Climate-smart flight travel policy and guidance for CARE International

SUMMARY
This paper is constructed around three key areas:

1 it proposes a policy for CARE to reduce the impact of its air travel on climate change, based on four principles outlined below,

1: All emissions from air travel should be routinely recorded and monitored, and reported to management periodically.
2: Support, resources and encouragement should be given to staff to embrace ways of working that reduce the need for air travel
3: Targets should be set for actually reducing emissions and a clear action plan put in place to achieve, monitor and report on real reductions and not just offsetting.
4: CARE should compensate for the climate damage resulting from all air travel conducted in its name.

2 it provides the basic outline for the development of a CARE travel levy that should be further developed and championed by National Directors

3 provides guidance on how these principles may be implemented, with some examples of good practice from CARE and other organisations to reduce and account for emissions

The outline flight policy initially encourages voluntary and self-managed action by CARE members and offices. It also recommends that CARE International move to a system of mutual reporting and accountability, to encourage greater commitment, ambition and achievement in reducing its carbon footprint.

CONSULTATION:
An outline travel policy was circulated throughout CARE in early 2016 for comment and feedback. Respondents were asked to consider

- *Does this policy seem workable?*
- *Are there any gaps it does not address?*
- *Do you have any existing practices, tips or suggestions you would like to share?*
- *Any concerns?*
- *Areas where you think CARE offices will require more detailed guidance.*

Following their feedback, the present policy was drafted and reviewed by a small working group.

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1. Introduction

The uncomfortable dilemma

As reaffirmed in the Paris climate agreement in December 2015, the world has committed to staying well below 2 degrees Celsius of global warming relative to pre-industrial levels, with an aspiration to keep it to 1.5°C, in order to stand any chance of averting dangerous runaway climate change. To achieve this requires radical departures from business as usual in all spheres of life. According to several scientific analyses a rapid reduction of greenhouse gas emissions towards a global emissions peak by around 2030 and then fall to near zero by 2100. This is required to avert catastrophic climate change, which would force 720 million people back into extreme poverty. Already there are impact's that are currently unfolding especially upon the worlds poorest and most vulnerable people and whatever we do to reduce emissions as soon as possible we are locked into future impacts from own historical emissions.[1]

To maintain its credibility as a serious advocate on climate change, and to reduce its own emissions and support a societal shift towards more sustainable working habits and lifestyles, CARE must find ways to efficiently reduce its own carbon footprint. For most CARE offices and members, that ultimately means changing our culture and flying less but also investing in new ways of working e.g. Tele conferencing, as air travel is by far the biggest contributor to CARE's direct emissions. Additionally substantial co-benefits also arise from flying less including financial savings,

[1] Granoff et al. 2015. Zero poverty, zero emissions: eradicating extreme poverty in the climate crisis. ODI. London. https://www.odi.org/publications/9690-zero-poverty-zero-emissions-eradicating-extreme-poverty-climate-crisis

empowerment and employment of local staff, decreased stress levels and a better net worked and more resilient organisation.

Given the nature of our work we often have to take aeroplanes. The burning of aviation fuel generates greenhouse gas emissions, which have a multiplied global warming effect (about three-fold of the CO2 emitted) because they are released high into the atmosphere.[2] Thus, by flying, we make climate change and its impacts worse for the very people we seek to support.

Air travel is the fastest growing emissions sector and growing at such a pace that on current trends it will produce 22% of the world's CO_2 emissions by 2050. Yet, remarkably, these emissions are not covered adequately by domestic legislation or international agreements. Aviation fuel is, by international law, free from tax. Aviation, a sector mostly used by the world's richer people, continues to be immune from climate regulation while the worst impacts of climate change fall on the poorest. In the absence of targets for the industry, it is up to consumers to take voluntary action. For CARE, the ethical case is compelling, but there is also a business case to be made in terms of

- Cost savings
- Reputation among peers, staff and partners and private sector
- Potential for engagement with supporters and donors.

Scope of this policy

The purpose of this policy on Climate-Smart Travel is to enable CARE to put in place systems that reduce its carbon emissions, increase staff awareness and promote climate-sensitive behaviours in relation to work-related travel and compensates for the damage it causes by emitting green house gases.[3]

This policy contains principles and guidelines which **each CARE office can apply in a manner that suits its context**. It recognises that different parts of CARE have different constraints and opportunities for action and therefore does not stipulate specific rules or behaviours that any part of CARE should conform to. Instead, it provides guidance for all parts of CARE to **set their own aspirations in line with the spirit of the policy**.

The focus of this policy is on air travel, which is by far the largest contributor to CARE's emissions. Nevertheless, climate-sensitive decision-making also applies to other modes of transport, such as taking public transport instead of a car or taxi, sharing a vehicle with others, or walking or cycling where practicable. It also applies to office policies such as energy use, paper and waste, and the use of chemical cleaning products. Steps such as these can be important motivators, especially for individuals who fly only rarely for their work, giving visibility to the issues, and helping to reinforce an office culture of climate-sensitivity and environmental awareness.

Current state of the art in CARE

[2] Incidentally, most airline footprint calculators do not include this multiplier.

[3] Indirectly this may also have an influence on personal travel and lifestyle choices.

An initial survey was carried out in the preparation of this policy, which received replies from 10 CARE members. 5 members are currently taking some sort of action (tallying, reporting, offsetting) on the air travel emissions, and these also have active "Green Teams" among their staff. Conversely, among the 5 members who are not taking any action, 2 have had a Green Team in the past but it is no longer active; and 3 have never had one. Thus it seems that having a staff Green Team is associated with an organisational commitment to take action on emissions; indeed, in some cases the Green Team will have been the driver of that commitment. Put another way, having a Green Team helps in taking action on climate change but must be fully backed up by high level Director and Board support.

Some good practice:

CARE Australia has a Climate Change Action Plan in place, and its performance on carbon emissions is reported in the published 2014/15 Annual Report.

CARE Austria has set up a comprehensive sustainability framework, of which travel policy is just one part. They intend to report about their sustainability activities in the 2015 annual report.

2. Climate-smart travel policy

Elements of a climate smart travel policy

A comprehensive approach to CARE reducing the climate change impact of its travel consists of four elements. These are to:

1. **Monitor** travel and record associated carbon emissions. This provides a baseline from which to take action and set targets;
2. **invest** in measures to reduce travel emissions, in areas such as staff education and training, information technology, and incentive schemes;
3. actually **reduce** travel emissions, with progressive targets to keep up the momentum; and
4. **Compensate** for the damage caused by travel emissions that cannot be avoided.

While there is a logic to the elements appearing in that sequence, it is possible to make progress on **more than one element simultaneously;** e.g. taking steps now to reduce travel (component 3), before having a functioning monitoring system in place (component 1).

These elements can be reflected in a set of principles.

Principle 1: All emissions from air travel should be routinely recorded and monitored, and reported to management periodically.

If reducing emissions is going to be systematic and purposeful, it is important to set a baseline which can be used for setting targets, and managing performance against them. All work trips should be recorded, including those not paid for by CARE, for both staff and consultants working for us. The atmosphere does not care who pays for your ticket, and all emissions matter.

Some offices may also choose to do a more comprehensive inventory of their other office carbon emissions, to identify other areas of savings and behavioural change. These will be often dwarfed by the volume of emissions from flying, so it is useful to treat them as a separate category.

Experience has shown that it is preferable to monitor flights on a continual basis – using a live spreadsheet or database – rather than calculate emissions in one large annual number-crunching exercise. Not only does this make the task more manageable, but it also keeps the topic alive in people's awareness, including on the agenda of managers. Data summaries should be reported to Management periodically for attention and action.

To provide peer encouragement and promote coherence, CARE International should request members to report annually on their emissions, targets and progress towards them. Ultimately, carbon footprints could become part of CARE's routine monitoring practice and reported through PIIRS.

Principle 2: Support, resources and encouragement should be given to staff to embrace ways of working that reduce the need for air travel

There is no doubt that the opportunity to travel is an important element in CARE's work. It increases empathy and connection between people in different countries, facilitates communication, enables more effective co-working and allows people to share skills and learning. The humanitarian imperative also requires us to do all that is necessary and practicable to reach and deliver life-saving assistance to those in need. This often means frequent and considerable air-travel. Moreover, costs, time, and the availability of alternatives to air travel differ from place to place. For example, Europe has well-established high-speed trains between many capitals, which do not exist in Asia or Africa. Flying is such an ingrained aspect of our working culture that people are often reluctant to consider alternatives. Indeed, even among climate activists themselves, to question flying is almost taboo.

Yet there are alternatives, and in a world facing climate change it is irresponsible to ignore them. Support needs to be given to staff to ensure that they remain productive and motivated by new ways of working. This can take various forms, including: providing appropriate facilities for remote and virtual co-working; setting expectations and modelling behaviours; and empowering more people through training and delegation.

In time, it should lead to change of mind-set and culture, break the "natural" assumption that you need to fly to exchange information. It should be possible to move to a system where travel is the exception rather than the rule for routine purposes such as workshops, meetings and collecting information. Participating in meetings and seminars via a web connection is now common practice, but often the majority of participants are physically present in one room and too little attention is given to the meaningful participation of people not in the room. This makes demands not only of technology, but also facilitation skills and meeting design (including preparation). Also, the reduction of work travel can also have other benefits on staff, including improvements in work efficiency (travel time saved), improvements in health like decreased stress levels, as well as helping to create a more family friendly work schedules for staff.

Principle 3: Targets should be set for reducing emissions and an action plan put in place to achieve, monitor and report on these reductions.

Having a reduction target provides a motivation for implementing the necessary changes in behaviours. Experience has shown that without such a target, activity remains in the realm of the good intentions (measurement, discussion, aspiration). How that target should be set depends on circumstances. One can take a cue from local peers and campaigns (for example, the 10:10 campaign started with a call for a 10% reduction per year for 10 years); or national targets (e.g. the UK has a target of 50% reduction by 2030,); or to use the basis of the required global or national emissions reduction and set an achievable amount which is reviewed each year. Even if the target is not achieved, the process of moving towards it will generate important lessons and highlight the obstacles to further progress.

In 2010 the World Resources Institute set itself these targets by 2020:

- Replace two out of every five trips with virtual communications
- Reduce the carbon emissions from business travel by 20%

It is useful to have targets both for overall emissions reductions and "emissions intensity" (i.e. emissions per unit of productivity). [4] This allows managers to assess whether changes in overall emissions are due to changes in behaviours, or in overall volume of activity.

Targets should be supported by an action plan that should cover both the systems to monitor and manage air travel (e.g. data collection, approval process), setting up mechanisms of reduce it (e.g. teleconferencing), as well as staff engagement, outreach and building capacity.

Building capacity needs to be considered broadly and in the longer term. How many trips to country programmes could be avoided if, for example, local staff or consultants were trained and supported in providing some of the technical assistance, monitoring data, human interest stories, images and other feedback that is currently provided by visitors from outside?

While this travel policy is not intended to be directive or mandatory, it is important for CARE as a whole to know where it is heading, so all members should report annually to each other on their status. Eventually CARE could aim at convergence, whereby all members use the same systems and rules, but in the early stages, mutual accountability and transparency is a good start.

What is "essential" travel?

Here is a provocation from renowned climate scientist Kevin Anderson, of the Tyndall Centre, UK[5]:

" junk the plane and get together with a few other UK speakers heading to the same event, cram yourself in a trusty Fiat Panda and set off for Venice ... what was previously 'essential' begins to take on a different hue.... 'Essential' has become a relative term, dependent on: Can we get there by plane? Are our friends also attending? Is it somewhere nice to visit (or name-drop)? Will we be taxied around? Are we staying in a plush hotel?"

[4] CARE Australia, for example, has examined three units emission intensity – per head of staff, per dollar of funds programmed, and per area of office space.

[5] From his blog http://kevinanderson.info/blog/hypocrites-in-the-air-should-climate-change-academics-lead-by-example/ -

Principle 4: CARE should compensate for the climate damage resulting from all air travel conducted in its name.

Put bluntly, our flying makes climate change worse and therefore also exacerbates poverty. Some people argue that because a plane is flying anyway, it makes no difference to the CO_2 released whether or not they are on it, so they are not making things worse. But this ignores that airlines make long-term investments in aircraft, and put pressure on governments to make similarly long-term investments in airports and related infrastructure, on the basis of the anticipated volume of passengers. Buying a ticket encourages airlines to continue operating and releasing greenhouse gases.

Therefore it is appropriate for CARE to take some action to try to remedy, in some way or another, the consequences of the emissions from its flights. Traditionally, the most readily available way to do this has been to purchase carbon offsets, which are commonly marketed as a way to become "carbon neutral".

Offsetting is problematic from a number of perspectives. Fundamentally, the concept of becoming "carbon neutral" when it comes to flying is an illusion. Fossil fuels contain carbon formerly locked away under the ground, which when burned is released into the atmosphere, effectively forever. No offsetting project can return that carbon back underground – it remains in circulation and contributes to the overload of atmosphere.

There are a number of other technical objections to offsetting[6], and some of these can be overcome by careful selection of offsetting projects that have been rigorously developed and certified. But the fundamental flaw remains that offsetting does not cancel out flight emissions.

In a world heading towards being over 4°C warmer than pre-industrial times, the imperative is to reduce carbon emissions, not just shift them about. Even if it were achievable, "carbon neutral" is no longer good enough.

This is not to say that many offsetting projects are not worthwhile in their own right, with significant social and environmental benefits. Offsetting is usually better than not doing so – but far worse than not flying in the first place.

> "WWF-UK takes a hierarchical approach to travel. We work to reduce the amount of travel in the first instance and then look at how we can reduce overall travel distances. Reducing CO_2 emissions and other greenhouse gases associated with travel (through more efficient modes, efficiency improvements or low carbon fuel sources, for example) then follows. The consideration of offsetting emissions from travel is seen as a last resort after all other options have been thoroughly explored."

[6] Some of these are outlined in WWF-UK's guide on business travel, from which the text box on this page is quoted. See http://assets.wwf.org.uk/downloads/business_travel_ps_0709.pdf

There have been suggestions that CARE should develop its own carbon offsets as a fundraising mechanism. Experience[7] has shown that this is very unlikely to be workable: generating carbon offsets that have environmental and social integrity is a costly process, requiring rigorous internal monitoring systems and external validation at every stage. It would require a significant investment to bring such carbon credits to market – investment that could be much more effectively used in other ways. However other mechanisms exist to reduce emissions and compensate for climate change damage as outlined below.

3. Proposal for an air travel levy

It has been proposed that CARE set up an internal air travel levy that recognises that flying exacerbates climate change. It differs from offsetting, as it does not claim to be carbon neutral, nor that "flying is OK". Rather, it seeks to compensate for the harm done by acknowledging and responding to the climate impacts of flying.

How could the levy be managed?
The process for elaborating and negotiating a CARE-wide air travel levy has yet to be decided. Meanwhile, individual members may choose to develop their own funds and lead by example.

Although a centrally held fund might be more effective to allocate and easier to manage, for some CARE members this might pose difficulties either from a governance, fiscal regulation or public relations point of view. Therefore it is envisaged that CARE members, and those Country Offices able to do so, would each hold and manage their own travel levy fund at country level. They would contribute to this in line with their flying footprint, and decide on how the proceeds should be used.

How this fund is used will be up to each national fund manager to decide. Options include:

- Providing additional funding to existing climate change adaptation projects ;
- Topping up humanitarian response funds for climate disasters, either through CARE or other agencies in cases where CARE is not operational;
- Building capacity of CARE partners to address climate change, as an investment in increasing resilience in the longer term;
- Channelling it through their support for CARE Climate.

How much will the fund generate?
There is no scientific basis for calculating how much this levy should be, as it is impossible to know the cost of adaptation, loss and damage caused by each tonne of CO2 emissions. Estimates of the global costs of adaptation vary widely.[8] If one takes a lower end estimate of US$ 140 billion per year needed for adaptation, and annual global emissions of approximately 35 billion tonnes Co2[9], one can derive a figure of $4 per tonne. This is at the very lowest end of the range of prices that carbon offsets have been traded in recent years. A recently launched Fairtrade offset[10] sets a minimum price

[7] CARE produced its own Carbon Finance Guidelines in 2010, updated in 2012. It has also in the past piloted projects to generate carbon credits for communities. While the social benefit has been positive, these projects did not successfully generate income.
[8] http://www.wri.org/blog/2015/04/costs-climate-adaptation-explained-4-infographics

[9] https://www.co2.earth/global-co2-emissions?itemid=1

[10] http://www.ecosystemmarketplace.com/articles/fairtrade-climate-standard-hopes-minimum-offset-prices-will-boost-carbon-markets/

of between $10 and $15 per tonne, and an ethical Gold Standard offset provider such as atmosfair.de[11] charges about $26 per tonne. Actual or prospective carbon taxes in different jurisdictions are in the range of $15-40 per tonne.

Based on all the above, and taking into consideration the market price as well as the costs of the impacts of climate change, it is proposed that CARE sets a carbon levy at $25 per tonne of CO_2 e. This would amount to between $10 and $90 a trip. The estimated air travel of 500 staff could generate something in the region of US$ 40,000 annually but exact figures would need to be based on the data collected from within CARE and then modelled.

As CARE works with donor funds, we will need to consider what arrangements are necessary to make the air travel levy a viable option while maintaining fiscal integrity vis-a-vis donors. The levy provides an opportunity for donor education and public communications, as well as a potential avenue for advocacy in alliance with other NGOs. It's recommended that National directors move forward to explore the further operation of the travel levy.

Promising practice
CARE Nederland imposes its own levy on flying by putting aside funds that would have been used for offsetting into a separate account. It has yet to decide how to use this account, but in principle has demonstrated that some form of compensation other than offsetting is possible.

4. Guidance and Tips

4.1 Monitoring emissions

- Ideally you should set up your baseline year (i.e. the year from which you will measure your reductions) using a methodology that you will be able to replicate for the monitoring in subsequent years. However, that might mean we spend a whole year just collecting data to establish the baseline, and not taking action on reducing emissions. So it is possible to create an approximate baseline using surrogate data, and use that as a basis for action while a more robust baseline is developed. For example:
    - Count the number of flights, distinguishing between long haul and short haul, taken in the previous year. This should be easily available from your financial accounts or travel agent invoices. Call that Year 0.
    - In Year 1, set a target for number of flights that is lower than Year 0.

Target –setting could be straightforward, and simply be a straight percentage cut in number of flights. But if the circumstances of your organisation have changed from last year (e.g. increased number of staff, new programmes in distant places) you may find you need a more sophisticated measure, such as number of flights per programme officer, or per $ of programming. In those circumstances, the target may not be reducing your overall emissions, but rather what's called the "carbon intensity" of your activities.

[11] https://www.atmosfair.de/en/ueber-uns

- Meanwhile, during Year 1, also calculate the carbon emissions of each flight taken. At the end of Year 1, your total carbon emissions can be your new baseline.
- **Y**ear 2 onwards, set a new target, this time based on reducing carbon emissions.

- As well as recording flights and emissions, data should also be collected on the purpose of trips, to enable analysis and allow management to take decisions on future reductions.

Some technical terms

"Carbon" (C) is commonly but misleadingly used as shorthand for carbon dioxide (CO_2); in fact, 1 kg of C = 3.67 kg CO_2. The more correct term to use is CO_2 equivalent "CO_2e", which is the basis used to aggregate the impact of all greenhouse gases. Gases other than carbon dioxide are calculated as CO_2e based on their global warming potential – for example, 1 tonne of methane is equivalent to around 25 tonnes of CO_2, while nitrous oxide, which leads to production of ozone, has around 300 times the impact of CO_2. When reading emissions data, it is important to notice what unit of measurement is being used, and whether non-CO_2 gases are included. Meanwhile, get used to the idea that when people say "carbon emissions" they often mean "greenhouse gas emissions reported as CO_2e".

- How to calculate your carbon emissions:
  - You have two options – calculate them yourself, or ask someone else to do it for you. The choice depends on your desired level of accuracy; availability of staff time; and need for external validation. The most important thing is to be consistent, and to set a target for reduction. You might choose to do-it-yourself for the initial rough baseline (Year 0 above) while you build up the data from external sources.
  - If you choose to do it in-house, you will need to choose carbon calculator to translate your flight numbers and distances into carbon emissions. It matters to understand the one you choose, especially if you are using one from a website that also sells carbon offsets, because they all use different bases for calculation.
  - The carbon footprint of a flight depends on many things – the number of stops, the number of passengers, cabin class, the type of aircraft, distance & direction etc. But the most significant factor in a calculator is whether they use a "radiative forcing factor" which accounts for the added climate impact of emissions and contrails (vapour trails) at high altitude. This is variously estimated at between 1.9 and 3.0 times the volume of emissions.
  - So, bearing in mind these variables, different calculators can assign a return flight from London to Saigon anything between 1.6 to 5.7 tonnes of CO2e. Once again it does not matter which you use as long as you understand the basis for calculation, and always use the same one when making comparisons. [12]

[12] The rule of thumb method for this 12.5 hour flight would give you 3.12 tonnes.

- The carbon calculator that CARE recommends, based comparison of independent reviews and the experience of CARE Germany and CARE Austria, is Atmosfair, www.atmosfair.de. This is easy to use, incorporates radiative forcing, and allows you also to add intermediate stopovers (which add to your footprint, as landing and take-off use the most energy).
- Many travel agents and airlines now routinely provide emissions data on your flight ticket, making the job of compiling the total for your office relatively straightforward, BUT bear in mind:
  - You still need to understand the basis of their calculation if you want to compare yourself with others.
  - In particular, ensure that radiative forcing (non-CO2 factors) is factored in.
  - You will need to make the necessary adjustments to include flight tickets that have been bought from different sources, where the issuers use different carbon calculators.

Some quick numbers

If you simply want to do a "quick-and-dirty" carbon calculation, a rule of thumb is **0.25 tonnes per hour** of flying.[13]

It has been calculated that the remaining carbon budget in the atmosphere for this century, apportioned equally among the earth's inhabitants, would give an allowance of around **2.9 tonnes CO2 per person** (for entire lifestyle, not only flights) per year by 2030 (declining from the current level of ca. 4.8 tonnes) and near zero CO2 emissions by 2050.[14]

The table below has some examples of flight emissions as a reference.

Flying between		Distance in km (one way).	Flight hours one way	Return trip emissions tonnes of CO2e
Washington	New York	415	1	0.24
Amsterdam	Oslo	1000	2	0.6
Vienna	Cairo	2400	4	1.2
Bonn	Baghdad	3650	5	1.8
Atlanta	Lima	51500	6	2.7
Ottawa	Geneva	6100	7	3.5
Paris	Nairobi	6500	8	3.8
London	Delhi	6750	8	4.1
Sydney	Bangkok	7500	9	5.4
Copenhagen	Johannesburg	9000	12	6

Calculations were done using www.atmosfair.de.

4.2 Investing in support mechanisms and attitudinal change

[13] See http://www.carbonindependent.org/sources_aviation.html the background calculations of this approximation.

[14] See calculations for a 1.5 degrees Celsius limitation pathway, according to http://climateanalytics.org/files/1p5_australia_report_ci.pdf (August 2016)

- **Support the hire and employment of local national staff** with a regional mandate to reduce the need for costly long haul flights and to support regional networking and travel.
- **Introduce and monitor individual carbon budgets** working with peers to prioritise essential flights and travel aligned with budget amounts. (See section below 4.3 for detail below)
- **Nurture a culture of meeting** with overseas **partners and offices regularly**. Occasionally break with the discipline of agendas and time limits in order to create space for free flowing conversation. This informal flow of information is one of the reasons that people cite for needing to visit projects or other offices in person. If we can create the conditions for exchanging unstructured information and anecdotes, it may reduce the need to make that trip.
- Create access to a **physical space where virtual co-working is comfortable and effective**. This could be a sound-insulated small room for a small number of people to congregate, and/or larger meeting room with a good sound system.
- **Video connections add another dimension**, but other than for small groups over Skype are likely to be prohibitive in cost for CARE. However it may be possible to negotiate using the facilities of a corporate partner – many multinational corporations now boast this technology and have dedicated meeting rooms for video conferencing.
- **Make sure the internet connection is robust** for remote users. This may mean you use a hard-wired connection rather than Wi-Fi. In the era of ubiquitous smartphones and personal mobile devices, many participants may be trying to connect to the Wi-Fi in the meeting space, and this can jeopardise the connectivity for those outside.
- Enable **investment in upgrading the internet connectivity** of places with poor connections, creatively using project budgets, travel budgets or even seeking restricted donations from supporters for this purpose.
- Treat **a virtual conference as if it was a physical one**, with the same level of attention to detail: materials, logistics, dynamics etc. Prepare well, and don't treat it just as an expanded Skype call.
- Recognise that **facilitating a meeting with remote participants is a skill** in itself. These skills can be acquired and mastered with the help of meeting protocols that help guide behaviour, such as:
    - Start with a visual "map" of people's names so everyone can visualise who is in the virtual room. Perhaps add photo icons for regular callers.
    - Use software that provides a chat box (Skype, WebEx, Google hangouts all have this) for people to make comments during presentations
    - Agree a simple code language in the chat box to minimise chatter (e.g. + = I agree; * = I'd like to speak)
    - Remember you can do group work in a virtual meeting. Close the full meeting and ask small groups to convene virtually for a set time, and then reconvene the full meeting for feedback. It can work as well as in a face-to-face workshop.
- Also recognise that this is a pioneering area in which we are learning and developing as we go along. **Invite suggestions and feedback from participants** on what worked, what didn't, and develop a body of knowledge about how to make virtual meetings more effective.
- **Provide training in both the soft and hard skills of virtual working**. Many staff do not know about the features of the communications software they use ("I didn't realise you could share a document", "how do I add a new person?") or how to switch on or connect conferencing equipment without the presence of a technician.

- It is considered **prudent <u>not</u> to use social media for co-working**. Just as in physical space, staff need to feel confident that they are working in a safe and secure virtual space, free from distraction or anonymous onlookers.
- Consider **developing a "Code of Conduct"** for staff to have as a reference point and mode of peer support. The example below is modelled on one such a Code adopted by an academic institution (which specialises in climate research)[15]

Code of conduct to support a low-carbon working culture:

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.

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.

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.

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.

Reward. I will work with my peers, others in CARE, partners and funders to value measures of success that promote low-carbon ways of working.

- Introduce both **soft and hard accountability** so staff recognise that their behaviour matters. This is the approach taken by WWF- UK, which includes the following practices in its internal travel policy:

- Staff have a personal responsibility to ensure that any business travel is absolutely necessary and should determine if the purpose of the trip cannot simply be achieved by telephone, fax, e-mail, video conferencing or other means of communication.
- Staff are encouraged to co-ordinate attendance at meetings with other relevant staff members to reduce numbers attending and to determine who is best placed to attend;
- Staff should not fly to destinations in the UK apart from Northern Ireland, and to destinations served by Eurostar such as Brussels and Paris;
- Compliance with the travel policy is subject to regular audits. Full environmental audits are carried out quarterly and CO2 data will be checked monthly. Records must be kept to provide an audit trail. Each department is allocated an annual carbon budget that enables the achievement of overall carbon reduction targets.

[15] http://www.tyndall.ac.uk/travel-strategy

4.3 Achieving emissions reductions

- It is helpful to think of the concept of a "carbon budget", and managing it in much the same way as one would a financial budget. Management would receive reports of carbon expenditure against budget; analyse variances; and ensure that departments stay within budget.
- Limiting financial travel budgets may not result in lower emissions, as travellers may shift to the lowest cost flights, which can have higher emissions (more indirect routes, or airlines with less modern aircraft).
- Considering limiting the number of large organisation wide in-person meetings, requiring a large number of staff to fly long distances.
- One way of setting targets that are empowering for staff is to issue them with carbon budgets which they can manage at their discretion. The decision of whether or not to undertake a particular trip becomes a trade-off against their future allocation for the year.
- There are many fine tuning ways of reducing flight emissions – more direct routes, fewer stopovers, modern aircraft – but ultimately the surest way to reduce emissions is to reduce the number of flights taken – always try to "fly less" rather than think it's enough to "fly smarter".
- Set up a checklist for people to consider, or discuss with their manager, before deciding to fly. It could include questions such as:
    i. Why do I need to go?
    ii. What would happen if I didn't go?
    iii. Could the same result be achieved in a different way?
    iv. How will this trip reduce the need to travel again in future?
    v. Can this trip be combined with another activity that would otherwise have required another trip, either by myself or another colleague?
    vi. Conversely, can the purpose of this trip be met by another colleague who is also planning to travel for a different purpose? – or is in the area/country and could be provided with a brief?
    vii. How many of us are going and do we all need to be physically present?
    viii. Is it practical to get there by another mode of transport?
- For travel by plane that is considered essential after applying the above test, bear in mind that
    i. Most emissions occur at take-off and landing, so a direct flight is usually better than a series of short hops
    ii. Sometimes savings can be achieved by comparing routes by different airlines, because of the different distances flown and types of aircraft. In reality most people's flight choices are governed by cost and timing (and sometimes preferred frequent flier air-miles scheme!), and it may be difficult to get travellers to accept the extra inconvenience for a relatively small carbon saving.
    iii. The above-mentioned web-based calculators (e.g. www.atmosfair.de) provide tools to easily take these aspects into account.

4.4 Compensating for flights

- In medium term, find ways to participate in the proposed air travel levy as soon as possible.
- In the immediate term, using credible carbon offsets from known projects that have a high social impact and environmental integrity is better than doing nothing at all.

- However, please avoid calling this “carbon neutral” as this spreads the fallacy that the climate impact of flight emissions can somehow be neutralised
- Research the offset projects that you invest in. Make sure your offset provider, be they your airline, your travel agent or independent broker is offering one of the following:
    i. “Gold Standard” offsets (http://www.goldstandard.org/), which have strict requirements for sustainability, local participation and proof that the project is truly additional to business-as-usual; and/or
    ii. ”retiring” offsets (i.e. removing carbon credits from markets where there is a finite supply of permits to pollute, notably the EU) (https://sandbag.org.uk/carbon/, or http://www.carbonretirement.com)
- Avoid land-based offsets such as tree-planting, because they are by their nature temporary (trees die in time, emitting the carbon they have absorbed) and are not suitable for offsetting fossil fuel emissions.

5. Some recommended resources

https://www.atmosfair.de/en/ueber-uns - An excellent and informative site that provides advice and analysis as well allowing travellers to calculate and offset their emissions.

http://chooseclimate.org/flying/ - A thought-provoking interactive site that discusses the issue of flying in a more informal style than the site above.

http://www.wri.org/ghg-commitments-and-strategy - Outlines the experience of the World Resources Institute, a leading global think tank and consultancy on sustainability issues, with reducing its own carbon footprint. Many of their lessons are incorporated into this proposed CARE policy.