# Higher Education, Lower Emissions: Academics Flying Less



# Three facts and one opinion

- 1. Climate change is increasingly bad for people and nature.
- 2. Emissions must decrease rapidly and immediately to meet international and national climate targets.
- 3. Flying is a very large part of university emissions.
- 4. Universities should lead in emissions reductions, with a strong focus on reducing flying.

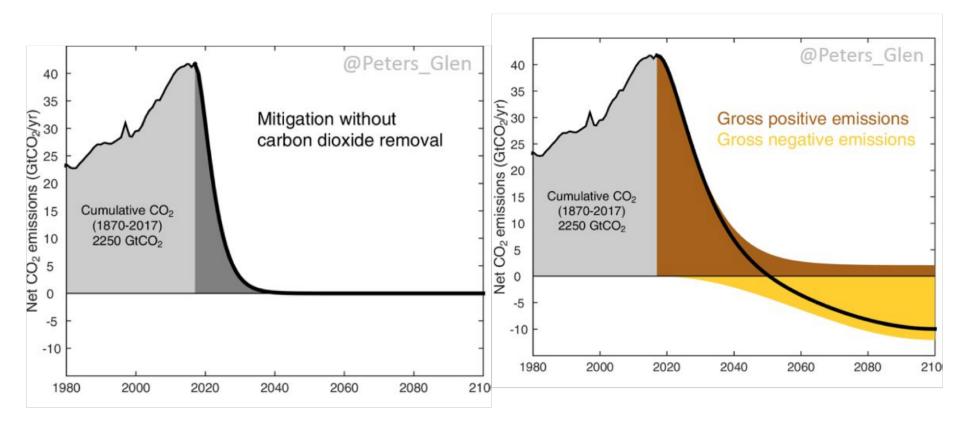
## What kind of world do you want to live in?



Hoegh-Guldberg et al., 2007, Science

See summary of @KA\_Nicholas IPCC 1.5°C Report, 8 October 2018 http://www.kimnicholas.com/climate-policy.html

# "We have already emitted a lot of CO<sub>2</sub>, and thus we can only emit a little more to stay under 1.5°C or 2°C"



https://www.slideshare.net/GlenPeters\_CICERO/how-much-carbon-can-we-@mit

# UBC Case Study: University air travel emissions ≈ 2/3 of on-campus operation emissions

Air travel emissions are significant in relation to other institutional emissions: We estimate that business-related air travel emissions at UBC total 26,333- 31,685 tCO<sub>2</sub>e each year, equivalent to 63%-73% of the total annual emissions from the operation of the UBC campus. At a unit-by-unit level, emissions from business-related air travel in the Department of Psychology were similar to that from heating and providing electricity to the building housing the department. In the case of the Department of Geography, which recently switched to a more efficient heating system, the business-related air travel emissions were 30 times that of the building.

# Three facts and one opinion

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# Mission, vision and values

Lund University's vision is to be a world-class university that works to understand, explain and improve our world and the human condition.



### If universities don't lead the transition, who will?

### SYDSVENSKAN 🔇

MALMÖ LUND SPORT DYGNET RUNT KULTUR OPINION EQ HITTA MER



SVERIGE 28 oktober 2018 21:01

# Forskare: Universitet bör halvera utsläppen

Opinion piece by 18 Swedish academics Calling for Swedish universities to cut emissions in ½ by 2023 28 October 2018



Universiteten bör stimulera sin personal att välja klimatsmart pendling till jobbet, och undvika bilen, manar 18 forskare. Arkivbild

### Student support for cutting emissions

C A https://klimatuppropetlund.se/english.html

\* 🗵 🖉 🦉

#### 🛤 Läs uppropet på svenska



### The students of Lund demand a 50 % reduction of LU's emissions within 4 years

It is time for Lund University to take a leading role in the transition towards a society that is sustainable within the planetary boundaries. With this petition, the students of Lund University stand behind the <u>debate article</u> where 18 Swedish scientists demand action from the Swedish universities. The students of LU demand at least a 50 % reduction of LU's greenhouse gas emissions within <u>4 years</u> to be able to reach the goal of the Paris Agreement.

This petition is addressed to the university board as well as the faculty leadership, to emphasize the responsibility you have in determining the direction of the university. With this petition, we also want to show support for the students and employees of Lund University who are already involved in these issues. We stand together!

Below, we have listed suggested actions, all possible for the university to implement today. It is evident that an actual 50 % reduction of LU's carbon footprint is not limited by a lack of practicable measures, nor by access to technical innovation. We, the students, require immediate action led by clear and unequivocal leadership from the university to propel the necessary transition.

Let this petition urge everyone at Lund University to take our own research seriously and to become a driving force in the transition our society needs. More than 4.800 have signed the petition. Let's reach 5.000!

#### Sign the petition!

If you're having problems signing the petition, please contact us at kontakt@klimatuppropetlund.se

https://klimatuppropetlund.se/

### Young people demand emissions cuts





Over 25 000 school strikers in Berlin today according to arrangers. And more than 40 000 in all of Germany! And tens of thousands across the world. Thank you all! #climatestrike #fridaysforfuture

#schoolstrike4climate

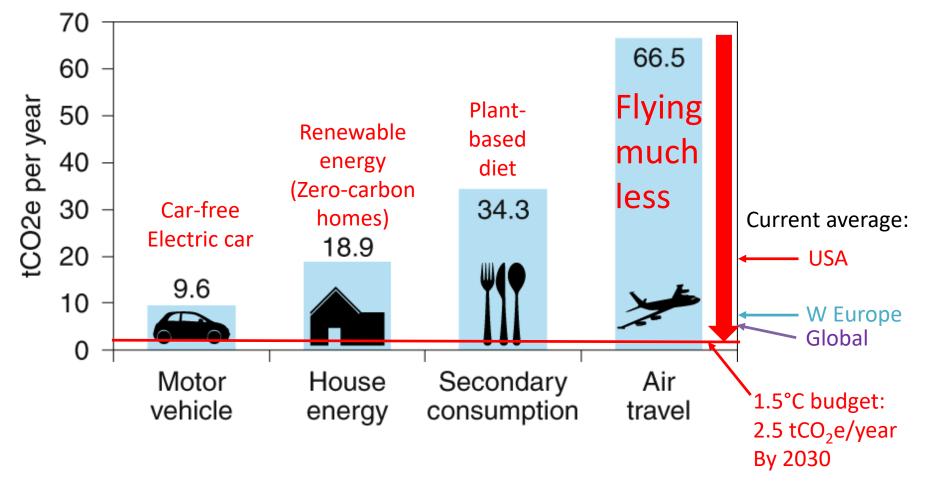


6:34 PM - 29 Mar 2019



@KA\_Nicholas

# High-flyers need to rethink our lifestyles to avoid dangerous climate change



@KA\_Nicholas

High-impact actions to reduce emissions: Wynes & Nicholas, 2017, *Environmental Research Letters* 1.5°C budget: Institute for Global Environmental Strategies, 2019, 1.5° Lifestyles Report Emissions data: household of 2 people with assets >\$1m,Otto et al., 2019, *Nature Climate Change* 

### Some resources:

www.kimnicholas.com/academics-flying-less.html

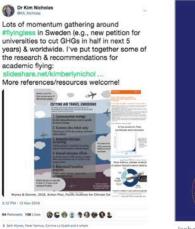
WELCOME WHO WE ARE RESEARCH PRODUCTS TEACHING BLOG PRESS UPCOMING TALKS

#### Academics Flying Less

#### Overview of research and best practices

Increasing research highlights the large impact of flying on academia's carbon footprint, and is beginning to focus on opportunities to reduce these emissions and examples where this is being done. I've assembled a slide deck on this work from research reports and scientific publications.

Isabell Burian wrote a MSc thesis studying flying by sustainability scientists in Sweden, including LUCSUS, which we've used in informing our new travel policy at LUCSUS.



Start here: slide deck with an overview of the research on the climate impact of academic flying, and best practices to reduce it.

#### Isabell Burian, 2018 LUMES thesis: It is up in the air : academic flying of Swedish sustainability academics and a pathway to organisational change

LUCSUS

It is up in the air

sabel Buria

Academic flying of Swedish susta pathway to organisational change

#### LUCSUS leading with reduced emissions

At LUCSUS we are leading with a new travel policy for 2019, based on individual pledges (inspired by the Paris Agreement), where we individually and collectively aim to reduce our travel emissions (which come primarily from flying).

Our travel policy as well as the climate pledge document are freely available for others to modify and use. In the 4 minute video below I describe the process we're following.

#### My story on flying less



How I've made climate action personal: Op-ed for Scientific American



My own take on the 4 choices we identified that make the biggest difference for the climate: living car free, eating a plant-based diet, avoiding flying, and planning smaller families. 2 minute video from Lund University.

Aviation is one of the fastest growing sources of GHG emissions globally.



### **CUTTING AIR TRAVEL EMISSIONS**

This roadmap for action is based on *Addressing Greenhouse Gas Emissions from* Business-Related Air Travel at Public Institutions: A Case Study of the University of British Columbia by Seth Wynes and Simon D. Donner.

### 1. Communication strategy:

Use tele/videoconferencing as much as possible for remote meetings.

### 2. Economy class tickets only:

Flying business or first class produces much more carbon pollution.

### 3. Automate emissions accounting:

Tracking emissions is essential to measuring progress toward emissions reduction targets.

### 4. Internal emissions offsets:

Use funds to invest in GHG reduction strategies within your institution such as retrofits or new energy systems.

### 5. Behavioural incentives program:

Produce regular emissions reports at the individual and unit level.

Aviation emissions are responsible for about 3% of human caused warming of the planet.

Pacific Institute for Climate Solutions Knowledge. Insight. Action.

The number of air-

craft in service may

double over the next two decades.

Wynes & Donner, 2018, Action Plan, Pacific Institute for Climate Solutions report

# Strategies to reduce conference carbon footprints

Table 2: Three strategies t	to reduce CO <sub>2</sub> emissions
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	<b>Carbon footprint</b> (tonnes CO <sub>2</sub> eq.)	Potential savings
Conference in Ljubljana	322	
Strategies to reduce the carbon footprint		
1. No participants from outside Europe	-160	-50%
2. A more central location (Stuttgart)	-22	-7%
3. Promoting public transport	-43	-13%
Total reduction in CO <sub>2</sub> emissions	-225	-70%

- Reduce participants traveling long distances
- Ensure key role in conference for those who do travel long distances
- Consider desired attendees and select central conference location for them
- Select location with good train/transit connectivity
- Do not reward selecting exotic/remote conference locales
- Facilitate booking train tickets, offer discount vouchers from train companies, inform participants about their carbon footprint<sup>@KA\_Nicholas</sup> Desiere, 2016, EuroChoices

### Personal and departmental flying less



Lund University Centre for Sustainability Studies (LUCSUS)



Adventures in **#flyingless**: Train journey from Lund to Porto for **@CCL\_Porto2018** begun! Stage 1 from Copenhagen to Paris was great. Beautiful sunset on the ferry last night, early morning coffee in bed on the night train.



1:24 PM - 1 Mar 2019



# LUCSUS: New flying less policy

Lund University Centre for Sustainability Studies LUCSUS	LUMES	
Home   About   Research   Education   Impact   Contact	Search this site	SEARCH

Start > All news > LUCSUS presents new travel policy to reduce work-related emissions

### LUCSUS presents new travel policy to reduce work-related emissions

LUCUS today, 11th December, presents a new travel policy for staff and associated researchers. It sets out a number of commitments aimed to reduce work-related emissions and takes effect from January 2019. Reducing flying amongst staff is the number one priority, since flying is the single largest source of greenhouse gas emissions in academia.



By cecilia von Arnold - published on 11 December 2018

The commitments are not binding but each staff member is expected to set concrete, personal reduction targets that go beyond what they would otherwise have done. LUCSUS will track and collect all carbon emissions for one year to start with.

The travel policy includes recommendations for ground travel for distances within 12 hours reach, and for all destinations within Sweden. Other centre on



and a state

LUCID



#### Latest news

**5 February 2019** Emily Boyd is lead author for IPCC's Sixth Assessment Report

**21 January 2019** LUCSUS leads new capacity building programme on Agenda 2030

#### @KA\_Nicholas

#### https://www.lucsus.lu.se/article/lucsus-presents-new-travel-policy-to-reduce-work-related-emissions

### **Travel policy**

Lund University Centre for Sustainability Studies (LUCSUS)<sup>1</sup> – adopted by the board 6/12/2018

The travel guidelines will apply to all staff and guests associated with, and visiting LUCSUS, with an eye to creating a working and learning environment in which environmental sustainability is prioritized. They can also be used to inform LUCSUS teaching and inspire students to take corresponding steps of their own.

LUCSUS recognizes that travel, particularly from flying, constitutes the single largest source of work-related greenhouse gas emissions within academia. Because academics fly significantly more and thus contribute more to aviation emissions and climate change, we have a greater responsibility to reduce our individual and total emissions. As sustainability scientists, reducing our emissions is an imperative that follows from our ambition to lead in research, teaching and fostering the necessary changes towards a more sustainable future. It is also a sound outreach strategy, in that "walking the talk" on sustainable transformation can help inspire wider efforts by private and institutional actors to decrease their own emissions.

From January 2019, we are initiating a first, 1-year commitment period in which we commit to make serious and significant efforts to reduce work-related emissions. Starting from everyone's own capacity and opportunities, we expect all staff members to challenge themselves, and to set concrete, personal reduction targets that go substantially beyond what each individual would otherwise have done. LUCSUS will track and collect our carbon emissions during this time.

As a tool for staff to keep track of emissions and as an awareness-raising tool, LUCSUS will gather emission data and make them available collectively, in anonymous format, and also create a personal report directly to each individual at the end of each year.

## LUCSUS Travel Pledge

#### Personal Commitment to Reduce Work-Related Climate Emissions from Flying

#### Step 1

#### As a staff member of LUCSUS, I agree to follow the individual actions set out in the LUCSUS travel policy adopted December 2018[4], including:

1. Follow the decision tree before making a travel decision (see LUCSUS travel policy).

2. Monitor individual, work-related emissions, and set progressively ambitious objectives to reduce them.

3. Prioritize, wherever possible, travel-free meetings and telephone/video conferences over physical travel, and collective ground (train, boat or bus) travel over air travel.

4. Prioritize ground travel for all trips within Sweden.

5. Prioritize ground travel for all international destinations within 12 hours from Lund, and seriously consider this for all trips within Europe. Always ask Egencia or other travel bookers to provide a non-flight alternative for any travel booking within Europe.

6. Justify (for oneself) any travel made, taking into account: the location and purpose of the event, benefit to LUCSUS of participating, benefit to individual career, own level of seniority and responsibility, and the alternative options available. (See Appendix 1 for a suggested template for one-paragraph justification).

7. Prioritize low-carbon opportunities for any activities and events that are organized. This means: fewer participants travelling long distances by air and ensuring key roles for those that do travel; giving high priority to locations that can be reached with low-carbon travel options; encouraging and facilitating train travel for event participants; and encouraging, incorporating and technically supporting online speakers and webcasts.

#### Step 2: Declare Your Baseline for Comparison

Declare a baseline from which you will measure your progress. LUCSUS has established an account with Carbon Tracker- please fill out your data for 2018 to establish your baseline in tons of emissions. Remember to make use of existing travel data from economic reporting (e.g., Primula), airline mileage reports, or travel agent bookings. (We ask for 2018, but recognize that no baseline is perfectly representative; see Appendix 4 for alternative formulations of baselines.)

#### Baseline: In 2018, I flew hours for work travel and emitted tons of CO<sub>3</sub>.

(Alternative: In 2018, I traveled for \_\_\_\_\_ hours by \_\_\_\_\_ means and emitted \_\_\_\_\_ tons of CO, for work travel).

#### Step 3: Make Your Commitment to Reduce Travel Emissions

When setting their ambitious personal targets, we encourage staff to keep in mind:

- The need to reduce emissions to net zero to stabilize temperatures;
- The Climate Law that Sweden will reach net zero emissions by 2045 via at least 85% reduction in emissions[6]; and
- The IPCC 1.5°C Report noting that CO<sub>2</sub> must be cut in half globally by 2030 to successfully limit warming to 1.5°C and reduce risks to many vulnerable people and ecosystems.[7] (Equity arguments imply reductions should be even faster in rich and high-emitting countries like Sweden, e.g. the call by Swedish researchers that Swedish universities should cut our emissions in half in the next 5 years)[8].

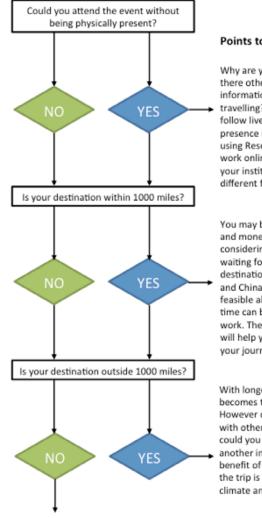
Check all that apply and fill out as needed. Example: My goal for 2019 is to reduce my work-related emissions by reducing my long-distance flights outside Europe to one flight per year; by 50% from 2018.

#### My goal for 2019 is to reduce my work-related emissions by (check all that apply):

•	Take no flights for work.
	Take no flights for work within Europe.
	Cut my total number of work flights in half (or by%), compared with my baseline.
	Reduce my long-distance flights outside Europe (highest GHG emissions) to/by(flights) (%), compared with my baseline.
•	Reduce my medium-distance flights (e.g., southern Europe) to/by (%/#), compared with my baseline.
	Take no flights for work within Sweden or a 12-hour ground travel radius in Europe (this is LUCSUS baseline policy).
•	Reduce my work travel (by any mode) to/by (number of trips or % of baseline)
	Other:

(Name)

"Climate pledge document," http://www.kimnicholas.com/academics-flying-less.html



#### Err, perhaps you need to start again!

Points to consider:

Why are you attending the event? Are there other methods of exchanging information which don't necessitate travelling? Could you stream the event, follow live tweets, and have a virtual presence instead? Have you considered using Researchgate or Mendeley to work online? Do you need support from your institute to participate in a different format?

You may be surprised how little time and money is saved by flying when considering getting to the airport and waiting for your flight. For many destinations (within Europe, Eastern US and China, for example) the train is a feasible alternative to flying, and travel time can be more comfortably used for work. There are online resources that will help you to calculate the length of your journey by train and plane.

With longer distances flying quickly becomes the only practical option. However could you combine this trip with other work-related activities could you spend time working at another institution to maximise the benefit of this trip? Consider whether the trip is worth the impact on the climate and time out of the office.

*Figure 4.* Decision tree to support choices that reduce the necessity to fly for research purposes. The distance of 1000 miles is illustrative and exact thresholds will depend on individuals and locations. 1000 miles corresponds approximately to travelling between London and Rome, which takes between 14 and 21 hours by train.

Le Quéré et al., 2015, "Towards a culture of low-carbon research for the 21<sup>st</sup> century" Tyndall Centre for Climate Change Research

### Increasing focus on academics flying less





Anna Scott took the train from Baltimore to New Orleans to cut down on her carbon footprint.



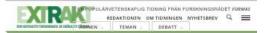
🚖 FRAMSIDA 🛛 🗬 DEBATT 🛛 🗎 FORSKING 🛛 FOLK

### Ho har ikkje tatt fly sidan 1995. Men ho forskar i Japan og er i USA på konferanse.

Publisert: 31. januar 2019 Oppdatert: 31. januar 2019, 06:00 💻 Ingen lesarkommentar



Valeria Schwanitz, som er forskar ved Høgskulen på Vestlandet i Sogndal, fann ut at ho ville redusere klimafotavtrykket sitt. - Eg liker ikkje å moralisere, eg berre seier at det er fullt mogleg å reise på andre måtar enn med fly, seier ho. Foto: Christian Blom



#### Debatten om flygets påverkan utvärderas



- 1

Flyenkom Greta-effekten och kändinar som aktivi tar ställnine met flyest är nåera exempel på fenomen som ska studeras i det nya forskningsprojektet Ingen ny tid för



ch retur mallan Sverige och New York ger ika stor klimatpilverkan som att äta kiftt under två he eller som att köra bil under åtta mänadse: enligt Kimberly Nichelas och hennes kollegors beräkningse Foto: Tor Hansen/Mostphotos

Trots att flygtiskastnin globalt sett stär för en relativt ihen andel av klimatutslappen så har minskat flygande stor effekt, beterlar Kimberly Nicholas, lektor ed Lunds Universitet Centrum för hålbarhetsstudier.

- Det är bara en itten andet av jordens befolkning som någomin har Rugt i sitt liv, så de som flyger har en jattestor påverkan, säger hon-

rly Nicholas och hennes köllegor har näknat ut att en flygresa so att ata kött under två år, eller som att köra bil under ätta månade

All undvice att flyge är en av de storate personiete molitabeterne att

#### Sociala rörelser driver förändringar



nde är den sociala rörelse som för tagit för

rforskamas granskning ingår exempelvis de storsta sventka dagstidningæria och inlagg på sociala moder

Framstalls det som glamorost, ekonomiskt viktig effectuat odian effect en katastrof for ldrmatet att flyge och effec ent anvende for att stocka desse påståenden? Det är intressant ir och samhället, inte minst vad gäller istmatet, i storre grad och nabhare takt än vad politiker, förstag och myndigheter ofta lyckas med

#### Vi påverkas av vår omgivning

ittet kommer också ofka grupper att studeras, exempel

skapar den "tenning pumt" där normen börjar förändras.

Om er ser någon som ändrar sitt beteende så kan det få oss att ände virt eget hetstende



människor"

New research project: "The takeoff of staying on the ground"

### **Co-PI Johannes Stripple**

PhD applications accepted until 8 April! (Must speak Swedish)

@KA Nicholas

http://www.kimnicholas.com/the-takeoff-of-staying-on-the-ground.html



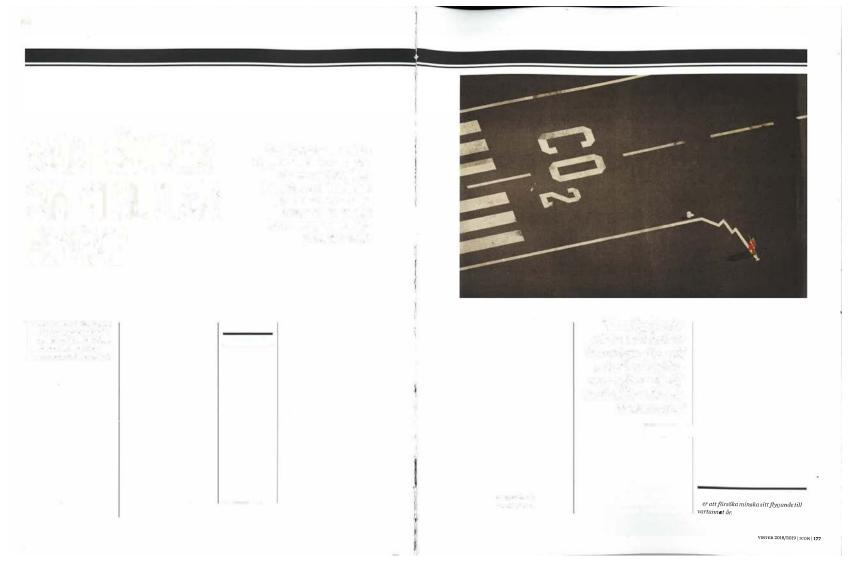
Changing social narratives: Swedish Instagram account "clueless influencers"





https://www.instagram.com/stories/highlights/17992077013103497/ @KA Nicholas

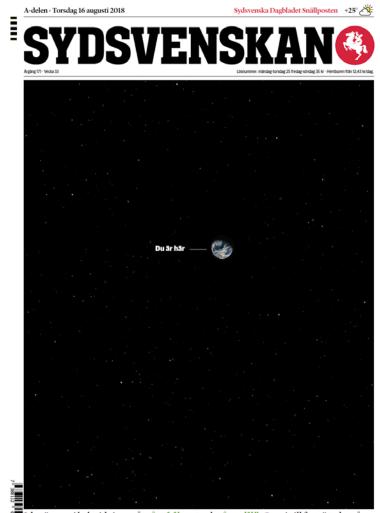
# "What happens if we stop flying?"



@KA\_Nicholas

### ICON magazine, Winter 2018/2019

### Local newspaper 100% about climate "1 in 5 try to choose not to fly"



Jag ägnar vi hela tidningen åt **vårt klimat** och **vår miljö**. Om vi vill fortsätta bo på jordklotet så berör den frågan oss alla.



### Var femte skåning har försökt välja bort flyget

ARA.

nivà.' **Emberly Nichol** 

"Jag tänker:

en avgörande

Wow, vi är bara 5 procent från

Två av tre skåningar har inte försökt börjar förändras hitta ett alternativ till flygresor på grund borjar torandras. Och flygandet är en fråga där var och en av oss verk-ligen kan göra skillnad. Geav klimatskäl. Det visar vår undersökning. Men en av fem har åtminstone nom att avstå från en enda. försökt. Och det betyder att ett avgöranlångflygning om året gör vi samma insats för klima-tet som med åtta års tro-gen sopsortering och avde skifte i opinionen kan vara nära, säger forskaren Kimberly Nicholas.

Under tris tan bålfasså per umstrande där kristering och äver tan för att branke vision av Nichska umserhetekalder tan för att måler til Land och hålfbacheters-Nichska och hennes sköl-försk tiltantaria han kan kar ved tvårevetnakalding. Se tilt Myne publicende naka LUXSIS (Land University En förgerset III New Vielt ga Seth Wynes publicerade förra året. – Det är positivt att ta hand om sitt avfall på rätt och besigen onskar uts stadies, hand om still svällig på Lift och soldenid – Jage fährer Woo, vik per resnik: Dek is 60 pro-bara 5 procent fähr en av star a sen och sak för klim-klimathogst. Men de finst tilsker inte Ennyvetenskaplig rappor, förskare. Mende effesta tänker inte Bergener beste state inter inter in optischen state inter internationalitygener versen internationalitygener internationalityg

flygresan. -AU 20 procent aktrit normalizati for en sumo uner van tort in nyerseve seusee Witterligare to proceen thar har forsökt väjk bort en nåde om det var värd det. försökt försökt et i det en nåde om det var värd det. Nedalshendet Nej, upp- visar är i nämara om den en det eft värd nånga konsel har försökt stjöråd



Universiteiteiteiteite, trijdi-brunch ranje vecka, nu isr gave social entryrenen de ette pro-up-srestanzung och grundker an Rade food och catering. Ni för tiden 15 Janni. Att var först är lag endet rådgävars för tiden 15 verstege med att säk- att hälltänshef genom mins jav överskottsmat till en designstudenter vid Lin-mainstraamsligrupp när nénniversitetet. I höfet ska jag satraka Rade food för Rade food och Malmö statt och endan Viskar om undersöka hur de privata till den som sinterefolis ga kan sakar Rade. terar så mycket över mat-svinn. I början hade vi helg-loop,

Universitetslektor, tidi- brunch varje vecka, nu är Ahmed Al-Qassam



ta är det personliga val som har störst påverkan på kli-matet, så vi kunde inte und-

Därnäst på listan kom-

i fyra år för att nå samma

Hon växte upp på en vin-stå från en långflygning, att köpa grön energi, skaffa en elbil samt att sluta äta kött.

-Du måste återvinna på andra sidan stan.

klimateffekt som ett år med fyra timmar per dag bak

köttfri kost. - Å andra sidan: Om du förmår fyra gånger fler att

återvinna än att äta vegeta- mellan bostaden och

riskt uponär du samma kli- arbetsplatsen gängbart.

rika att nämna det.

en av oss kan göra. -Jar är övertyrad om att

-Jag är övertygad om att personliga val spelar stor roll och gör skillnad.

-Ofta tillbringade jag

Malmöbaserade miljöveta-ras hela tiden och man resus för att starta en podd. Vi ville göra miljö- och kli-att hitta nya sätt att nå ut. matfrågor mer lättillgängli-ga. Vi har rätt mycket kun-klimatångest som en drivskap om frågorna själva, kraft. Om iag får barn vill och när vi i varje ævsnitt in-tervjuar experter blir det hur jag har levt.

## "Climate Perks" from 10:10extra time off for slower travel

Extra paid leave was the most popular option for supporting alternative travel on holiday, with 39% of all respondents ranking it as their first preference.

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Climate Perks is a new initiative from 10:10 Climate Action, a UK charity that seeks positive solutions to climate change. We're working with a range of organisations to launch this scheme in 2019.

#### STAFF RETENTION

Employers can demonstrate their commitment to climate action, as well as attracting and retaining millennial talent, without any direct financial outlay.

#### REWARDS

No one suffers here. If you choose to fly, nothing changes and you won't be penalised. But if you decide to take the train your choice is rewarded with extra time off.

#### IMPACT

Having Climate Perks at your company helps make the flying issue relevant for new staff and will generate lots of conversation around a crucial topic.

WATER COOLER

.......

Any behaviour change in this sector can have significant positive benefits in terms of carbon emissions. Once scaled, this could prevent thousands of tonnes of C02 from being released at altitude.

Contact: Max Wakefield, 10:10

# Conclusions

- Academics can lead in testing, developing, implementing strategies to quickly and fairly reduce emissions – in line with what is needed across sectors & society to stabilize climate.
- Flying less needs to be part of serious university sustainability plans.
- Need to address tradeoffs and create supportive culture, while pushing for broader change.
- It can work!