

Comparing Lifestyles -

How our footprints impact the climate

Teaching material for
classes 10 - 12



M1: information sheet Klaus Tabori

Student activity - phase I



Create the CO₂ balance for Klaus Tabori using the UBA-CO₂ calculator (ca. 20 min).

Link: https://uba-dev50.co2-rechner.de/en_GB/

HOUSING

- Flat: Klaus lives alone in an 80 square metre rented city flat in an apartment block.
- The building, built in 1913, has been fully refurbished to optimise energy efficiency. This means that the windows and heating have been replaced.
- Heating: The apartment block is heated with district heating. Klaus' annual heating energy requirement is around 5,000 kilowatt hours (kWh).

ELECTRICITY

- Klaus is not on a special electricity tariff and consumes a total of 1,500 kWh electricity per year.

TRANSPORTATION & TRAVEL

- Klaus lives in a city and doesn't own a car. He cycles to the office almost every day and takes the tram or bus when it rains.
- *Note: Delete the preset vehicle (red button). Add up the journeys by car sharing and public transport. Enter the total in each case.*
- Journeys to work:
 - 320 km by public transport
- Journeys into the countryside: Klaus likes to go hiking in the countryside. He usually takes the bus and train, but sometimes he also hires a car-sharing car.
 - car sharing: 600 km
 - public transport: 1800 km
- Klaus has a particular hobby: he likes to buy old furniture, so he rummages around on ebay and often picks up the rarities he buys from quite far away. He usually uses car sharing: 800 km.
- Klaus goes on holiday about 4 times a year:
 - 2 holiday trips by ICE to visit friends in another city: 2,000 km,
 - 1 holiday trip in a car-sharing car (camping with a friend): 3,000 km

- 1 long-distance journey by plane: Please click on *detailed* here and enter the dates.

- Return flight to Thailand: Hamburg (HAM) to Bangkok (BKK), aircraft type: unknown, economy class, no compensation

FOOD

- Klaus is 35 years old, weighs 70 kg and is fairly slim. Although he has an office job with little exercise, he enjoys doing a lot of sport.
- As he also works a lot and spends a lot of time with his hobbies and friends, he doesn't have much time to spend on cooking and shopping.
- He consumes an average amount of dairy products.
- He sometimes buys regional and seasonal products, but eats less meat.

OTHER CONSUMPTION

- Klaus works full-time and earns a net salary of around 3,000 euros a month.
- Klaus would describe his purchasing behaviour as generous, as he expects to spend around 600€ per month.
- Klaus rarely repairs or rents appliances and clothing.
- He pays more attention to quality and durability.
- Detailed composition of consumer spending:
 - interior design: 150€,
 - leisure and culture: 200€,
 - clothing and shoes:
 - 4 new jeans, 6 new shirts,
 - 1 new jacket, 3 new pair of shoes,
 - electronic devices:
 - 1 new notebook,
 - 1 new smartphone,
 - 1 new coffee machine,
 - accommodation:
 - 10 nights on a campsite,
 - 10 nights pension,
 - 10 nights hotel 4 stars



M2: information sheet Maria Schmitt

Student activity - phase I



Create the CO₂ balance for Maria Schmitt using the UBA-CO₂ calculator (ca. 20 min).

Link: https://uba-dev50.co2-rechner.de/en_GB/

HOUSING

- House: Maria lives with her partner and two children.
- They live in a 150 square metre rented terraced house.
- The building (built in 1960) has not been renovated in terms of energy efficiency.
- Heating: The entire terraced house is heated with heating oil, the hot water is also produced centrally by the heating oil boiler.
- The annual heating energy requirement is around 1,700 litres of heating oil per year.

ELECTRICITY

Maria is not on a special electricity tariff. The electricity consumption of the entire household is around 4,700 kWh per year. Most of the electricity consumption is generated by the household.

TRANSPORT & TRAVEL

- vehicles: Maria has her own car,
 - a 7 year old mid-range car
 - Fuel: Diesel with an average consumption of approx. 6.1 litres of diesel/100 km
 - On average, the car is used by 2 people.
- Maria drives the car almost every day because she takes the children to school.
- Journeys to work by car: 3200 km
- Journeys to the grandparents: 2400 km
- errands: A little more than once a week for grocery shopping: 720 km
- The whole family goes on holiday once a year, then the family often stays in Germany and or travels to neighbouring countries. Distance: 800 km
- The family has never flown before.

FOOD

- Maria weighs 60 kg and is quite slim. She has a job that entails some movement (light physical labour), but she does little sport.
- The family eats an average amount of meat.
- Maria eats an average among of dairy products.
- Maria likes to shop in large supermarkets so that she can get everything she needs for a week's shopping. She also makes sure she eats a balanced diet, partly regional and occasionally seasonal fresh products.

OTHER CONSUMPTION

- Maria works part-time. Together with her partner, they have a total net income of €2,600 per month.
- Maria repairs and rents appliances and clothes rather frequently.
- She pays average attention to quality and durability.
- Maria's purchasing behaviour is rather frugal, and her salary doesn't include much. The most important criteria is the favourable price, which is why Maria often buys second-hand.
 - interior: € 20
 - leisure and culture: €20
 - clothing and shoes:
 - 4 jeans, second-hand
 - 2 skirts, second-hand
 - 4 shirts, second-hand
 - 2 jumpers, second-hand
 - 1 jacket, second-hand
 - 1 pair of shoes, new
 - electronic devices:
 - 1 smartphone, second-hand



M3: information sheet Klaus Tabori

Student activity: Klaus

Klaus is taking part in a climate challenge.
He wants to reduce his footprint.

Develop measures for Klaus and help him to reduce his CO₂ balance.

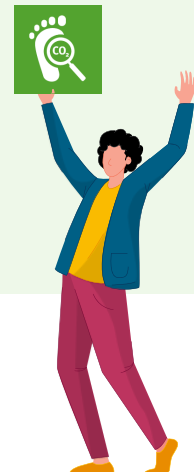
- Experiment with the CO₂-calculator and observe how the emissions change when you adjust the inputs.
- Find potential savings of 3 tonnes or more.
How can Klaus save the most CO₂?

Reflect the savings:

- Are the measures that Klaus can cope with and implement or are they major cuts?
- What changes in his lifestyle would result from the savings?

Get creative: Design a poster / a presentation / a comic or write a newspaper article in which you present Klaus' successes from the climate-challenge. Use the following topics.

- Explain what measures Klaus has taken to reduce emissions (housing, electricity, transport / travel, food, consumption). How many tonnes of CO₂ were avoided?
- Also report on the changes that a more sustainable lifestyle has brought for Klaus.
- Pick up on the obstacles and limitations Klaus faces that he cannot change on his own. Develop ideas on how these can be overcome.
- **Comment on the statement:** Sustainable consumption is a joint task, a task for society as a whole.



M4: information sheet Maria Schmitt

student activity - Maria

Maria has won the climate-lottery.

She will receive funding for several measures to reduce her footprint.

Calculate Marias' new CO₂ footprint:

- Installation of a heat pump powered by green electricity.
- One year to cover costs of switching to green electricity.
- Swapping the old combustion engine car for an electric car (used: 7 years)

Note: E-cars have higher emissions during production. The calculator distributes the manufacturer's emissions according to the average period of use, but not evenly, but with higher annual values in the first few years. Therefore, select 7 years as the age to obtain a normal average value.

- Inspired by the idea of living more ecologically, Maria gives up eating meat and sausages for a year.

Reflect on the following topics:

- What potential savings would Maria have had without the climate lottery?
- Have the measures led to changes in her lifestyle?
- Maria's attitude to life and her attitude towards sustainability measures?
- What role could state subsidy programmes for electric cars, heat pumps and green electricity play in supporting people with lower incomes?
- How do you rate such support programmes?

Get creative: Design a poster / a presentation / a comic or write a newspaper article in which you portray Maria as the winner of the climate-lottery. Use the following topics:

- Winning funding measures with CO₂ savings
- Effects on Maria's life, including her attitude to life
- Discuss the idea that people with lower incomes receive state subsidies to enable them to live more sustainably.
- **Comment on the statement:** Sustainable consumption is a joint task, a task for society as a whole.

