Linguistic Research and the Climate Crisis
Flying in Academia

Event on the occasion of the Public Climate School

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Aviation and Climate Change

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What does this mean for the individual?

`https://www.youtube.com/watch?v=DrCX_mawAmk&feature=youtu.be`

(Lee et al (2010): Transport impacts on atmosphere and climate: Aviation. Atmospheric Environment 44, 4678-4734. doi:10.1016/j.atmosenv.2009.06.005)

Goal of Today's Discussion Round

Have an open exchange about the topic of flying in academia.

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   - Should flights be compensated systematically? If so, how (given financial restrictions)?

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- **In Academia, aviation makes up about 50% of greenhouse gas emissions.**

ETH Zurich

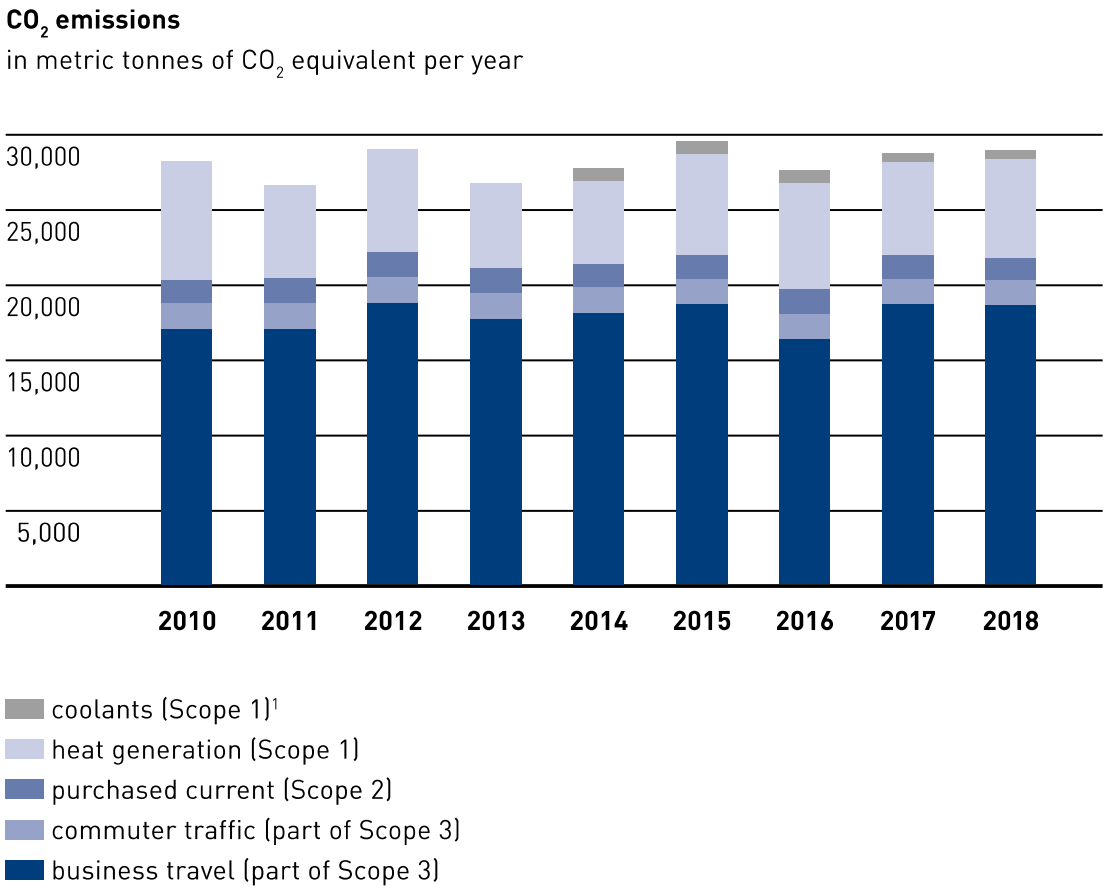

Figure 1 : ETH Zurich Sustainability report, p.63, (https://bit.ly/34rduuT)

ETH Zurich

"Business travel accounts for more than half of the greenhouse gas emissions produced by ETH Zurich. Approximately 93 percent of these are caused by air travel." (p.64)

An Increase of Aviation

"Aviation is one of the fastest growing sources of greenhouse gas (GHG) emissions. Over the last four decades, the number of passenger-kilometers in worldwide civil aviation **increased at an average rate of 5% per year**, while the corresponding carbon dioxide (CO2) emissions have increased by 2% per year on average."

(Ciers et al. 2019; based on Bows-Larkin et al. 2016)

(Sources: Ciers et al. (2019): Carbon Footprint of Academic Air Travel: A Case Study in Switzerland. Sustainability 11. doi:10.3390/su11010080
Bows-Larkin et al. (2016): Aviation and Climate Change–The Continuing Challenge. Wiley Online Library. `https://doi.org/10.1002/9780470686652.eae1031`)

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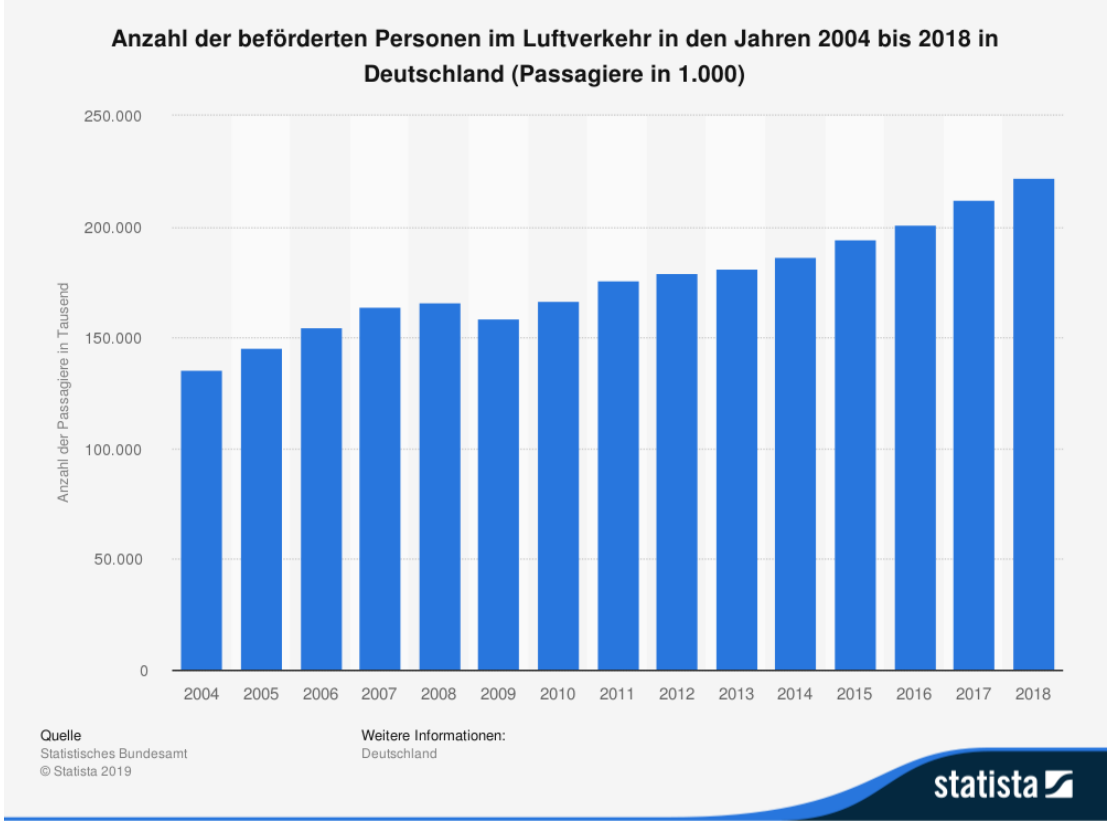

Figure 2 : Number of passengers in Germany transported in air traffic 2004–2018

(Source: `https://de.statista.com/statistik/daten/studie/12552/umfrage/befoerderte-personen-im-luftverkehr/`)

Transport Intensity

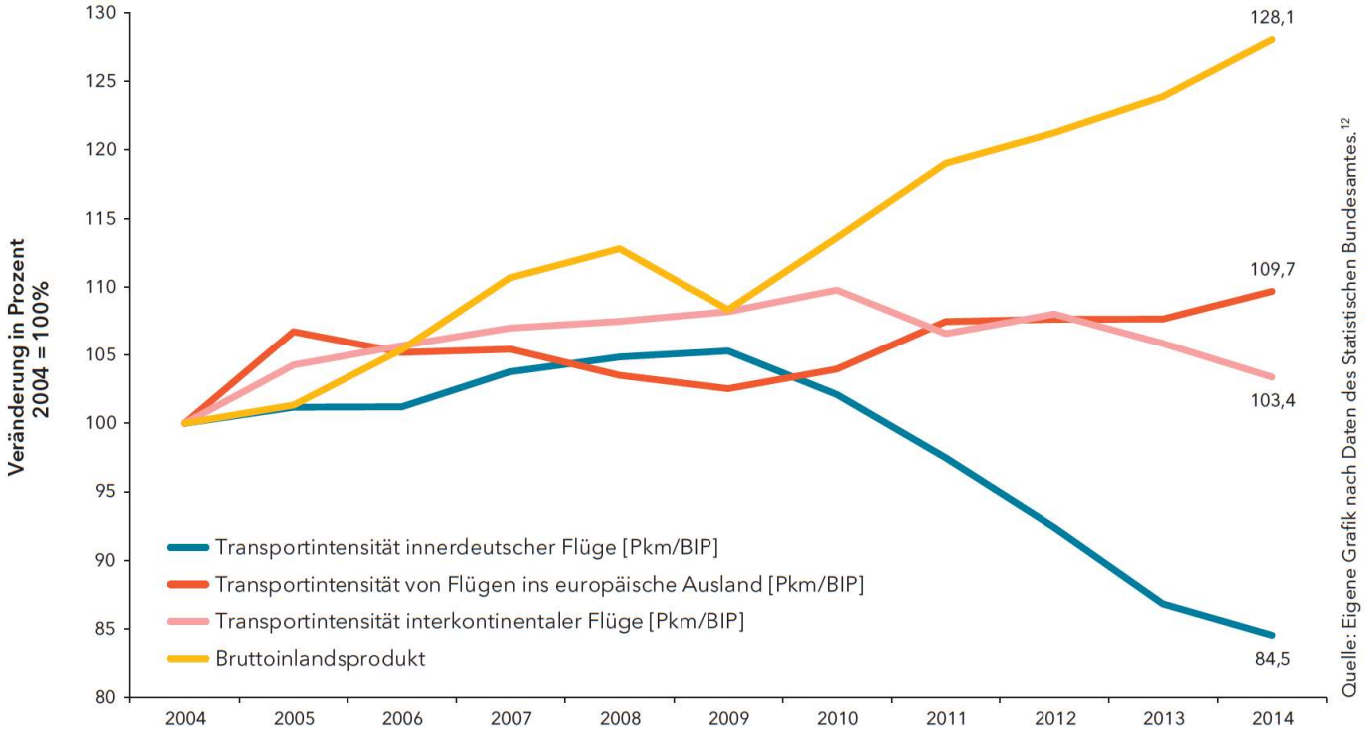

Figure 3 : Transport intensity per person in Germany 2004–2018

(Source: `https://www.vcd.org/fileadmin/user_upload/Redaktion/Themen/Flugverkehr/NGO_Luftverkehrskonzept_7-2015.pdf` (p.9))

Carbon footprint of academic air travel at EPFL

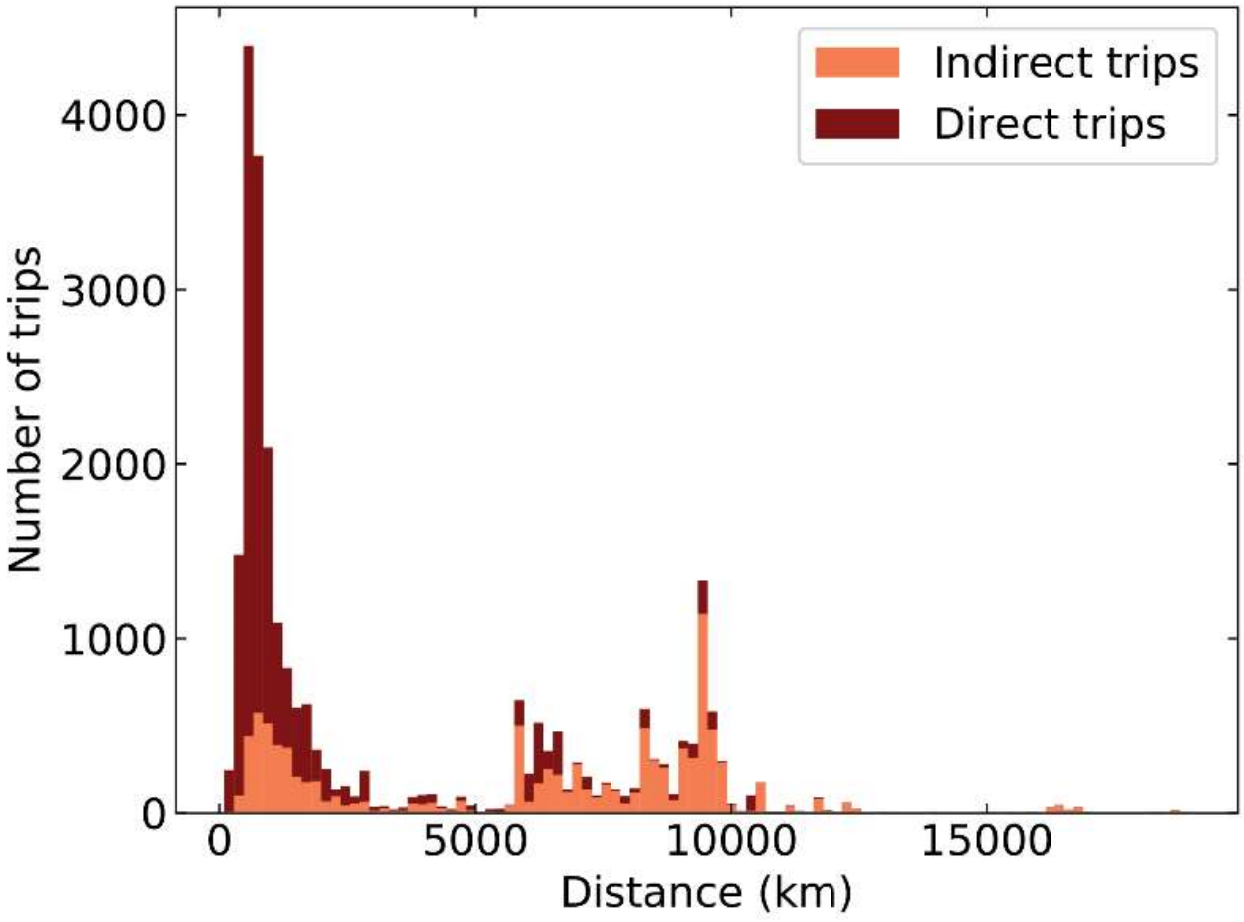

Figure 4 : Air travel performed by EPFL academic staff 2014-2016

Carbon footprint of academic air travel at EPFL

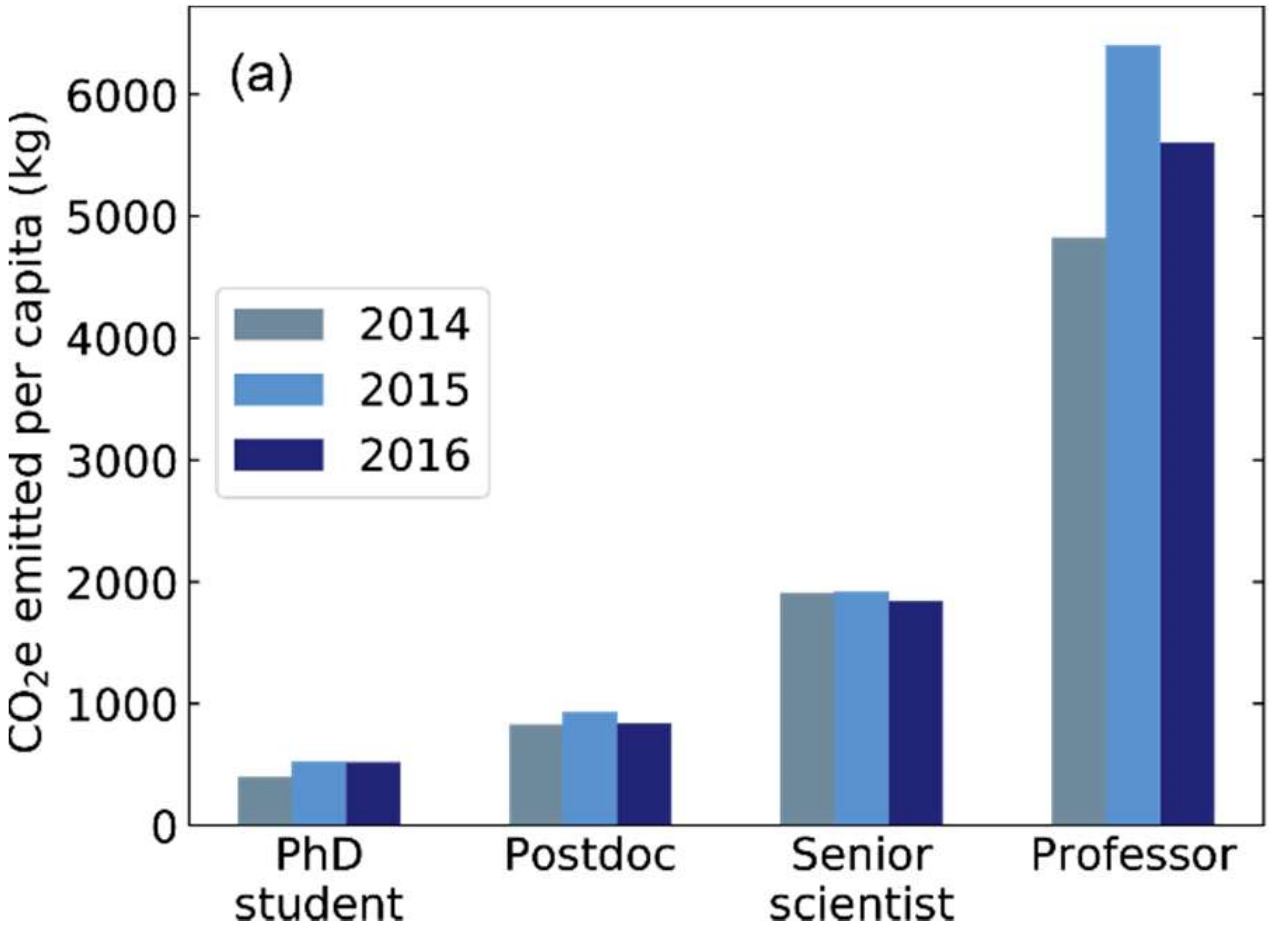

Figure 5 : Average annual air travel carbon footprint

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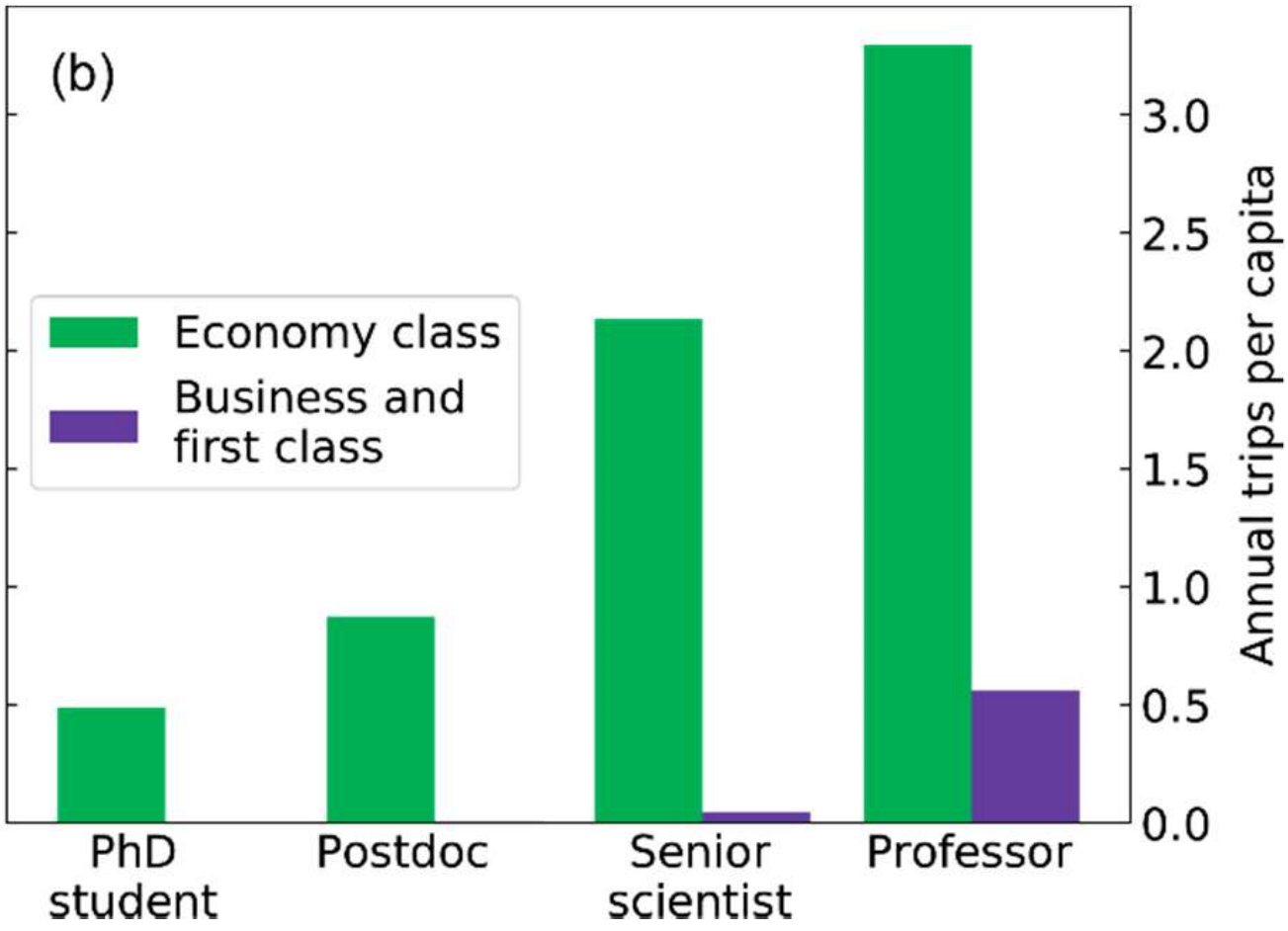

Figure 6 : Annual number of trips in economy and business class

The carbon footprint of academic conferences

(Desiere 2016)

14th Agricultural Economics Society and European Association of Agricultural Economists Congress (26th-29th August 2014)

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14th Agricultural Economics Society and European Association of Agricultural Economists Congress (26th-29th August 2014)

Number of Participants:	646
Estimated carbon footprint if organized in Ljubljana:	322 tons
Estimated carbon footprint if organized in Stuttgart:	291 tons

(Source: Desiere (2016): The Carbon Footprint of Academic Conferences: Evidence from the 14th EAAE Congress in Slovenia. DOI:10.1111/1746-692X.12106)

The carbon footprint of Academic Conferences

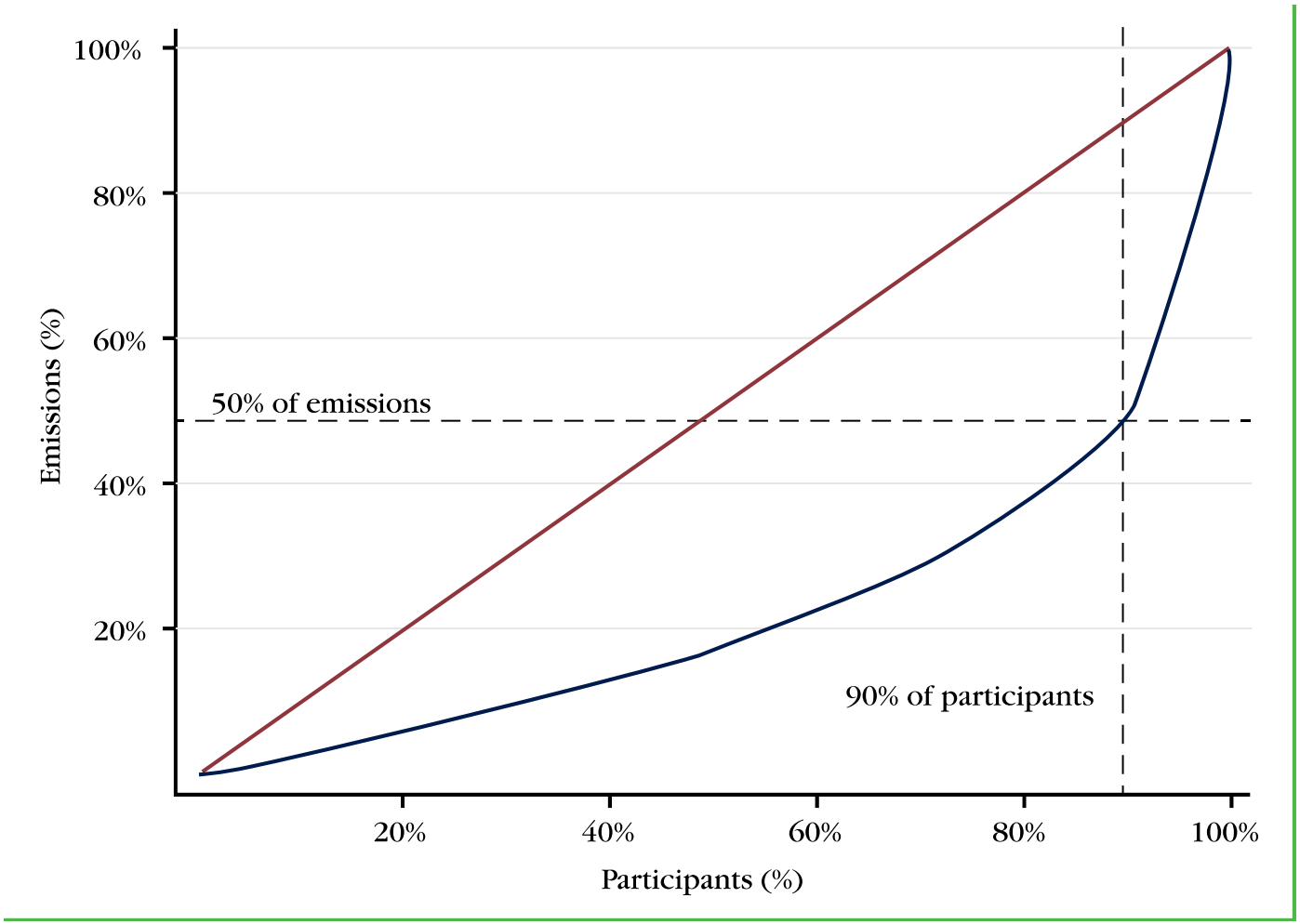

Figure 7 : Distribution of CO_2 emissions among participants at the 14th EAAE congress in Slovenia

The carbon footprint of Academic Conferences

Strategies to reduce CO_2 emissions at EAAE

1. **No participants from outside the Europe**: –50%
2. A more central location: –7%
3. Promoting Public Transport: –13%

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Networking and Conferences

"One could legitimately wonder why AGU and EGU do not yet offer video-conference options during their annual meetings. The option to present and to follow talks remotely should be offered to participants as soon as possible. **Video-conferencing has many potential co-benefits for AGU and EGU, such as raising attendance from developing countries and obviating capacity issues of conference centers and accommodation.** It would enable researchers from all parts of the world to access the latest research as well as present their own, enriching the geoscience community and its research output."
(Open letter to the American Geophysical Union and to the European Geosciences Union)

Networking and Conferences

How can networking in science be possible without international conferences?

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Traveling and career in science

"Given that flights dominate the carbon footprint of academics, one inescapable action is flying less, particularly to international conferences. The benefits of flying to these conferences have to be weighed against the environmental cost (Hamant et al. 2019). **Return flights for a single day to give one talk are not uncommon. They are sometimes only motivated by requirements of research grants or by their added value to academic CVs** – even though a recent study found no relationship between air travel and academic success (Wynes et al. 2019). **We argue that a systemic shift in how we communicate and evaluate research is urgently needed.**" *(Open letter to the American Geophysical Union and to the European Geosciences Union)*

(https://climactions.ipsl.fr/wp-content/uploads/2019/10/Open_letter_AGU_EGU.pdf)

Traveling and career in science

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Raising Awareness

"AGU and EGU have the opportunity and responsibility to be leaders in the transition to a low-carbon research culture. We demand that AGU and EGU monitor and reduce the carbon footprint of their annual conferences and go beyond promoting carbon offsetting to truly reduce emissions. We urge them to take measures to facilitate low-carbon transportation and to offer video-conference options, **and urge ourselves, members of these organizations, to embrace these solutions. These measures will allow geophysicists to act in accord with their warnings to society** while preserving scientific benefits of conferences. We are convinced that such a shift in practices will reinforce AGU and EGU in their mission to disseminate scientific knowledge, and better their impact on society."
(Open letter to the American Geophysical Union and to the European Geosciences Union)

(https://climactions.ipsl.fr/wp-content/uploads/2019/10/Open_letter_AGU_EGU.pdf)

Raising Awareness

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Further Links

- Hörning, Beate (2019): Going to a library conference for talking about ecological sustainability – but what's about our own carbon footprint?
  (`http://library.ifla.org/2452/`)
- Collection of Material about reducing air travel:
  `http://www.flyinglessresourceguide.info/`
- **Self-commitment declaration for members of Leipzig University**:
  `https://linguistik.philol.uni-leipzig.de/institut/selbstverpflichtung-kurzstreckenfluege/`

NeustartKlima

Global Climate Strike
November 29, 2019
3pm
Simsonplatz Leipzig

`https://leipzigfuersklima.de/infos-streik-29-11/`

(Note: The Students4Future block already meets at 2pm at the inner court of the university (Campus Augustusplatz).
Telegram: https://t.me/Students4futureLe
The “Bildungsblock” meets at 3pm at Simson-Platz.)

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7 steps to make travel to conferences more sustainable

1. Cut down on meetings
2. Pool conferences
3. Lead by example
4. Use technology
5. Consider greener alternatives
6. Get creative
7. Self-regulate

(Source: `https://www.nature.com/articles/d41586-019-02747-6`)

3 Principles of Sustainable Linguistics

1. Dematerialize interactions.
2. Optimize the network benefits of (rarer) in-the-flesh interactions.
3. Nurture local networks.

(Source: https://www.dropbox.com/s/i2ghdi9x2qde6gy/Sustainable%20Linguistics_Version%201.pdf?dl=0)

10 Theses

1. Have climate-neutral business trips until 2035.
2. Set long-term and short-term goals.
3. Reduce CO_2 emissions of business trips by 40% until 2025 (compared to 2018).
4. This reduction should not include other areas (like renewable energies).
5. Define a goal for 2030 before 2025, reflecting on the experience so far and considering new technologies.
6. Goals should be formulated as voluntary commitments.
7. Annual monitoring of the goals.
8. Diktat is the lowest ranked measure (in order to restrict scientific freedom as little as possible). Structural “diktat” (e.g. career reasons) should be discussed.
9. Compensation is only a measure if reduction fail.
10. Compensation costs should be calculated based on 180 euros per ton CO_2.

(Source: `https://climatewednesday.org/wp-content/uploads/2019/07/Flugscham.pdf`)