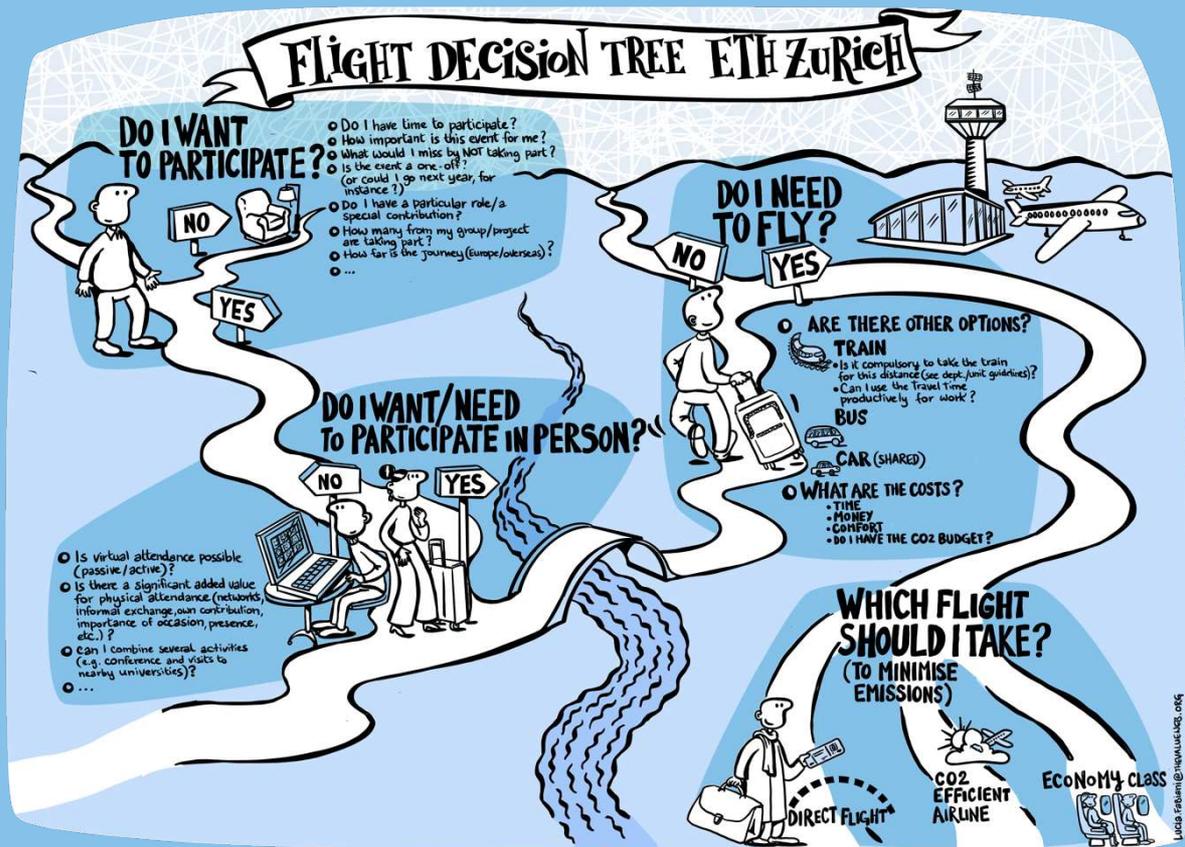


# FLIGHT REDUCTION

How to avoid airplanes while maintaining international exchange and academic performance?



Flight decision tree ETH Zürich.

Source: ETH Mobility Platform's "Stay grounded, keep connected" website (1)

Changing our travel behaviour has one of the biggest potentials to limit the greenhouse gas emissions produced by employees and students of ETH Zürich in the near future. Avoiding the airplane is, however, generally perceived as restricting international network building and making it harder to keep up personal relationships. Thus, the prospects of reduced or more sustainable mobility are generally received with a fear of a loss of academic quality. This article aims to reassure that this does not have to be the case. In the first part, we will give you the necessary numbers and figures to understand the importance of a comprehensive mobility strategy in the development of a sustainable university. Then, we will describe the advantages and challenges of low-emission solutions for necessary international meetings. At the end, we provide a short list of tips to support readers who are willing to take action and build a more sustainable and responsible academic career.

## 2

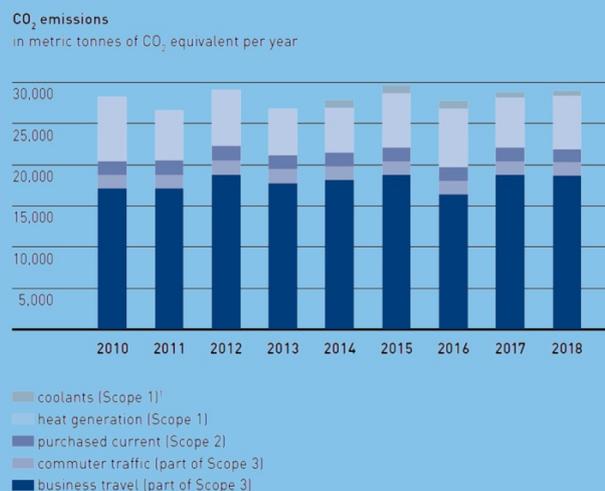
This number represents the percentage of CO<sub>2</sub> emissions produced by aircraft worldwide (2). However, CO<sub>2</sub> is not the only greenhouse gas emitted by airplanes. Indeed, NO<sub>x</sub> gases and small particles are also emitted during a flight, resulting in a stronger radiative forcing of the emissions. In simpler words, the impact on the climate is 1.3 to 3.9 times stronger than the sole CO<sub>2</sub> emissions. For the exact value, science is still inconclusive (3). Whether we speak about a contribution of 2% or 5% to global GHG emissions, it might still be lower than you would have expected. Well, despite the exact number being hard to confirm (4), only around 20% of the world population has ever boarded an airplane (5, 6, 7), which makes the emissions far more significant among the concerned minority. What would happen if the remaining 80% got the chance to fly? As wealth continues to grow in many countries, their citizens want to discover the world as well. And rightfully so, since travelling is almost considered a human right in our culture by now. In fact, emissions related to aviation are predicted to increase by more than 300% by 2050 - if we continue business as usual (8). At ETH Zürich, we are in a lucky position and can afford to fly – a privilege that brings a necessity to act responsibly, and we need to act now.

## 12

Let's take a look at the situation in Switzerland. We are not only the country of cheese and chocolate but also of frequent flying. 12% of the national yearly CO<sub>2</sub> gas emissions are due to air travel and this estimated number is considered to be too low (9, 10). First, other GHG and particles emitted leading to a higher climate impact – as described above – are not taken into account (3). Secondly, emissions are only calculated from the refueling of airplanes in Switzerland (8). The fuel used to return from our holidays is not recorded since it is generally attributed to the emissions of another country. In fact, experts estimate that the real contribution of flights on climate warming is closer to 20% of Switzerland's total footprint (5, 9, 11, 12). This means one-fifth of our emissions are emitted within the roughly 10 hours that an average Swiss passenger spends on airplanes each year. Thus, a huge part of the yearly influence on climate change depends on less than half a day per capita (9, 13). Is it really worth it?

## 63

This final number reveals why flight reduction has such a potential for the development of a more sustainable academic world. While ETH Zürich was able to significantly reduce its emissions in some areas (14), the few hours employees and students spend on airplanes represent around 63 percent of the emitted CO<sub>2</sub>(15). Compared with the Swiss average, we might be a bit too eager to ride above the clouds.



CO<sub>2</sub> emissions of ETH Zürich from the last years in metric tons of CO<sub>2</sub> equivalent.  
Source: ETH Zürich Sustainability Report 2017/2018, p. 63







