself. Current costs are kept low. “We chose to live near our workplace, and the decision for a small flat was deliberate.” Owning a car was never on the agenda – car-sharing is. A lot of trips are made by bicycle. Long-distance travel is too expensive, and the heating is usually turned on low. When the heating bill comes in, they are usually reimbursed a proportion.

FIGURE 7: KATHARINA C.'S CO_{2eq} BALANCE





They also save on electricity. All home appliances have a high efficiency rating. Electricity, of course, is not just bought from any provider. “We all agreed to switch to green electricity.” Wherever possible, products carrying the Blue Angel or other eco-friendliness labels are given preference when going shopping. The only expensive thing on the shopping list is organic food. However, Katharina manages to keep expenses under control by cooking vegetarian dishes. Last, but not least, at Christmas, she buys 200 Euros worth of CO₂ emission

certificates from industry in order to take them off the market. Katharina sticks to her principles, down to the last cent. Katharina C.’s CO_{2eq} emissions are amazingly low – 5.2 tonnes, which is less than 50% of the German average. Depending on the current rate, the certificates she bought are worth 10 to 14 tonnes CO_{2eq} in emissions avoidance.⁸

WHAT KATHARINA C. DOES:

1. limits consumption by voluntarily limiting her working hours and thus her salary
2. lives in a small flat
3. turns the heating down
4. lives close to her workplace
5. participates in car-sharing
6. uses the bicycle for short trips
7. avoids long-distance travel
8. buys green electricity
9. buys energy-efficient household appliances (A++)
10. cooks vegetarian dishes
11. buys organic food
12. looks out for ecolabels such as the Blue Angel
13. buys CO₂ certificates from the EU emissions trading scheme for deletion (200 €)

→ Further information at:

- www.energysavingtrust.org.uk
- www.ecolabel.eu
- www.thecompensators.org

Returns on green investment



WHAT SYBILLE B. DOES:

1. has a season ticket for the railway and no car
2. invested money in wind energy (€ 30,000)
3. invested money in sustainability funds (€ 20,000)

→ Further information at:

- www.eurosif.org
- www.ewea.org

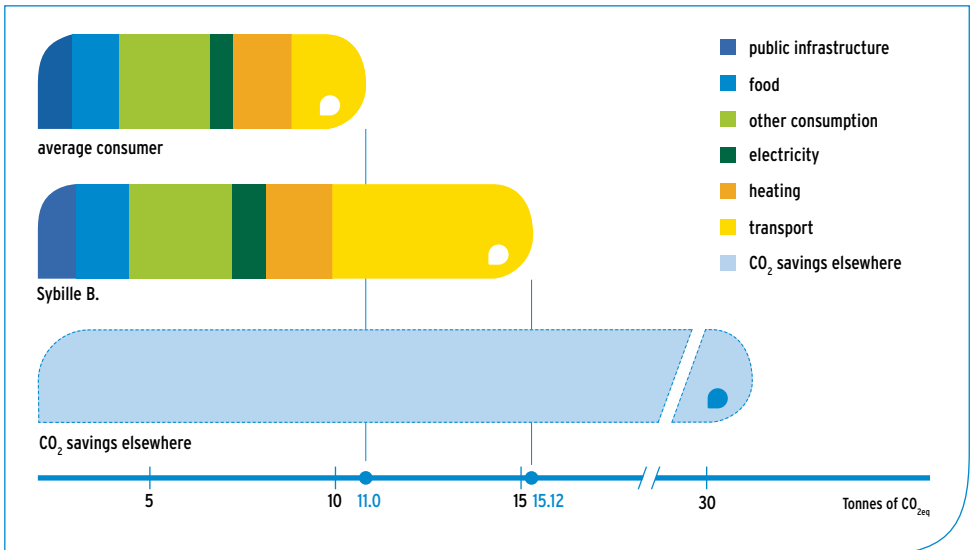
Sybille B. enjoys life on the edge and in the fast lane, at work as much as in her private life. She is always on the move and sets things in motion. “I can’t stand humdrum routine.” No wonder – after all, she works in the creative industry. The aesthetics of design rank highly for her and must not be compromised. Recreation for her is another way of being on the move. “Running is my life. I can’t imagine sitting still when on holiday.” Long-distance travel is non-negotiable. She practically lives on the train and has a season ticket, which allows her to travel as often as she likes. She lives in a stylish 70 square metre flat. She owns two notebooks and has a home cinema system with

hifi surround, reflecting her enthusiasm for multimedia. With 15 tonnes, her CO_{2eq} emissions clearly exceed the German average – although she does not really want to know. What she wants are simple solutions from which she can personally benefit. “I have decided to invest my money taking climate protection

into account. That benefits the climate and my returns.”

She invested her long-term savings at a bank with an ecological profile. She bought shares in various wind farms worth 30,000 Euros. This not only gives her a sustainable interest on her capital, but also helps to avoid 32 tonnes of CO_{2eq} per annum.⁹ That is twice her own CO_{2eq} balance. She invested another 20,000 Euros in a sustainability fund, which also indirectly helps avoid CO_{2eq} emissions.

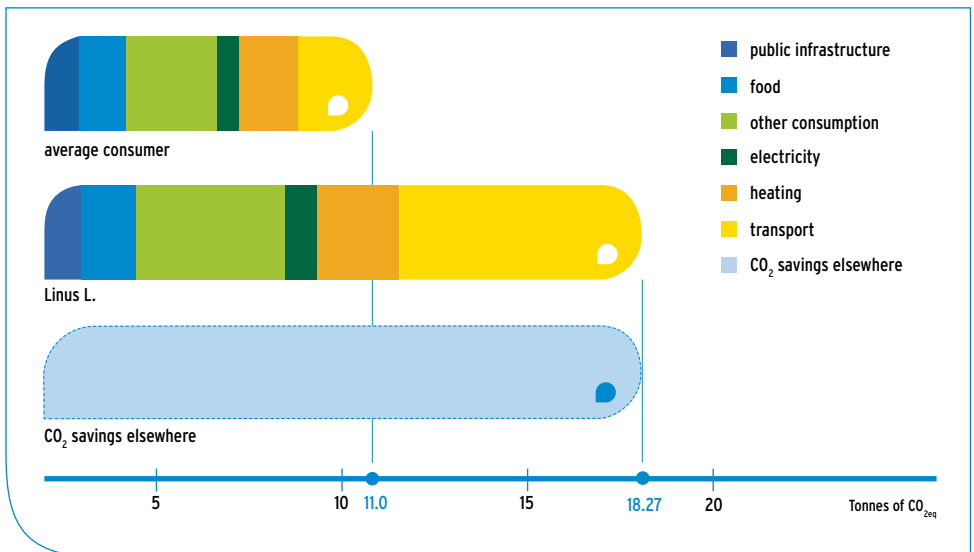
FIGURE 8: SYBILLE B.'S CO_{2eq} BALANCE



Rebalancing at an international level

Linus L. is a successful professional. A typical executive, he is always on the go and is under constant time pressure. Money is no object, whereas time is in extremely short supply. He says; “I can’t be bothered with the nitty-gritty of day-to-day life. Everything must run smoothly.” He travels far and wide, not only for business, but also for recreation. In addition to the 15,000 kilometres clocked up annually on his car, there are train journeys and long-distance flights. Holidays are essential to him. In fact, he spends very little time at home in his 80 square metre flat. No wonder his CO_{2eq} emissions come to 18 tonnes per annum – more than 50% above the German average. Clearly, this is not a sustainable lifestyle, and he knows it. What he wants is something that can be done easily, on the hoof, so that it does not interfere with his daily routine. He

FIGURE 9: LINUS L.'S CO_{2eq} BALANCE





WHAT LINUS L. DOES:

1. offsets all his CO_{2eq} emissions (conforming to the Gold Standard ")

→ Further information at:

- www.dehst.de/EN
(Headword Carbon offsetting)
- www.direct.gov.uk
(Headword Carbon offsetting)

has thus decided to offset his CO_{2eq} emissions, donating 420 € per year to a reputable carbon offsetting service provider. Hence, his money only goes to UN-certified projects that fulfil the Gold Standard.¹⁰ Linus L. is well aware that this will not be sufficient in the long term, but he says “This is something that can be done immediately and effortlessly. If I want to move towards a climate-neutral lifestyle, I’d rather start now than wait even longer.” He sees it as part of his global responsibility – helping other countries to build low-carbon industries. He is convinced that in the mid-term, technology combined with political regulation will bring down greenhouse gas emissions in Germany, too.

The Comparison

FIGURE 10: CO_{2eQ} EMISSION OF THE FIVE PERSONS

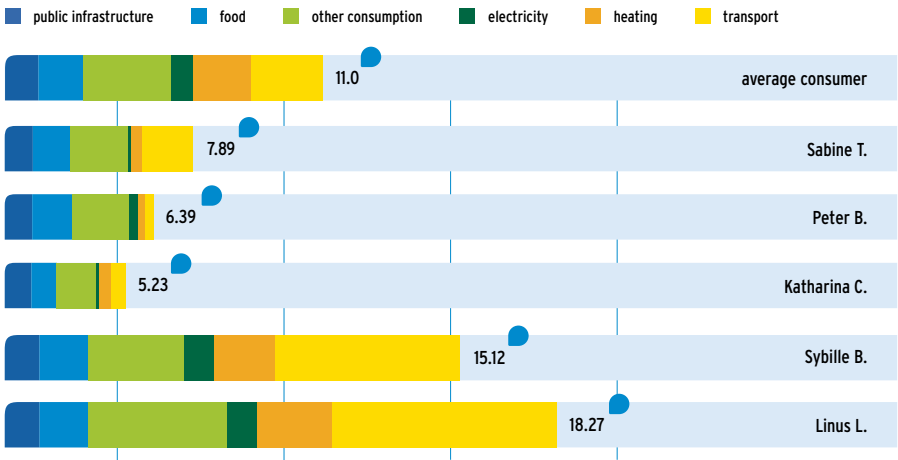
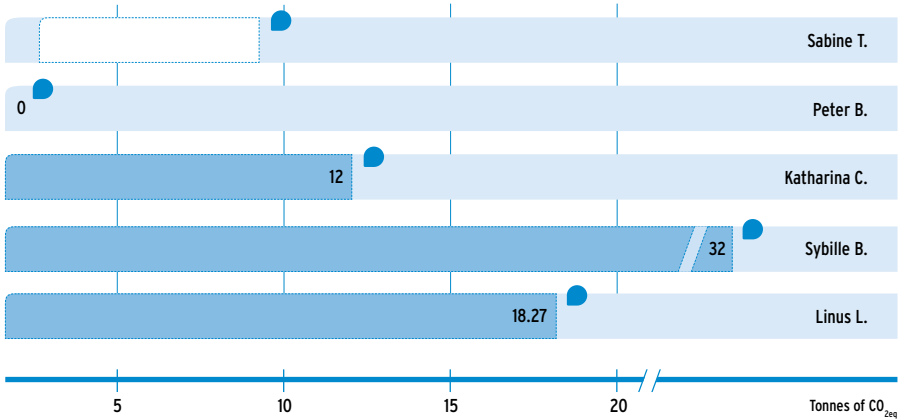


FIGURE 11: INITIATING CO_{2eQ} SAVINGS ELSEWHERE



5 ON COURSE TOWARDS

A CLIMATE-NEUTRAL LIFESTYLE

If we want to go on holiday, we have to prepare for it. No pain, no gain. The same applies to climate protection. If we don't want to be thrown off our path by "climate turbulences", we must take precautions – in other words, reduce our greenhouse gas emissions significantly. The target for Germany is a reduction by 80 to 95%.

The five individuals we have introduced show that the routes towards that ambitious goal can vary. Whether you make this journey as an individual, taking personal responsibility for all emission savings, or as a "package tourist" who enables others to reduce their greenhouse gas emissions by off-set payments – there is a wide range of options. Whereas some peoples' changes to their daily lives are clearly visible, others may opt for low-profile changes. While one person takes 13 steps to adapt his or her lifestyle, another person may choose to take just one single step. What matters is that an increasing number of individuals take climate change

seriously and are prepared to do their bit towards more effective climate protection. That is what we want to achieve. We are on the right track.

Different people choose different strategies to reach their goal. They may include avoiding one's own CO_{2eq} emissions or initiating CO_{2eq} avoidance by others. Doing both is our preferred approach. In the long term, there will be no way around it. However, it is better to start somewhere than do nothing, as long as we come closer to our goal. This applies to policies as well as our daily lives.

A CLIMATE-NEUTRAL LIFESTYLE: WHAT STEPS ARE YOU TAKING?

Write to us about your activities and experience with a climate-neutral lifestyle.

www.umweltbundesamt.de/umweltbewusstsein/klimaneutral-leben

EXPLANATORY NOTES

- ¹ Published by the Federal Environment Agency (2009)
Concept for a Future Climate Policy – Plotting a New Course, Dessau-Roßlau
- ² Slightly modified from: EU-EG Science (2008): The 2 °C target, p. 35
- ³ See Note 1
- ⁴ See Note 1
- ⁵ IEA (2009): World Energy Outlook 2009; modified according to the
Federal Environment Agency (2009): National Inventory Report for the German
Greenhouse Gas Inventory 1990–2007, Dessau-Roßlau
- ⁶ The Federal Environment Agency's CO₂ calculator is found on
<http://uba.klima-aktiv.de/>. It takes into account not only CO₂,
but other greenhouse gases as well. For an English language calculator, see
http://www.foe.co.uk/carbon_calculator
- ⁷ Schächtele, K./Hertle, H. (2007): The CO₂ balance – Investigation for an
internet-based tool for drawing up personal CO₂ balances. Study of
the Federal Environment Agency, Dessau-Roßlau
- ⁸ The price of certificates will probably rise in the future, and a higher price
will have to be paid for the avoidance of the same amount of CO_{2eq} emissions.
- ⁹ Own estimates based on: Federal Environment Agency (2009):
Emission balance of renewable energy carriers, Dessau-Roßlau
- ¹⁰ German Emissions Trading Authority at the Federal Environment Agency (2008):
Guidelines on the voluntary offsetting of greenhouse gas emissions, Dessau-Roßlau
- ¹¹ Source: offsetting calculator at www.atmosfair.de

living in a well-insulated flat
offsetting all CO₂^{2eq} emissions
(conforming to the Gold Standard)
investment in wind energy investment in sustainability funds
limiting consumption by voluntarily limiting working hours and thus salary avoiding long-distance travel turning the heating down
living close to workplace supporting environmental organisations
buying energy-efficient household appliances (A++) bicycle for short trips buying green electricity cooking vegetarian dishes
buying organic food driving an small flat
buying CO₂ certificates from the EU emissions trading economical car (3.5 l/100km) scheme for deletion car-sharing looking out for ecolabels such as the Blue Angel
living in a passive house season ticket for the railway
solar panel

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