

## Tyndall Travel Strategy

*The Tyndall Travel Strategy was developed by researchers at the Tyndall Centre for Climate Change Research, based on reflections during multiple Tyndall assemblies during 2012-2015. It was adopted on a voluntary basis by the Tyndall Community in September 2015. You can take it, tweak it, and make it your own, but please acknowledge where it comes from (Creative Commons on an 'Attribution CC BY'). See also our working paper <http://tyndall.ac.uk/sites/default/files/twp161.pdf>*

Last revised 16 December 2015

**Foreword:** Limiting climate change requires substantial and sustained reductions of greenhouse gas emission. The Tyndall Centre for Climate Change Research acknowledges its share of global emissions, particularly from emissions related to flying to conferences and meetings. While travelling helps advance research, options are available to limit travel emissions by reducing the distance travelled, switching travel model, and using alternative modes of communications. The Tyndall Travel Strategy under development aims to help individual researchers and the Centre as a whole to reduce its emissions through time.

**General principles:** *the Tyndall travel strategy should be simple, self-guided, open and transparent, and driven by an overall goal.*

**Simple:** there is enough administrative burden associated with travel. Our researchers want a simple system that provides them with feedback on their performance compared to themselves (through time) and to others.

**Self-guided:** there is such a diversity of researchers with different views on the usefulness of travel for research that we ask our researcher to evaluate themselves the rationale for their travel emissions. We provide a look up table with the general principles. Interested researchers can sign up to the strategy (it is not compulsory).

**Assisted self-monitored:** we offer a way to report your emissions through a simple monthly survey. We will feed back information every three months to compare your travel emissions to those of colleagues at the Tyndall Centre.

**Open and transparent:** we want the public to know that we are taking our emissions seriously and acting to reduce them. For this, we plan to make public our emissions when the system is established.

**Driven by an overall goal:** we acknowledge the benefits of travelling for research, and the necessity to scale up the effort or emissions reductions throughout the entire community. We are working with the international community to establish targets for the global research community, and to develop alternatives to travelling, by: (1) writing a paper discussing alternatives to travelling with moderns modes of communications, (2) making efforts ourselves to develop and use the web-based research space, and (3) engaging discussions through the Future Earth science committee. The fundamental basis for the Tyndall travel strategy should be

grounded on the UK government's target of reducing emissions by at least 80% from 1990 levels by 2050, as stated in the Climate Change Act.

This document aims to provide a strategic frame for reducing the travel emissions of researchers at the Tyndall Centre. It includes a Code of Conduct to support a change of mentality around research travelling, a 'Decision tree' to help make decisions at the moment of travel, and a 'Reporting and scoring tool', that provides a web-based tool to report emissions based on hours in motion and professional score for your travel this year. The Scoring tool is experimental and may change with time.

Details on the rationale for reducing emissions from the research community is provided in Tyndall Working paper 61

<http://tyndall.ac.uk/sites/default/files/twp161.pdf>.

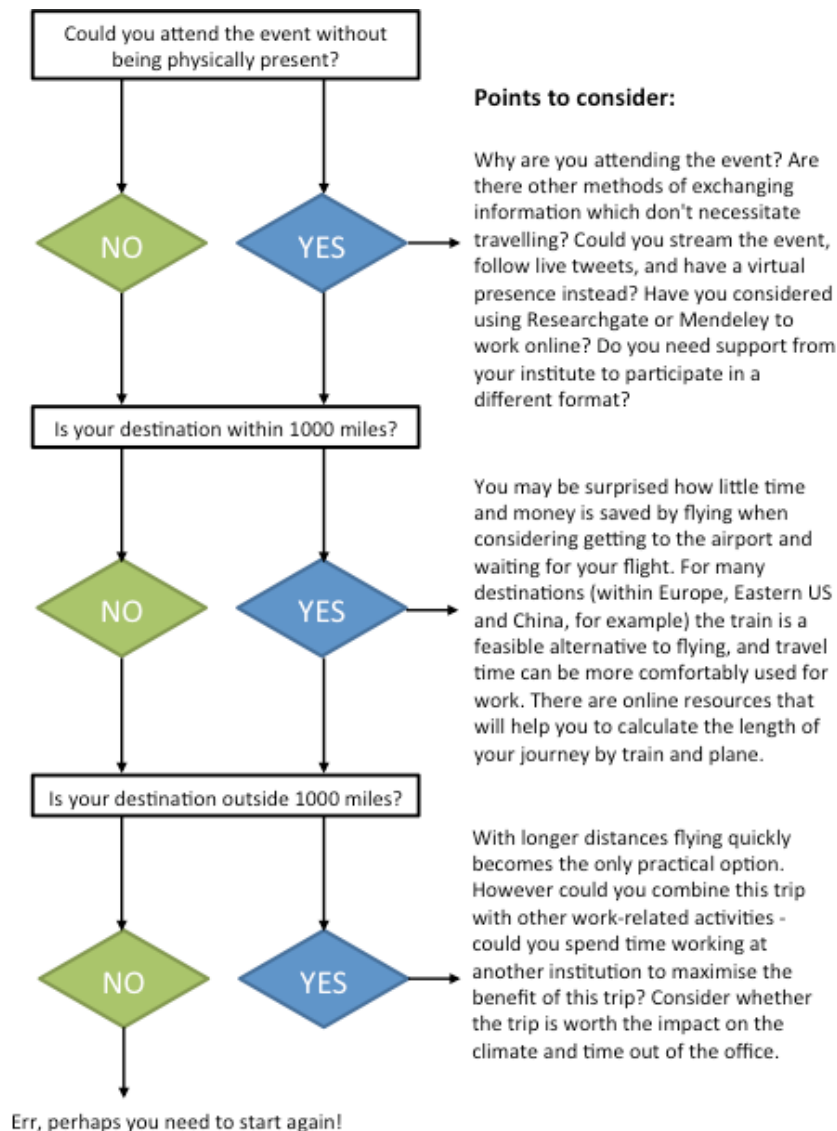
**Scope:** This strategy refers to travel emissions undertaken for work activities only. It does not include personal travel or commuting to work.

## I – Code of Conduct to support a low-carbon research culture:

- 1) **Monitor and reduce.** I will keep track of the carbon emissions of my professional activities, and set personal objectives to reduce them in line with or larger than my country's carbon emissions commitments (see Appendix A).
- 2) **Account and justify.** I will justify my travel considering the location and purpose of the event, my level of seniority, and the alternative options available.
- 3) **Prioritise, prepare and replace.** For activities that I organise, I will chose the location giving high priority to a low carbon footprint of travel of the participants, and I will encourage, incorporate and technically support online speakers and webcasts to reduce unnecessary travel.
- 4) **Encourage and stimulate.** I will resist my own FoMo (Fear of Missing Out) from not attending everything and work towards sensitizing others to the need of the research community to walk the talk on climate change.
- 5) **Reward.** I will work with my peers, Institute and Funders to value alternative metrics of success and encourage the promotion of low-carbon research as a realisable alternative to a high-carbon research career.

## II – Decision tree:

The decision tree aims to help you identify low-carbon travel alternatives, and help you maximize the benefits of your travel emissions.



## III – Reporting and scoring tool:

You are asked to report your emissions on a monthly basis using the Tyndall Travel Tracker (<http://travel.tyndall.ac.uk/>). The TTT asks you to report where you have been and why, to justify your trip (see below), and to report the numbers of hours you spent moving in a car, bus, train and plane. Your emissions will be computed directly from this information. You are then asked to set your own objectives for the coming years (see I – Code of Conduct above for a suggestion of what that could be).

In addition, we are exploring a scoring tool that aims to give you a professional score independent of your career stage, and can thus be used to monitor your emissions through time and to compare your habits with that of others. This is an experimental score that will need to be revised as results come in. Your score is the product of a 'Weight' corresponding to the rationale associated with your travel (Table 1), times the emissions  $E$  normalized to the corresponding emissions per km train travelled (Emissions<sub>norm</sub>, Table 2), times the number of 'Hours' in motion.

$$\text{Score} = \text{Weight} * \text{Emissions}_{\text{norm}} * \text{Hours} \quad (1)$$

The score is provided in hours-equivalent ( $h_e$ ). For a well-justified trip (Weight=1),  $h_e$  can be converted to  $t\text{CO}_{2e}$  by multiplying by 0.01. The score of a well-justified trip lasting 10 hours made by train would be equivalent to 10  $h_e$  or 10  $\text{kgCO}_{2e}$ . The score of a well-justified trip lasting 10 hours and made by plane would be 80  $h_e$  or 0.8  $t\text{CO}_{2e}$ . The score of a poorly justified trip (Weight=4) lasting 10 hours and made by plane would be 320  $h_e$ .

**Disclaimer:** The Tyndall travel strategy aims to provide a general view of the travel emissions of our researchers, but it will not be very precise as a carbon footprint tool because we have opted for simplicity in reporting. For a deeper analysis of your emissions please consult with other web sites available. We aim to improve the way we report our emissions and feedback to members through time, and revisit this overall strategy once a year at the time of the Tyndall Assembly (usually in September).

## Appendix A – Personal objectives for reducing emissions

It is recommended to set personal objectives to reduce emissions in line with or larger than those of the country where you reside. In the UK and Europe, emissions reductions are reported compared to year 1990. To account for the rise in emissions from researchers since 1990, the growth in international aviation of 53% can be used (1990 to 2011).

For the UK, considering growth since 1990 and following the UN Climate Change Act on the 'intended path' means an initial effort to cut your aviation emissions by at least 50% compared to 2010-2015 level, and then to cut all your travel emissions by at least 2.4% per year during 2015-2020 and 5.7% per year during 2020-2050.

## Appendix B – How to justify your travel emissions

Table 1: Weight associated with different types of travel to be used in Equation 1. We refer to research stages as follows: Stage 1: Early Stage Researchers (for example up to 2 years after PhD); Stage 2: Intermediate Stage Researchers (for example, up to

about 10 years after PhD); Stage 3: Established Researchers (for example, in permanent positions with over 10 years since PhD).

Weight	Justification
1	<p>Well justified emissions, for example: Conduct field work. Travel informs directly policy on climate change and global sustainability (e.g. IPCC). Travelling to meet contractual engagement (e.g. from research grants), with no alternative options available. Risk of job loss with refusal to travel.</p> <p><u>And for Stage 1</u>: Present and promote own research. Establish contacts. Attend and present work at project meetings.</p>
2	<p>Useful but with potential for using alternative options.</p> <p><u>Stage 1</u>: Attend a workshop not directly related to own research.</p> <p><u>Stage 2</u>: Travel to present own work and promote own research.</p> <p><u>Stage 3</u>: Travel to explore new topics. Could lead to important research or funding for own or group/institute research. Travel acts to move projects or significant collaborations forward (e.g. Fudan).</p>
3	<p>Less well justified with much potential for using alternative options. Good value mainly for low-emissions travel.</p> <p><u>Stage 3</u>: Travel to present own work and promote own research. Travel to establish or maintain own collaborations. Invited guest lectures.</p>
4	<p>Poorly justified emissions. Good value only for low-emissions travel.</p> <p>Travel to keep up to date or renew connections with colleagues. No results presented. Little pre-travel arrangements made to optimize the usefulness of the meeting.</p>