

# Prepare for landing

**Practical tips on tracking, reporting and  
reducing business air travel emissions**

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**SEI report**  
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## Introduction

Organizations around the world are trying to improve, and, voluntarily, report on, their environmental performance. Often, they prioritize carbon emissions. By managing and reporting on carbon emissions, as well as other aspects of operational sustainability, organizations can reap a range of benefits, such as reducing costs, increasing employees' well-being and satisfaction, improving their public profile, demonstrating leadership and contributing to positive societal change.

For office-based organizations, business travel can be a major – even the main – contributor to total greenhouse gas emissions. Despite this, business travel emissions have not always been counted in corporate emissions inventories. In the GHG Protocol Corporate Reporting and Accounting Standard, a commonly used framework for corporate greenhouse gas (GHG) emissions accounting, business travel emissions fall within the “Scope 3” (corporate value chain), rather than as direct (Scope 1) or indirect (Scope 2) emissions. Thus, accounting for business travel emissions is optional, rather than required, even under an already voluntary reporting framework (GHG Protocol 2011, p.5). Thus, efforts to report and reduce business travel emissions – at least until the COVID-19 pandemic – have relied on voluntary action by individual organizations, finding their own paths, methods and systems.

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### BOX 1: INTERVIEW METHOD AND ANALYSIS

The TR<sup>2</sup>AIL project was interested in mapping and understanding the needs, perceptions and motivations that drive work-related travel behaviour at SEI and UEA, with a view to informing development of a prototype tool (see Box 2). To do this it employed Service Design methodologies. Service design is a way of both exploring complex user behaviour and co-designing solutions with the users.

Researchers carried out 47 open-ended interviews with colleagues across SEI's international centres and in UEA. The sample included both men and women, junior, mid-level and senior staff, and both researcher and non-researcher roles. The interviews sought to capture the respondents' experiences and perceptions of travelling for work, as well as their thoughts about their organizations' ambition to reduce travel-related emissions, and ideas and suggestions for the prototype travel tracker tool.

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### The TR<sup>2</sup>AIL project

Earlier this year, a team at Stockholm Environment Institute (SEI) and University of East Anglia (UEA) carried out a series of interviews with employees and managers in their organizations, as part of a larger project called Tracking, Reflecting and Reducing Air Travel, or TR<sup>2</sup>AIL (see Box 1 for more on the interviews). The project aims to develop a tool to help organizations monitor their business air travel emissions and support more sustainable decision-making around air travel.<sup>1</sup>

Drawing on these interviews, experiences in developing business air travel emissions policies in the two organizations, along with a review of published emissions reporting guidelines (CDP 2017; GHG Protocol 2011; GHG Protocol and Carbon Trust 2013; UK Government 2019) and other literature, this report presents some key considerations for organizations that are looking to adopt business travel emissions monitoring, reporting and reduction policies.

The insights offered here are inevitably shaped by the cultures of SEI and UEA. For example, most business travel is done individually or in very small groups. Staff are generally well informed

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*With the travel restrictions in place now because of COVID-19, a lot of events are being cancelled; but I get a sense that these events not happening is not impacting us so much.*

– Interviewee

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<sup>1</sup> See Box 2 for more on the tool, and read more about the project at <https://www.sei.org/projects-and-tools/projects/tr2ail/>.

about sustainability issues, including GHG emissions and their impact on climate change. Even relatively junior staff are responsible for deciding when and how to travel, and for organizing the travel (subject to approval by their line managers and project leaders). Business travel is mainly for research-related or administrative meetings, attending academic conferences or field research – along with some direct engagement with policy-makers and practitioners. The travellers' day-to-day work generally involves a good share of computer-based work that can be done outside of an office environment. However, the report will hopefully offer useful insights for a broader range of organizations.

## Why target business air travel emissions?

According to the Intergovernmental Panel on Climate Change, “the continuing growth in passenger and freight activity could outweigh all mitigation measures unless transport emissions can be strongly decoupled from GDP growth” (IPCC 2014, p.603). Aviation has limited number of decarbonization options, especially compared to common ground-based travel modes. While alternatives to fossil-based aviation fuels are being researched, none is so far close to commercialization. The only way to significantly reduce aviation emissions remains, for now, not flying.

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### BOX 2: A NEW DECISION-SUPPORT TOOL

The TR<sup>2</sup>AIL project is developing a prototype tool to both help organizations monitor their business air travel emissions and to support more sustainable decision-making around air travel by increasing awareness of air travel emissions and giving individuals a greater sense of ownership over their efforts to reduce emissions. The prototype should be available by the end of 2020.

Individual users will be able to calculate the emissions from flying on a given trip, including taking into account multiple legs of a journey. They will also have access to statistics on their business travel history and accrued emissions.

They will also be able to set an annual target for their own emissions. A decision tree will help them to decide on whether and how to travel. Finally, they will be able to enter details of their chosen travel option (if any), including the purpose and the justification for their choice.

Managers or coordinators will be able to access information and statistics on travel by groups of employees. The tool will also have an optional trip approval feature.

The tool will be highly visual, and will express emissions in familiar, concrete terms, such as equivalent car miles, to help users to make decisions. Emissions will be calculated using the methodology of the Travel & Climate calculator (<https://travelandclimate.org/>) developed by Chalmers University.

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Globally, emissions from aviation are dwarfed by those from the power sector and from private cars. In 2018, global aviation accounted for 2.6% of all CO<sub>2</sub> emissions from fossil fuel use (Teter 2020).<sup>2</sup> However, this figure masks huge disparities. By 2016, only an estimated 20% of the world's population had ever flown (Rosen 2017), while 90% of aviation emissions were generated in high-income or upper middle-income countries (Graver et al. 2018). Swedish citizens, for example, account for seven times the average per capita global aviation emissions (Larsson et al.

<sup>2</sup> This figure does not include indirect aviation-related emission sources such as embodied energy for manufacturing airplanes and energy demand for operating airports, or the so-called high-altitude effect of aviation (Jungbluth and Meili 2019).

2018). This kind of unequal distribution is evident also within societies and economies, and even within organizations.

Furthermore, aviation emissions are forecast to increase greatly. The number of passenger journeys undertaken per year doubled between 2000 and 2015, and – before the COVID-19 pandemic – were forecast to more than double again, reaching 8.2 billion by 2037 (IATA 2018) – even as the world struggles to meet the Paris Agreement climate targets.

Business travel accounts for a notable share of total aviation emissions. For example, a study commissioned by the City of Stockholm found that around 28% of aviation emissions linked to flights by Stockholm residents in 2016 originated from business travel (Porsö 2017).

At the same time, unlike the energy mix for power generation, for example, individuals and organizations can have a considerable direct impact on their travel emissions through how much they travel. Indeed, several interviewees mentioned that choosing to fly less was one of the few ways in which they felt they could significantly reduce their individual carbon footprint.

When it comes to business travel, the first six months of the COVID-19 pandemic have amply demonstrated that in-person meetings can often be successfully replaced with remote engagement, especially in information and knowledge-based sectors. When physical presence is important, less carbon-intensive alternatives to flying are often available and practical, especially for shorter journeys.

## Insights on corporate travel emissions policies

The insights below are organized around four aspects of designing and implementing policies with the ultimate aim of reducing business travel emissions. The first is reduction targets, related progress indicators and reduction strategies. Next are systems to support decision-making on business travel, and for gathering data about travel that does take place – such as the forthcoming tool under TR<sup>2</sup>AIL. The next topic is reporting of results, both externally and internally. Finally, the report looks at how organizations can create an enabling and encouraging environment for reduced business travel emissions.

### Targets and progress indicators

While targets and progress indicators are not essential to a reduction strategy, they can be invaluable in defining the organization's ambition, motivating action, and revealing when the strategy is working or needs to be adjusted. Several important decisions need to be made in order to set an appropriate target and progress indicators.

### System boundaries

One of the most important system boundaries in defining indicators of business travel emissions is what travel to include. The GHG Protocol standards define business travel as “emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars” (GHG Protocol 2011, p.46). However, calculating emissions from ground transport can be much more complicated than those from flights, as they depend on variables such as fuel and/or the local electricity mix (for electric trains and vehicles). Given that they are likely to have much lower emissions than an equivalent flight, especially over relatively short distances, organizations might choose to exclude them.

Another question is which journeys should be included. The GHG Protocol standard wording implies all business-related journeys by the organization's employees, including those arranged and paid for by third parties. However, organizations might also considering including travel by non-employees such as suppliers, partners, presenters, or attendees at meetings and

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*This feels like the one thing that I can do to make a difference, the only thing I really have control over.*  
– Interviewee

conferences arranged by the organization. In particular, interviewees in SEI and UEA highlighted the need to avoid “leakage” of travel emissions, when refusing to travel for an activity means external actors end up having to travel instead. A recent study shows how emissions scenarios can be developed that take into account emissions from both employees and non-employees (Pargman et al. 2020).

Carbon offsets are frequently offered as a way of reducing net emissions, whether for individual flights or at a larger scale. Using carbon offsets to reach emissions targets can be tempting, as it means the organization can continue with business-as-usual emissions. However, to reach global mitigation goals all carbon emissions from burning fossil fuels need to cease well before the end of the century. The Carbon Offset Guide (<https://www.offsetguide.org>) argues that the focus needs to be on reducing emissions directly, and offsets should only supplement these efforts. The Guide offers useful guidance on offsetting.

### Target types

Two common types of emissions-reduction targets are absolute (a reduction in the organization’s total business travel emissions, measured in tons of CO<sub>2</sub> equivalent) and intensity (a reduction in emissions compared to a business metric or normalizing factor, such as number of employees or turnover). These targets are usually expressed as a percentage change by a target year, compared to a base year.

Both types have pros and cons. For example, intensity targets make it easier to compare between organizations. They are also less affected by unpredictable changes in the organization’s size or economy. However, the interviews showed that intensity targets may be perceived as unambitious compared to absolute targets, and less in line with the Paris Agreement targets and climate science, as they theoretically allow the organization’s total emissions to stay static or even increase. The GHG Protocol (2015) suggests that, to promote transparency, organizations that choose to set an intensity-based target, should report the emissions covered by the target in absolute figures too.

### Cascading targets through the organization

In organizations like SEI and UEA, the amount of business travel that different individuals and teams do varies widely, largely shaped by their responsibilities and their location, but also by preferences and budget. Thus, differentiated targets are probably needed for different parts and levels of the organization.

These targets need to reflect the realistic scope for reductions and other factors. For example, a team based in Europe, with good, safe reliable rail, road and internet connections, has more chance of avoiding flying than one based in sub-Saharan Africa. Similarly, a team that is likely to grow or shrink significantly over the strategy period could be set an intensity target, while more stable teams are given absolute targets.

Interviewees also argued that a robust strategy should pay particular attention to reducing flights by frequent flyers in the organization, and advocated hard measures to target them, alongside a more reflective approach. The interviewees expressed frustration and a sense of injustice that some frequent flyers had not changed their behaviour, and said it undermined a feeling that “we are all in this together”.

However, there is risk that differentiated targets could be perceived as unfairly penalizing some teams or being too lenient on others. This could likely be avoided by ensuring that targets and the larger emissions-reduction strategy are set through a participatory and inclusive process.

### Base and target years

Emissions-reduction targets are often set against a single base year – usually a recent year for which data to calculate business travel emissions is available and reliable. For an organization

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*I would love to have analytics of my own travel. Sometimes I feel I can’t rely on my memory to judge how much I travel.*  
– Interviewee

that does not have the necessary data available, it might be possible to use a comparable organization's emissions data instead (as long as the same calculation method will be used). As an alternative, the organization could first monitor business travel for a period, and then set reduction targets based on the results.

Organizations whose business travel needs vary substantially between years could consider using a multi-year average for the base year. Another option is a target with a "rolling" base year – for example, a target of year-on-year emissions reductions (see GHG Protocol 2015, p.79).

Organizations should also be ready to recalculate the base year emissions in the case of changes in the calculation methodology or improvements in the accuracy of emission factors or similar.

When it comes to choosing a target year, an organization needs to balance the time needed to change practices (and how much travel is "locked in" under current project contracts and commitments) with ambition. If the target year is too close, it might not be possible to set an inspiring reduction target. However, as interviewees pointed out, if the target year is too far off it might lead to difficult changes – and hence emissions reductions – being postponed until close to the deadline. To prevent this, and to make it easier to identify problems with the current strategy, organizations could define a trajectory for emissions reductions, for example with interim targets.

### Ambition level

An ambitious emissions-reduction target can help to inspire action and pride in the organization, as well as sending a strong message to external audiences. At the same time, missing the target can be demoralizing. Thus, target setting should ideally take into account factors such as current travel emissions and travel patterns; why it is happening; the potential costs and benefits of reducing air travel (e.g. in terms of productivity, relationship-building or ticket prices); the availability of alternatives; the level of willingness within the organization; travel "locked in" by current projects and commitments, and opportunities to reduce such lock-in in the future.

The Science-based Targets Initiative (<https://sciencebasedtargets.org/>) offers guidance on how to set corporate emissions-reduction targets in line with the Paris Agreement targets.

### Decision support and data gathering

At both SEI and UEA, individuals have a high degree of responsibility for their own business travel. The current strategies for reducing business travel emissions thus rely on voluntary change by individuals. Interviewees expressed an interest in being able to track their past business travel emissions, the reasons for that past travel, progress towards emissions targets, as well as the potential emissions from a journey under consideration, to help them reflect on whether to fly.

Interviewees also said having a vision or target – whether individual or institutional – was important. Some reported that they or their teams had also begun to look more carefully for opportunities to combine business travel while planning future activities.

Several interviewees said that they or their teams voluntarily set thresholds for business travel, or for when it was appropriate to fly rather than use a ground-based alternative. For example, one team had decided that no one should fly if the same journey could be done by train in less than 24 hours.

Interviewees also suggested that such thresholds could be established at an institutional level. Some organizations have already done this. For example, University College London's Geography department asks its staff not to take any domestic flights, while Ghent University has banned reimbursements for flights when the destination could be reached in the same amount

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*Normally people just compare ticket prices – train vs flight. But if you factor in the non-productive time – time to get to and from the airport, time spent in check-in and security lines, waiting for luggage – what does it look like then?*  
– Interviewee



of time, or in less than six hours, via ground-based transport (two hours is added to the actual flying time to take into account travel to and from the airport, check-in times and transfer time).<sup>3</sup>

Other criteria could be linked to the purpose and potential benefits or trade-offs of the travel, or limits on how much travel teams or even individuals can do during the year. Rules like this can facilitate decision-making and take some of the onus for potentially unpopular decisions off individuals and managers, but they need to be tailored to the realities and needs of individuals and teams.

In our interviews, respondents also stressed the importance of translating CO<sub>2</sub> emissions to something more relatable, suggesting indicators such as equivalent number of car journeys or deforestation. This idea is also backed up by earlier research (see e.g. Söderberg and Wormbs 2019).

The TR<sup>2</sup>All system is designed to support individuals in deciding whether and how to travel by calculating the emissions from a proposed flight, and showing statistics such as the individual's total emissions during the year. It is also a platform for individuals to report data on their business flights, which can be used for calculating emissions and tracking progress towards targets. Interviewees noted that any data gathering procedure for tracking business travel emissions should be simple and not impose too much of a new administrative burden. As far as possible, it should be integrated with other processes for reporting on travel. It calculates flight emissions following the methodology underlying the Travel & Climate calculator (<https://travellandclimate.org/>), developed at Chalmers University of Technology.

## Communicating progress and targets

Regular internal updates on progress towards the emissions targets can be encouraging and motivating, as well as highlighting when more action is needed. How and where the results are communicated internally is important, not least because it sends a signal about how seriously the organization takes emissions reduction. Regular updates also reflect a culture of transparency.

Internal updates could include several indicators. The total number of flights and other business journeys could also be included, along with year-on-year or month-on-month comparisons. Interviewees expressed interest in seeing emissions disaggregated by seniority level or based on gender. Once again, translating the results into more concrete terms can help to increase their impact.

Communicating the results externally can also be beneficial, whether as part of a larger reporting framework or in the organization's own publications. Any communication of the results or the policy should outline how the data was collected, how the figures were calculated and what emissions were included or excluded, to avoid misleading comparisons with other organizations. Also, if an organization or team has set an intensity target, it is important to complement this with an indicator of total emissions in order to give a fuller picture. Similarly, in the case offsets were used in order to reach the target, those need to be included in the reporting.

## An enabling environment for emissions reductions

Many organizations will have developed structures and practices that facilitate business air travel, and even encourage it. They need to identify and address these, and instead foster an enabling environment for reduced and/or lower-carbon travel.

Corporate reporting guidelines stress that commitment from senior management is critical to the success of any corporate target (e.g. GHG Protocol 2015; UK Government 2019) – not only

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*In the past I've had many trips where in the end, I realized it wasn't worth it ... now, for each event I go to, I spend at least one full day beforehand preparing and one day afterwards following up with new contacts made on possible opportunities. Investing so much time in each event means that I attend far fewer, but the ones I do go to are more targeted, and I make the most out of them. – Interviewee*

<sup>3</sup> A PhD project at ETH Zurich has compiled a [Google map](#) of business travel emissions-reduction policies at various European universities and research institutes.



On board the Beyond Oil Conference Train. In 2019 the Centre for Climate and Energy Transformation of the University of Bergen booked an entire train carriage to carry attendees for free from Oslo to the Beyond Oil Conference in Bergen. The seven-hour journey included a series of workshop and discussion sessions (CET 2019). Following this success, the university's Centre for Environment and Development made a similar arrangement for travel to the 2020 SDG Conference Bergen. © JUDITH RECZEK DALSGÅRD

because they can authorize the kind of structural changes and new resources that might be needed, but also because they have a strong influence over the culture of the organization. Interviewees agreed that seeing senior managers leading by example would help to motivate change. In turn, several interviewees from management said they felt it was important for them to demonstrate leadership by flying less.

Accountability systems, performance review criteria and other incentives can also be adapted, according to interviewees. Among cultural barriers and disincentives to change, they felt that business travel was seen as a marker of success and prestige – both of their organizations and for individuals – and was subtly rewarded through, for example, how it was reported to colleagues. Early-career researchers in particular said they believed business travel would help them advance in their careers. Whether these perceptions are correct or not, they need to be explicitly addressed. As an example of explicit incentives organizations could introduce for reducing travel emissions, during the European Society for Conservation Biology biannual conference, an award is provided to those who have chosen to travel in the most environmentally friendly way.

When it comes to structural barriers, interviewees noted that international train travel can be much more complicated to research and book than flights. Organizations could help this by working with travel agencies with experience of booking train travel and insisting that the agencies provide information on viable ground-based alternatives alongside flights, including the respective emissions.

Interviewees also noted that cost could be a difficult trade-off when choosing whether to fly or use ground-based transport – in Europe, international rail travel can be much more expensive than flying. Employees have to seek approval for these additional travel costs before booking, with no certainty that it will be granted, which acted as a disincentive. They said they wanted clearer guidance on criteria for decisions regarding travel costs; for example, how much extra cost would be accepted for a certain reduction in emissions.

Interviewees also suggested that organizations could look at how to finance additional costs such as accommodation during overnight stays on longer journeys, or the price difference between air and ground-based travel tickets, so that teams and projects with smaller budgets can still afford ground-based travel.

Similarly, interviewees hoped their organizations would make it easier to hold remote meetings and events by providing subscriptions and software for effective collaboration tools, along with training and technical support.

It is worth noting that the interviews surfaced some of the more complex trade-offs involved in reducing business flights. For example, some said they valued meeting in person as it stimulates new ideas, and helps build relationships and trust, especially with new partners. Balanced against that, some interviewees found business travel stressful and exhausting, and complained that it often created a backlog of work – something not always considered in decisions to travel. Developing a travel emissions reduction strategy could be an opportunity for a broader discussion on travel and working practices.

## Grounded organizations: A promising trend

Businesses and other organizations can play an important role in developing and spreading good practices, inspiring peers, funders and investors, and becoming ambassadors for broader policy change when it comes to reducing emissions from business travel. Even internally, adopting targets and changing practices can help raise awareness, encouraging employees to bring their new knowledge and experience of lower-carbon travel to their private lives.

Some organizations were already rethinking their business travel policies long before the first COVID-19 cases were reported. Nevertheless, the pandemic response has forced us to radically cut business travel. This has led us to re-evaluate business travel, to recalibrate expectations, to innovate, and to explore just how much can be achieved with remote alternatives – and the true costs of relying on intensive business travel. While government-mandated travel restrictions will be lifted in time, perhaps this experience will help to cement longer-term reductions in business travel. And as policies, practices and knowledge evolve within organizations, they can help to bring about wider societal and political change that helps us all to stay “grounded”.

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