
Sustainability Workshop 1: Tackling Carbon in Colleges

November 26th, 2019

— Overview: ---

Who are we?

- Oxford Colleges Sustainability Guild
- Oxford Climate Society
- Oxford Student Union

Who is here?

- Bursars
 - E&E reps
 - Committed staff and students
-

— Overview:

Why are we here?

The Climate Assembly!



Oxford Climate Action Plan

A Community-led Plan for Raising Oxford's Ambition on Climate



outlines our OPERATIONS FOCUS AREAS.

— Overview: ---

Aims following the Climate Assembly

1. **Uniting students & staff to set & achieve sustainability targets in colleges**
 2. **Uniting brainpower to problem solve between colleges**
 3. **Providing hands-on and informative workshops with resources to make real change.**
-



3 Areas of Work



Operations

Go carbon neutral by 2030 and absolute 0 carbon by 2050



Intellectual Resources

Expand climate thinking across the university



Finances & Partners

Leverage Oxford's investments to reform the energy sector and hold the fossil fuel industry accountable

1. Carbon

2. Buildings & Energy

3. Food & Waste

4. Travel

The Year's Plan

1

Tackling Carbon in Colleges

2

Buildings & Energy

3

Food & Waste

4

Travel

MT19

HT20

TT20

**1. Approaching
carbon targets**

**2. Writing targets and
sustainability plans**

Carbon: First Steps

1. Identify the big contributors (w1)

2. Calculate more exact measures of the chosen contributors (w1)

3. Identify the most effective and efficient strategies & targets (w2)

– **Today:** _____

Equipping you to begin the process....

1. **Information** → expert presentations
2. **Tools** → calculation samples, online resources
3. **Breakout Time** → college contacts? What scopes do you want to cover?
4. **Tasks** → contact, calculate, identify, reflect

–Next time: _____

Writing the policy...

1. Identifying **realistic and effective** focuses
2. Drafting a plan for your college
3. Colleges problem solving groups

And please give feedback after today's workshop!

Today's Schedule:

1. What is a carbon policy? Bart Ashton, Bursar of LMH
Q&A
 2. The biggest elephants in buildings & energy, Tom Heel from Low Carbon Hub
Q&A
 3. The cost of travel, Milan Klöwer PhD Climate Physics
Q&A
 4. Breakout session: Discuss in College Groups
 5. Final thoughts: sharing, questions, obstacles, tasks
-

1. What is a carbon target?

Bart Ashton

Domestic Bursar at LMH

Founder of Oxford Colleges' Sustainability Guild



–
Reminders:

Be clear why you want to do this

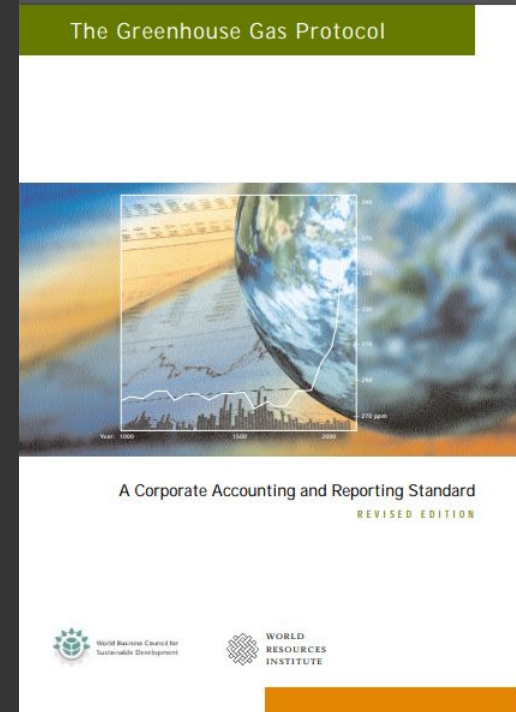
Carbon is only one part of being a sustainable college

Greenhouse Gas Protocol

Scope 1 - direct emissions - gas

Scope 3 - indirect emissions - power

Scope 3 - all other upstream and downstream indirect emissions



—

Gas
Electricity
Travel
Food
waste, water



—

Gas	800,000
-----	---------

Electricity	750,000
-------------	---------

Travel	900,000
--------	---------

Food	1,000,000
------	-----------

Gas	270,000
Electricity	450,000
Travel	450,000
Food	550,000

2030?

2. Energy and Buildings

Tom Heel

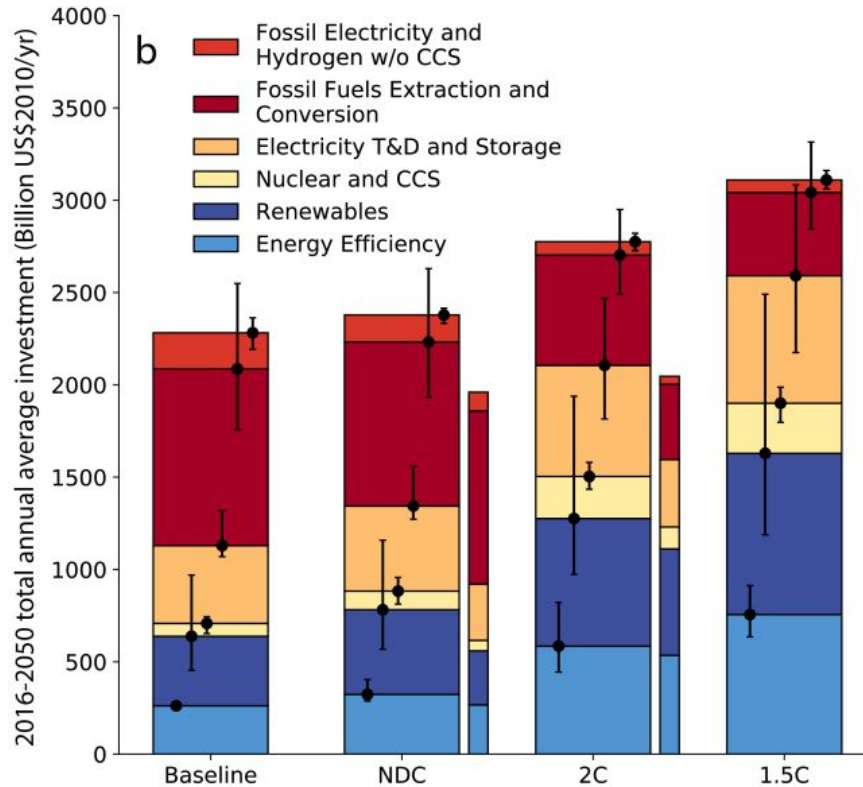
Low Carbon Hub



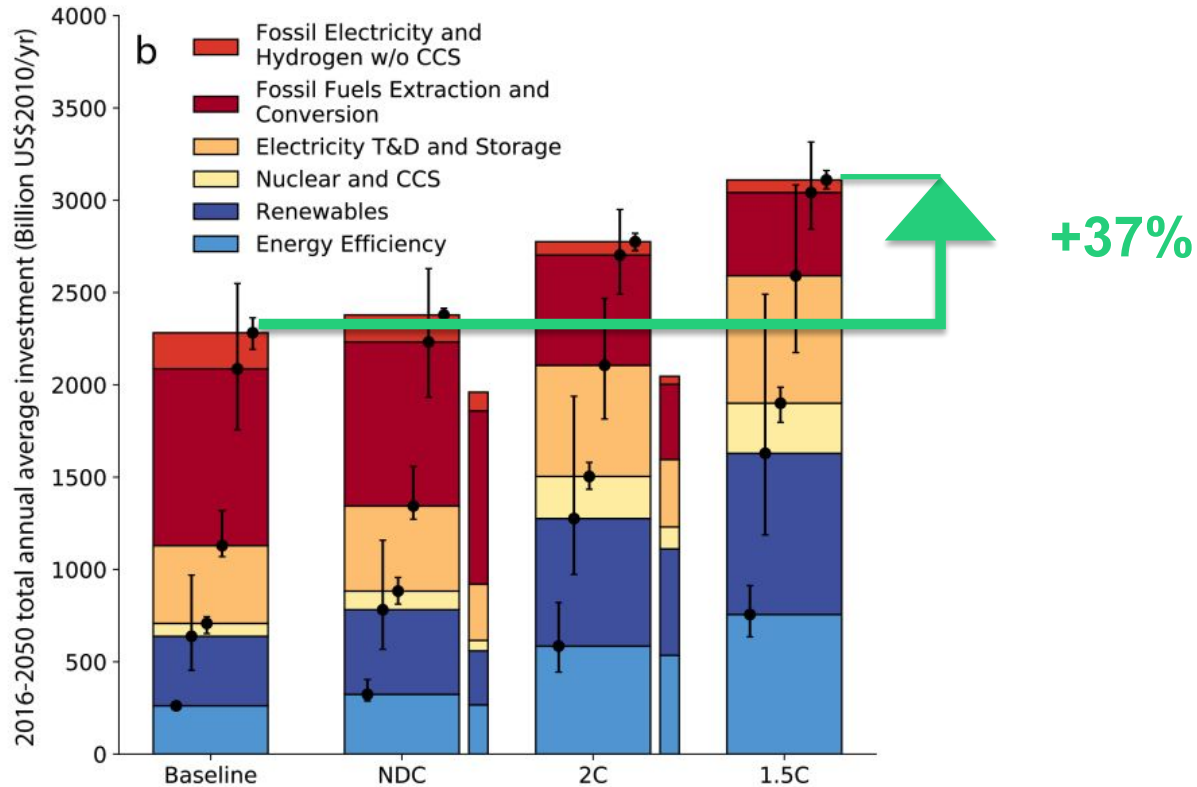
**CREATING ENERGY
WE CAN ALL FEEL
GOOD ABOUT**

low
carbon
hub

Global Emissions

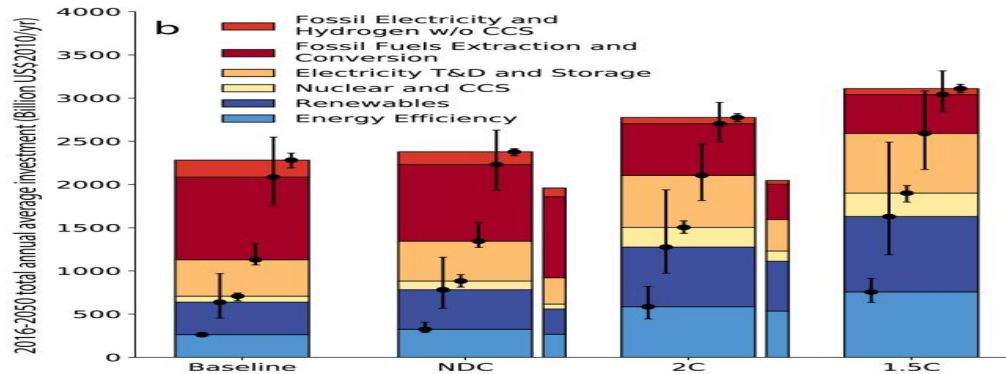


Global Emissions



Global Emissions

<10% of current annual spend on energy



Annual spend on energy



European Investment Bank

“

We will stop investing in
fossil fuel projects by 2021

”



Oxford City Council

“

UK cities need to commit to aggressive reduction targets and carbon neutrality as quickly as possible.

”



Oxfordshire's Electricity



Oxfordshire's Electricity



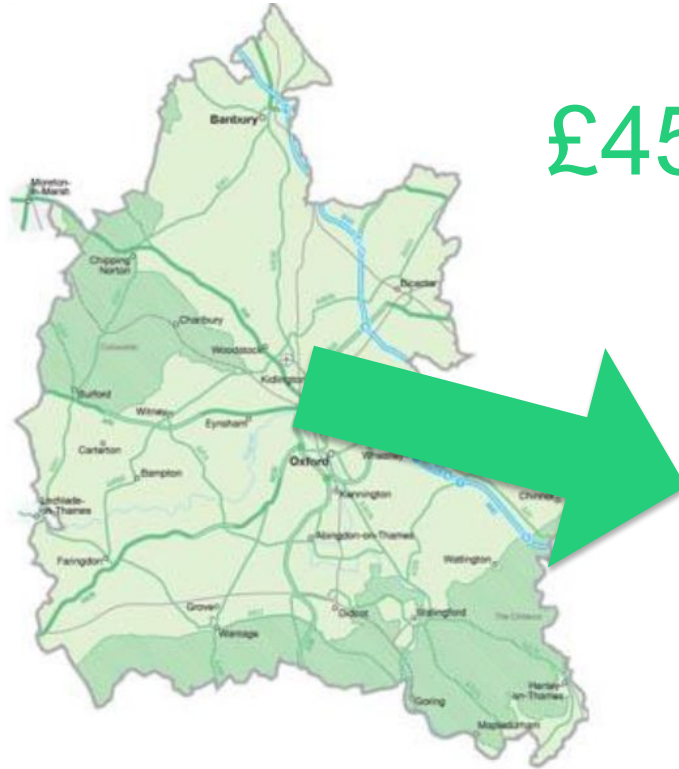
Oxfordshire's Electricity

£450m per year



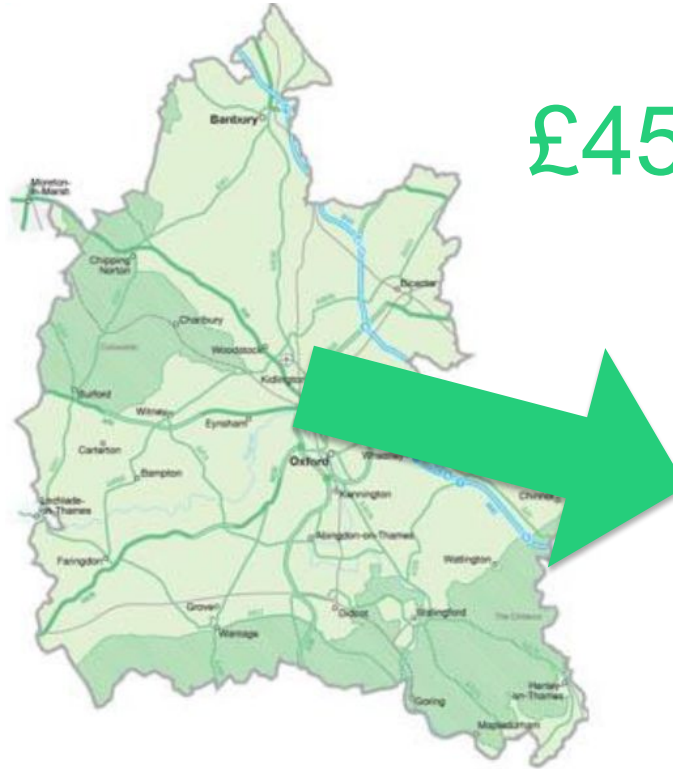
Oxfordshire's Electricity

£450m per year



Oxfordshire's Electricity

£450m per year



500

Homes powered by Sandford hydro



Oxford City's CO₂

Chart 1: 2016 SCATTER Direct & Indirect Emissions – Summary, ktCO₂e

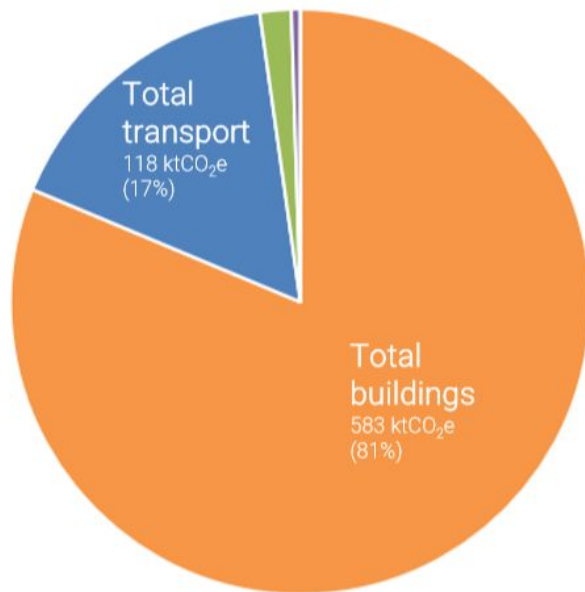
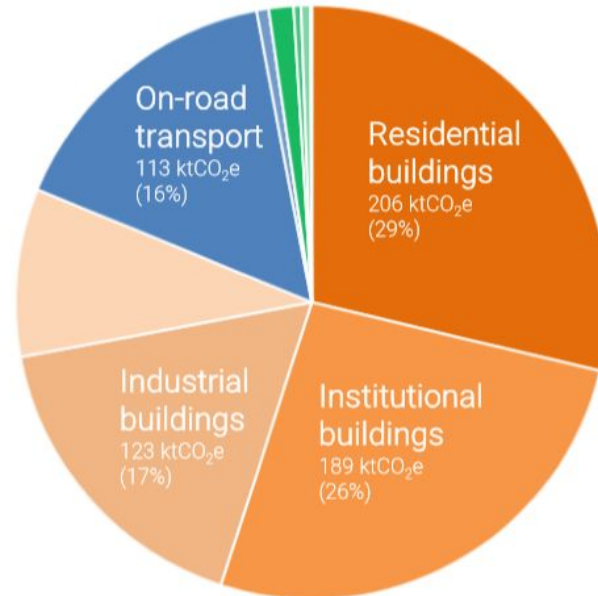


Chart 2: 2016 SCATTER Direct & Indirect Emissions – Sub-sectors, ktCO₂e



100

+ Audits delivered by OxFutures >>

www.oxford.gov.uk



OXFORD
BROOKES
UNIVERSITY



Professor Louise Richardson

“

This is not a time for aspirational targets with no means to achieve them.

”



A night photograph of a historic stone building, likely a university hall, with a prominent tower. A blue banner with white text is stretched across the front of the building. In the foreground, a row of bicycles is parked along the sidewalk. The scene is illuminated by streetlights, and the sky is dark.

CHANGE STARTS WITH PEOPLE —
IS THERE ENERGY IN YOUR NETWORK?

—

3. Travel carbon footprint

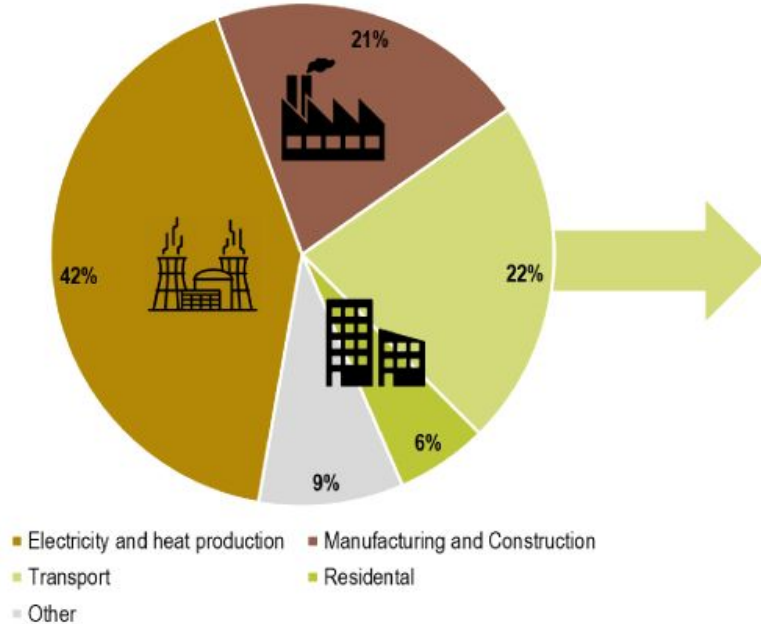
Milan Klöwer

DPhil in Climate Modelling

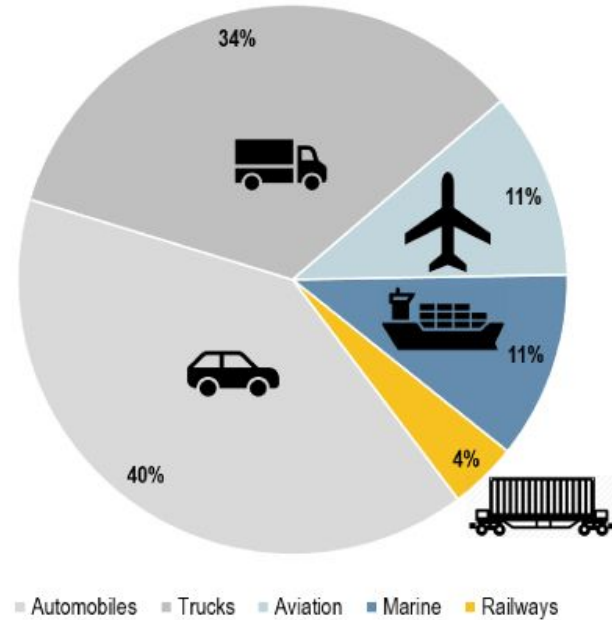
Education & skills at Oxford Climate Soc

Transport - a global problem?

CO2 Emissions by Economic Sector



CO2 Emissions by the Transport Sector



Rodrigue 2017, IPCC 2014

— Aviation & carbon: An inequality problem

4.4 billion passengers in 2018 IATA, 2019

**In the UK, 10% of the population
are making over 60% of all flights** Banister, 2018

Academic air travel

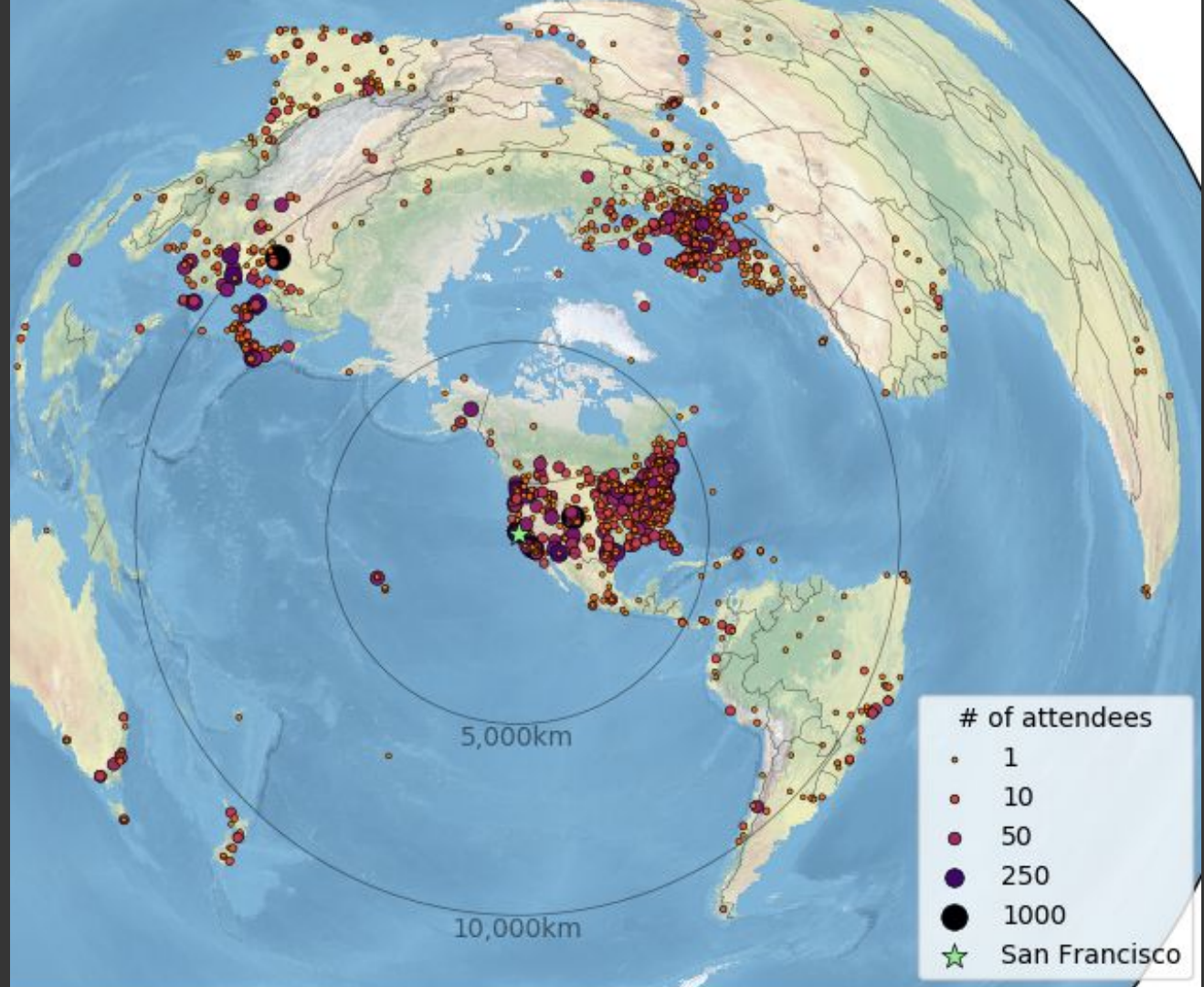
Example of a
single conference

244 million km travelled

69,300 tonnes of CO₂e

2.8 tonnes per person

More than the yearly
allowance



Calculating the travel carbon footprint

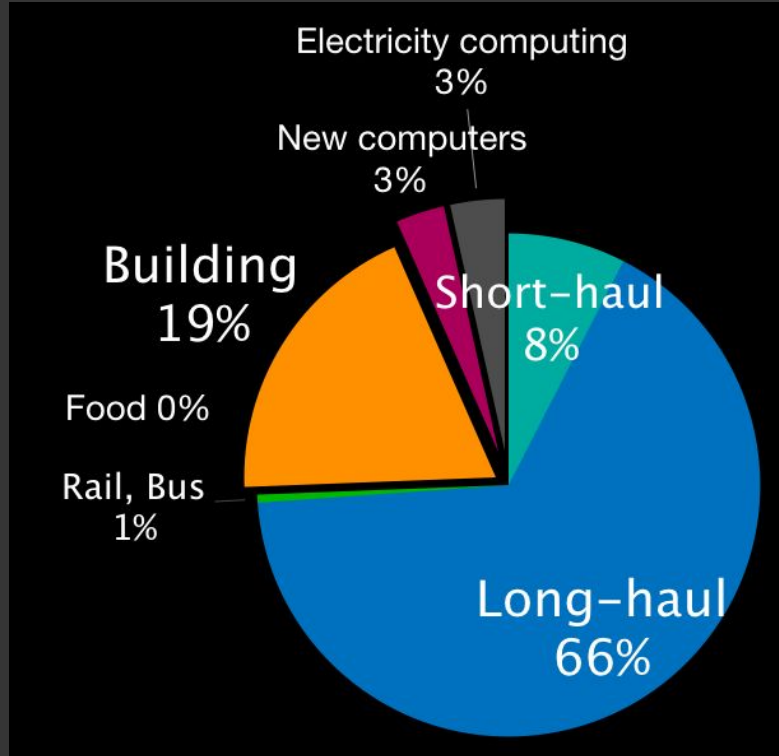
Carbon intensity

Bus	30g CO ₂ / km / person
Train	30g CO ₂ e / km / person
Car	60g CO ₂ e / km / person
Flight	250g CO ₂ e / km / person



Great circle distance

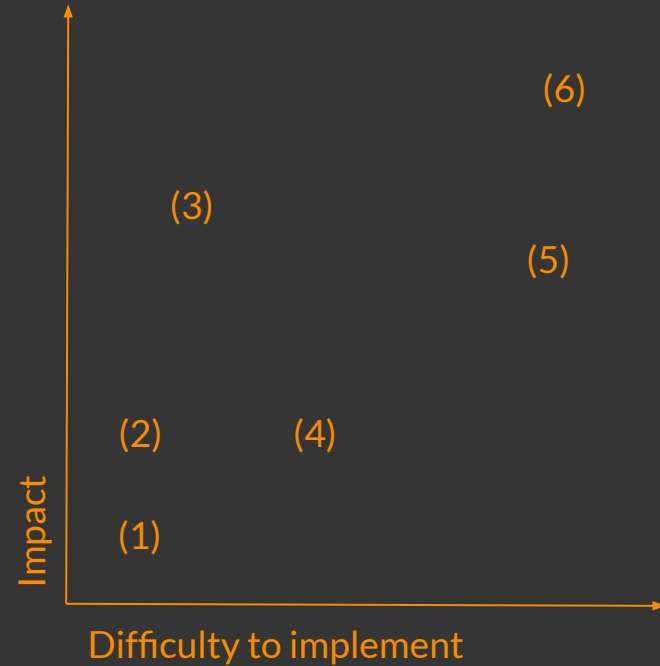
Carbon footprint of a department



Atmospheric, Oceanic and
Planetary Physics

Travel & carbon emissions: Policy ideas

- (1) Monitor carbon emissions
- (2) Funding of low carbon modes of transport
- (3) Virtual meeting video system
- (4) Carbon risk assessment
- (5) Carbon tax
- (6) Carbon offsetting



—Break-out:—————

1. Between you, what do you know about carbon at your college? Who can you contact to find out more? (google if need be!)
 2. What are specific challenges your college might face?
 3. Are there specific areas as a college you want to focus on?
 4. What are the **first tasks** for determining carbon output at your college?
-

—Final thoughts:

Obstacles?

Questions?

First tasks?

We will be e-mailing you all with a feedback form!

Go to the Campaigns section of the OCS website
Resources, video of workshop, contacts
<https://www.oxfordclimatesociety.com/college-workshops.html>

See the complete **Climate Action Plan** online
at the **Oxford SU** for complete resources,
research and examples!
www.oxfordsu.org