Cochrane

Environmental Sustainability Policy

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Submitted to Steering Group:	March 2016
Purpose of paper:	To present the findings of the environmental review and to propose a new environmental sustainability policy for Cochrane
Access:	Open
Summary of Recommendations:	The Steering Group approves the adoption of the new Policy
Resource implications:	No additional resourcing required. Any implementation of this will be undertaken using core staff time.
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Contents

1. Introduction

Cochrane aims to put in place an environmental sustainability policy as part of its *Strategy to 2020*. The first step on this journey was to identify the organisation's main environmental impacts and to measure its carbon footprint. Based on this analysis, we have developed a draft Environmental Sustainability Policy, which sets out how Cochrane proposes to take forward its overall approach in this area and which is presented here for sign off by the Steering Group. It focuses on the key elements of what we believe is achievable over the remainder of this *Strategy* period to reduce Cochrane's environmental impact.

2. Methodology

Organisations wishing to reduce their impact must first understand in detail what those impacts are. They can then design interventions which are in keeping with the scale and nature of the problem. Cochrane therefore commissioned an independent consultant to deliver a review of its operations, including measurement of the organisation's carbon footprint and the development of an environmental sustainability policy. To support this the Senior Management Team was asked to make a number of definitional decisions: e.g., What is the boundary of the organisation? Does it include flights, events, publications, etc? The decisions made are all in line with best practice and were signed off, along with the draft policy, at the SMT meeting on 18th February – this is all summarised alongside the methodology which is set out in Appendix 1. It also refers to the 'Cochrane Carbon Footprint Report (Final)', which is a data file that sets out the detailed calculations used to establish the footprint. This file is available upon request.[1]

The methodology used for the footprint assessment is based on the latest Defra guidance[2] which is both consistent with the Greenhouse Gas/GHG Protocol and the Carbon Trust Standard methodology. Calculations use the latest set of emissions factors published by Defra in 2015[3]. The policy is in keeping with some of the high level principles of the ISO14001 Environmental Management System but it is not proposed to put in place such a system at this time.

3. What is being measured

Cochrane is a large and complex organisation with many 'staff' members working in Groups around the world. For the purposes of this review we are considering the legal entity of Cochrane to be the area of interest (or the 'organisational boundary' in carbon footprint terms) and so are measuring its environmental impacts. In this context 'Staff' covers those employed by the Central Executive and so we look at their travel activities and the usage of the buildings they work in as the organisation's key areas of impact. We also include governance-related travel, i.e., Cochrane Steering Group travel. However, given how much travel is undertaken to attend our major we feel it is appropriate to additionally report on this, so we have provided data on the environmental impact of travel to our two major events: the Mid-Year Meeting and the Colloquium.

The additional environmental impact of Cochrane Group operations around the world, e.g., other travel, buildings emissions, etc., is not captured here as it cannot be measured in any meaningful way and those Groups are part of host institutions who will have their own environmental policies and footprints.

1 If you wish to access the detailed data file, please contact Chris Champion for information (cchampion@cochrane.org).
[2] Defra (2009) 'Guidance on how to measure and report your greenhouse gas emissions'
[3] http://www.ukconversionfactorscarbonsmart.co.uk

4. Assessment and Analysis

The main result of the assessment is that the organisation's annual carbon footprint for 2015 is estimated at 372 tonnes of CO_2 equivalent[4] or approximately 9 tonnes per FTE (based on the average number of FTEs across the year). This covers all significant activities which Cochrane can measure (or reasonably estimate) and over which it can exert a reasonable degree of control. There was a 4% decrease on 2014's absolute footprint, which when also taking into account the growth in the number of staff resulted in a per FTE decrease of well over a third. The footprint report summary is provided in the series of graphs and commentary on the next page.

There are no specific benchmarks in this area, particularly where air travel is involved given the wide range of locations and frequencies people may have to fly due to the nature of their business. However, 9 tonnes per FTE is almost identical to a comparator research institute we have used which is a similar size and has a similar travel footprint. Its last reported per FTE footprint was 8.9 tonnes per FTE for 2014/15.

To give a sense of scale, Cochrane's travel footprint is equivalent to each FTE member of staff flying from London to Panama and back twice. All in all, Cochrane staff and Board members have flown 1.75 million km over the last two years or approximately 4 times the distance from the Earth to the Moon.

[4] Tonnes of CO_2e is a universal unit of measurement used to indicate the global warming potential of a wide range of greenhouse gases, expressed in terms of the global warming potential of one unit of carbon dioxide.

COCHRANE CARBON FOOTPRINT REPORT

SUMMARY

A. Gross emissions by type excluding events (tCO2e)	2014	2015	% Total / Diff
Buildings: Electricity	32	49	13%
Buildings: Gas	8	13	3%
Buildings: Water	0	0	0%
Buildings: Waste	0	0	0%
Travel: Commuting	12	19	5%
Travel: Other	1	1	0%
Travel: Flights	333	289	78%
Total	387	372	-4%

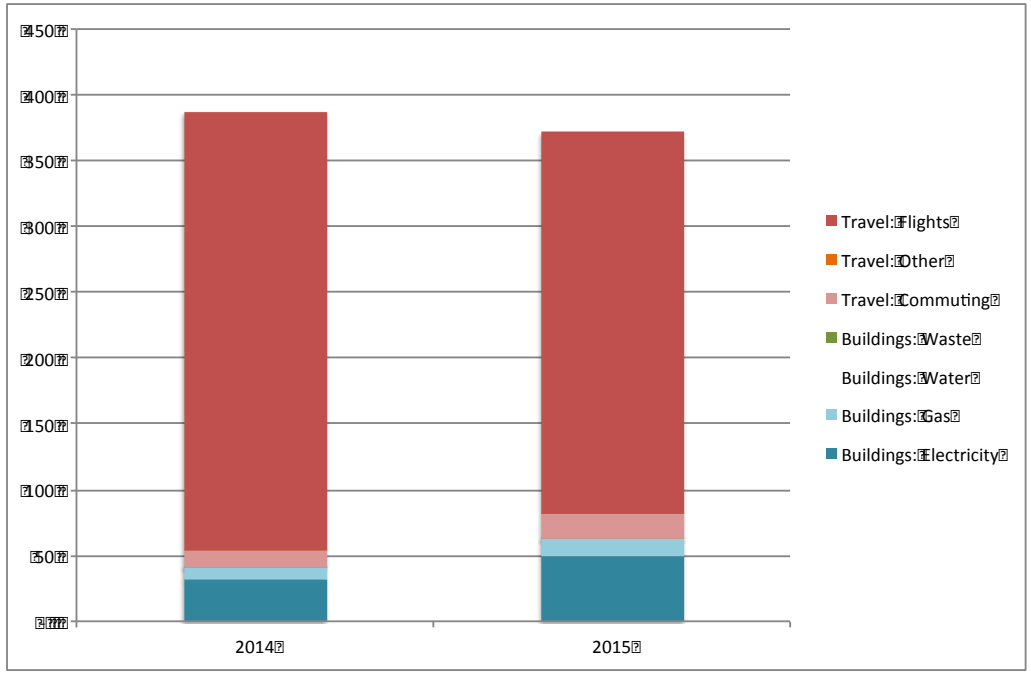
The total organisation footprint in 2015 is estimated at 372 tonnes of CO2e. Staff and Board flights make up over 3/4 of the total with just over 15% coming from building emissions and the remainder from staff commuting. Staff and Board flight emissions reduced by 13% between 2014 and 2015. This reduction in emissions from staff flights accounts for the 4% reduction in overall emissions. Waste and water usage account for just 0.1% of total emissions.

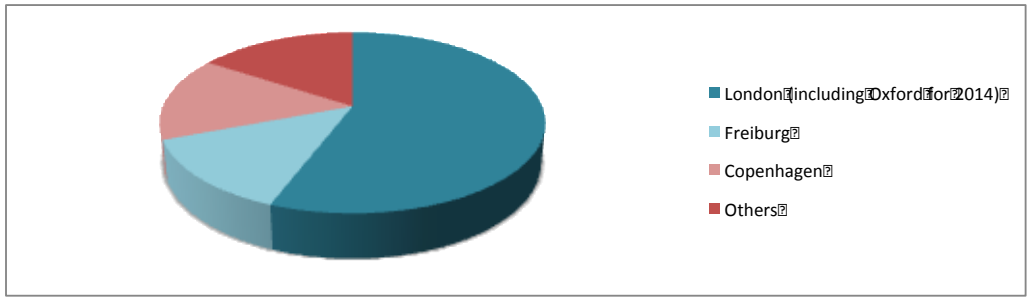
B. Gross emissions per FTE (tCO2e)	2014	2015	% Total
Average number of FTEs over year (Jan-Dec)	27.0	41.4	53%
Total emissions per FTE	14.3	9.0	-37%

Overall this works out at about 9 tonnes per FTE reducing by nearly 40% from last year. This is due to a mix between (a) shorter flight distances (despite an increasing number of trips), largely due to the European locations of the 2 main Cochrane events; and (b) the growth in FTE numbers.

C. Buildings emissions by site (kgCO2e)	2014	2015	% Total
London (including Oxford for 2014)	20	35	56%
Freiburg	8	8	13%
Copenhagen	9	9	15%
Others	3	10	16%
Total	41	62	100%

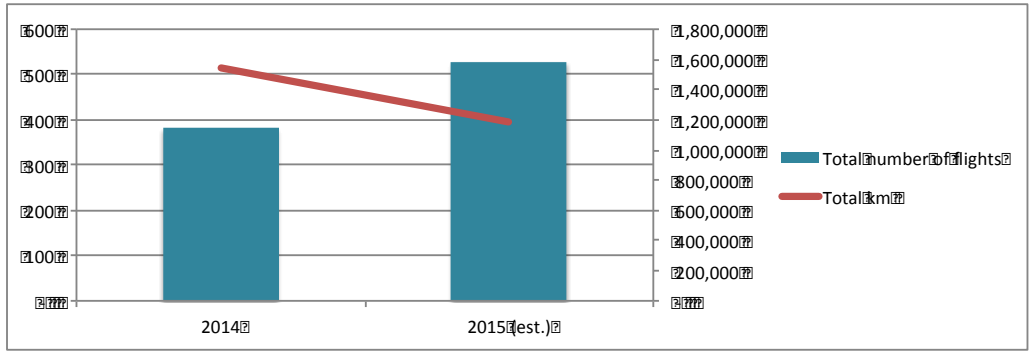
The London office accounts for over half of all building emissions with nearly 30% coming from Freiburg and Copenhagen together. Staff dispersed in satellite offices and working from home make up the remainder.





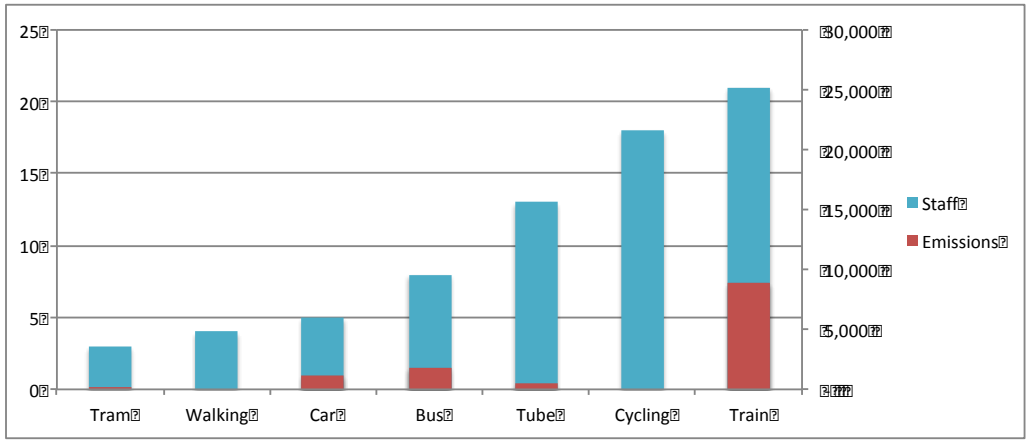
D. Staff and Board flights	2014	2015 (est.)	% change
Total number of flights	382	528	38%
Total km	1,546,535	1,180,539	-24%
Average flight length	4,049	2,236	-45%
Total carbon emissions	133,298	89,414	-13%

While there was a significant increase in flights (+38%), the average trip length fell even further (-45%) and this led to an overall reduction in carbon emissions from flights by 13%. This seems to be due to around half the number of long haul flights in 2015 than in 2014. Much of this can be explained by the number of long haul flights to Hyderabad and Panama in 2014, compared with the larger number of shorter Vienna and Athens flights in 2015. So highlights that event location impact is driven by both attendee numbers as well as distance.



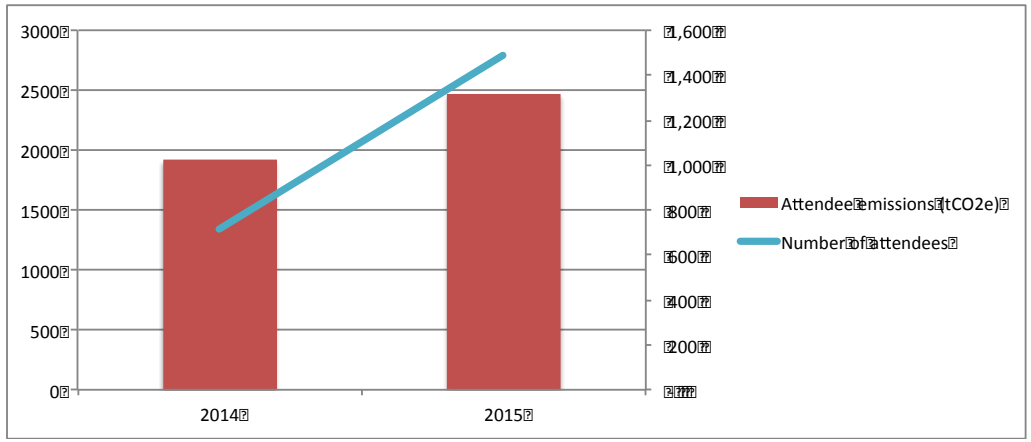
E. Commuters	Staff	Emissions	% staff
Tram	3	85	5%
Walking	4		6%
Car	5	1,180	8%
Bus	8	1,806	13%
Tube	13	4,470	21%
Cycling	18		29%
Train	21	8,868	33%

N.B. 61 FT & PT staff surveyed but some use multiple modes so staff column does not add to 61.



Trains are the most popular method of commuting, with a third of all staff using this method although cycling is a close second at just under 30% and just over a fifth of all staff using the tube at some point in their commute. Unsurprisingly, trains therefore take up the vast majority of the emissions from commuting, with cars and buses together accounting for a fifth. Over a third of staff incorporate a carbon free option (cycling or walking).

F. Key event attendee travel (not part of footprint)	2014	2015	% diff
Number of attendees	714	1,487	108%
Attendee emissions (tCO2e)	1,915	2,467	29%
Emissions per attendee (tCO2e)	2.7	1.7	-38%



The full impact of events are difficult to assess and, in particular, to control, therefore we have not included these emissions in our organisation footprint. However, we can and should report what we can measure, so we will report annually alongside our footprint the travel emissions of all attendees at our two key annual events (the Colloquium and mid-year meeting). For 2015 these emissions were estimated at nearly 2,500 tCO2e which is six times higher than the organisation footprint. This is also an increase of 29% on 2014, mainly due to double the number of attendees at main events due to their European locations so is the reverse of the staff effect above. This demonstrates that location makes a huge difference to emissions and we have therefore developed a tool which will help us assess the carbon emissions of future events which we can feed into the decision making process alongside global accessibility and inclusivity for attendees.

The formal organisation footprint is set out in the table below – this is the format required by the GHG Protocol[5] and other similar standards, with emissions categorised in 'scopes'. A full explanation of this is provided in Appendix 1. This is the format that will be used for the annual report and website, although it will be accompanied by analysis such as in the report section above.

Cochrane carbon footprint*	**2014**	**2015**	**% change**
*GHG emission data in tonnes of CO2e***	*(Base year)*		
Scope 1 (Direct e.g. on-site, owned gas heating)	-	-	0%
Scope 2 (Indirect energy e.g. purchased electricity and heat)***	33	51	+52%
Scope 3 (Other indirect e.g. travel****)	354	321	-9%
Total gross emissions	387	372	-4%
Average number of FTE staff	27.0	41.4	+53%
Per FTE annual emissions	14.3	9.0	-37%

***** Based on our sites and the activities of our staff and Board members, this measure excludes our suppliers, partners and attendee travel to our events. Our footprint is measured in accordance with the UK's Department for the Environment's (Defra) 2015 emissions factors and guidelines, which is consistent with the GHG Protocol.

****** Tonnes of CO2e is a universal unit of measurement used to indicate the global warming potential of a greenhouse gas, expressed in terms of the global warming potential of one unit of carbon dioxide.

******* Building emissions have to be estimated as there is no actual metered data available so estimates have been made based on the floor area of Cochrane's three sites and using actual data from another central London office.

******** Air travel emissions take into account the effect of radiative forcing (the effect of water vapour and nitrous oxides in the upper atmosphere) and therefore an uplift factor has been used in accordance with Defra guidelines.

Calculating carbon emission related to events

We have developed an innovative new tool that we can now use to calculate the carbon emissions of events due to attendee travel. The tool has several purposes. It can:

- Calculate the emissions of a past event based on the actual profile of attendees from different countries.
- For the same past event, assess what the emissions would have been for any other location across the world based on the same attendee profile (or based on how the profile may have changed due to the new location).
- Compare the emissions for different locations for future events using an estimated profile of attendees in order to support the decision making process over future event locations.

Some interesting outputs from the tool so far are that for the last two years, the following locations would have yielded the lowest footprint assuming the same attendance profile:

- Mid-Year meeting 2014, Panama –UK would have yielded the lowest footprint (20% lower emissions);
- Colloquium 2014, Hyderabad – Poland would have yielded the lowest footprint (15% lower);
- Colloquium 2015, Vienna – Netherlands would have yielded the lowest footprint (5% lower); and

[5] For more information on the GHG protocol that governs UK institutions see here: http://www.ghgprotocol.org

- Mid-Year meeting 2015, Athens – UK would have yielded the lowest footprint (29% lower).

However, as we have seen above, a European location may actually increase overall emissions due to increased attendees, so the model needs to be used carefully. In the future we will do some analysis on the potential carbon footprint of various locations to support the decision making process for key events.[6]

5. Proposed Policy

The text on page 9 and following sets out the proposed Environmental Sustainability Policy which states how Cochrane will attempt to address the environmental impacts identified in the analysis above. The Steering Group is asked to approve the policy for use.

6. Next steps

Once the policy has been agreed, we will embed it into our management structure. The main objective will be to ensure that the sustainability strategy is itself sustainable. The key activities will be:

- Revising existing (or developing new) policies and guidelines to embed the new policy;
- Developing an annual workplan based on a clear set of SMART actions for the organisation;
- Developing the ongoing carbon measurement and management approach with guidance documents, tools and spreadsheets;
- Establishing responsibilities and ownership with the Head of Finance and Core Services and updating terms of reference and job descriptions (where relevant);
- Ensuring general staff awareness and buy in to the policy; and
- Agreeing the ongoing measuring and monitoring processes to ensure activities are carried out.

[6] N.B. The tool only works on capital cities in order to make the dataset small enough for the tool to be usable. In the vast majority of cases an alternative city in a country would have a negligible change in impact except for really large countries e.g. USA, Russia, China, etc.

Environmental Sustainability Policy

(A) Policy statement

Cochrane's mission - Our mission is to promote evidence-informed health decision-making by producing high-quality, relevant, accessible systematic reviews and other synthesized research evidence.

Cochrane's impacts - Cochrane recognises that in delivering our mission we impact the environment. In particular, this includes:

- Greenhouse gas emissions to the atmosphere from the use of fossil fuels for air travel and other transport necessary to deliver our mission;
- Greenhouse gas emissions to the atmosphere from the use of fossil fuel-based energy and the consumption of electricity in our offices in London, Copenhagen and Freiburg (as well those working in other offices on our behalf);
- Printing, production of waste and the use of water in our offices; and
- Indirectly, the environmental impact of our partners, contractors, suppliers and consultants (including the delivery of events and publications).

Cochrane's commitments - We are committed to continually improve our environmental performance and prevent pollution by:

- Ensuring our compliance with all relevant legislation, regulations and other relevant requirements;
- Estimating our carbon footprint and environmental impacts on annual basis and reporting this publicly on our website and in our annual report;
- Estimating the potential carbon footprint of future major events (e.g. annual Colloquium) as one input into the decision making process about location;
- Where possible improving the measurement of our environmental impacts over time by working with our landlords and suppliers;
- Putting in place a simplified environmental management system that is consistent with the high level principles of ISO14001;
- Setting appropriate and realistic targets and objectives for all of our most significant environmental impacts where we can exert elements of control over them; and
- Ensuring employee awareness of our environmental policy and impacts.

This policy is communicated to all employees, suppliers and sub-contractors and is made available to the public. Cochrane's Senior Management Team oversees and reviews the policy, and our Head of Finance and Core Services coordinates its implementation.

(B) Environmental impacts and approach

Events - Cochrane recognises that our most significant impact on the environment is the emissions from air travel created by attendees flying to the key events we organise for our stakeholders every year, including the annual Colloquium. However, in order to deliver our mission, we cannot look at the environmental impact of these events in isolation – first and foremost we must recognise the huge value created by convening such events and the collaboration they encourage and also ensuring a fair approach to accessibility for our network of global stakeholders. Going forward we will:

- Publicly report the estimated carbon footprint of our major events each year alongside our organisational footprint.

- Always measure the carbon footprint of planned events in advance and look at alternative locations so that we are fully aware of the potential impact on the environment and take this into account in decision making alongside the other factors.
- Continue to review the latest technology to potentially allow remote participation where appropriate and cost effective, although we will still encourage attendance at events.
- Seek to minimise the printed materials provided at such events by offering electronic alternatives.
- Ensure that sustainability is used as a factor in procuring facilities and services at the chosen location.
- Encourage participants to use public transport wherever possible during events.

Cochrane Groups – Cochrane Groups are generally hosted in other institutions across the globe, who will have their own policies and approaches to sustainability. Going forward we will:

- Expect all Cochrane Groups to understand and follow the environmental sustainability policies (or equivalent) of their host institutions.
- Ask that Cochrane Groups are aware of this policy and follow the principles of it whenever they are acting on behalf of Cochrane outside of their host institutions.

Buildings (and their use) - For all its current office sites, Cochrane is a tenant in some form and therefore does not own or control the delivery of energy and other utilities. It generally pays for these services as part of a service charge or desk fee and no metered data is currently available. However, we recognise that our activities still create a significant environmental impact through our water usage and office waste and the greenhouse gas emissions caused by our use of heating, hot water and electricity. Going forward we will:

- Work with our landlords and suppliers to pursue improved measurement data for our utility services (e.g. installing local floor meters, weighing waste, etc.).
- Raise staff awareness by ensuring that they know about the environmental policy and understand the impact of their actions within the office environment and publishing usage statistics where available.
- Encourage staff to power down appliances when not in use (e.g. screens, computers, printers, etc.).
- Reduce paper waste by encouraging staff to print less.
- Where possible, maximise whatever waste can be recycled or composted and work with our suppliers and landlords to ensure best practice disposal/recycling.
- Ensure all obsolete electrical/electronic goods are disposed of using the correct methods minimising environmental impact.
- Ensure that environmental sustainability is a key factor in our future decision making over office buildings and locations.

Travel - In order to deliver our mission, Cochrane recognises that we need our staff and Board members to travel internationally in order to be effective. We also recognise that our offices are a vital part of how we collaborate and therefore we will need the vast majority of our staff to regularly commute to work. However, we commit to doing more to try to reduce the impact of these requirements. Going forward we will:

- Put in place new systems/processes which will monitor staff travel to ensure more effective reporting.
- Put in place staff policies which encourage staff only to travel when there is a clear business need and to monitor.
- Ensure that before booking travel, staff consider whether there are lower carbon alternatives (e.g. train vs. plane, teleconference, Skype, videoconferencing, etc.) or whether another member of staff is currently flying to that location and could cover the trip purpose.
- Put in place a home working policy which is sensitive to work-life balance and also assesses the environmental impacts of home working vs. office working.
- Encourage more staff to cycle to work or to use other lower carbon alternatives (e.g. promoting our cycle-to-work schemes, etc.).

Publications (and other materials) - Cochrane acknowledges that we need to create high quality publications and documents and that the best format for this is sometimes a physical print version. However, we also recognise the impact this has on the environment, in terms of the drain on physical resources, the carbon emissions associated with both production and shipping and the physical waste created. Going forward we will:

- Always assess the alternatives for delivering publications and encourage greater use of electronic versions where appropriate.
- Work with our suppliers to understand better their approach to sustainability and what they are doing to measure the impact of physical publications.

Suppliers - Cochrane acknowledges that we can only exert limited control over our suppliers in their delivery of services to us. However, we will use what influence we have to ensure reduced environmental impact. Going forward we will:

- Ensure that all our major suppliers are aware of and receive a copy of our environmental policy and that we request a copy of theirs.
- Update our procurement policies and procedures to ensure that environmental sustainability is a criteria used in the purchase of all future major assets and services.

Measuring, monitoring and management - Cochrane is committed to estimating its annual environmental impact and reporting this on its website and in its annual report. We will ensure that the most up-to-date methodology and emissions factors are used in accordance with the latest Defra guidance. Should there be a need for a base year recalculation due to structural changes or changes in methodology, we will publish clearly the way we recalculated our emissions. We will maintain an annual workplan that is signed off by our Senior Management Team and progress reviewed by them on a quarterly basis. The Senior Management Team will undertake an annual review of the environmental management system to ensure it is up-to-date and that the assessments of impacts, objectives and measures are all still appropriate. Accountability for delivery of the Environmental Sustainability Strategy will sit with the Head of Finance and Core Services.

(C) Reducing our impact

Cochrane recognises that it only has limited control over some aspects of its environmental impacts and in some cases can only estimate rather than measure those impacts. Therefore, putting in place any systematic reduction targets would not be appropriate at this time. However, through implementing this environmental sustainability strategy through our workplan we undertake to take steps to reduce our impact even where it is not possible to measure the outcome.

Appendix 1 – Carbon Footprint Methodology

This appendix sets out the detail of the carbon footprinting methodology and the choices that have been made around the measurement of the organisation's carbon footprint. It refers to the 'Cochrane Carbon Footprint Report (Final)' (available on request)[7], which sets out the detailed calculations based on this methodology and also a tool which has been developed to estimate the carbon footprint of events for different locations (the 'Event emissions calculator (Final)').

The methodology is based on the following steps:

- **A)** Organisational boundary
  - Which parts of the organisation should be reported on? i.e. What legal entities should be included (subsidiaries, joint ventures, etc.)
- **B)** Operational boundary
  - Which activities in the organisation release greenhouse gas emissions?
- **C)** Emission types
  - Which greenhouse gases should be measured?
- **D)** Data collection
  - What information should be collected to calculate greenhouse gas emissions? i.e. What can be measured? What can be estimated? What can be discounted as minimal? How best to collect data?
- **E)** Emissions assessment
  - How to calculate greenhouse gas emissions i.e. applying appropriate emissions factors to convert usage data into tonnes of CO2 equivalent.
- **F)** Reporting
  - What should be reported? i.e. how best to set up the assessment and reporting
  - How best to track emissions over time?
- **G)** Management
  - Whether to get emissions data verified or to implement a management system?
  - Whether to set an emissions reduction target?
  - Whether to use offsets?

The following section sets out the key information relevant to the methodology framework and where relevant the key decisions made by senior management.

A. Organisational boundary

Which parts of the organisation should be reported on? i.e. What legal entities should be included (subsidiaries, joint ventures, etc.)

Cochrane has a simple legal structure whereby it owns 100% of its own operations. It does not have stakes in other organisations where it owns less than 100% in which case it would have to make decisions about what portion of those businesses to report on. Therefore, we define the organisational boundary as the legal entity of The Cochrane Collaboration.

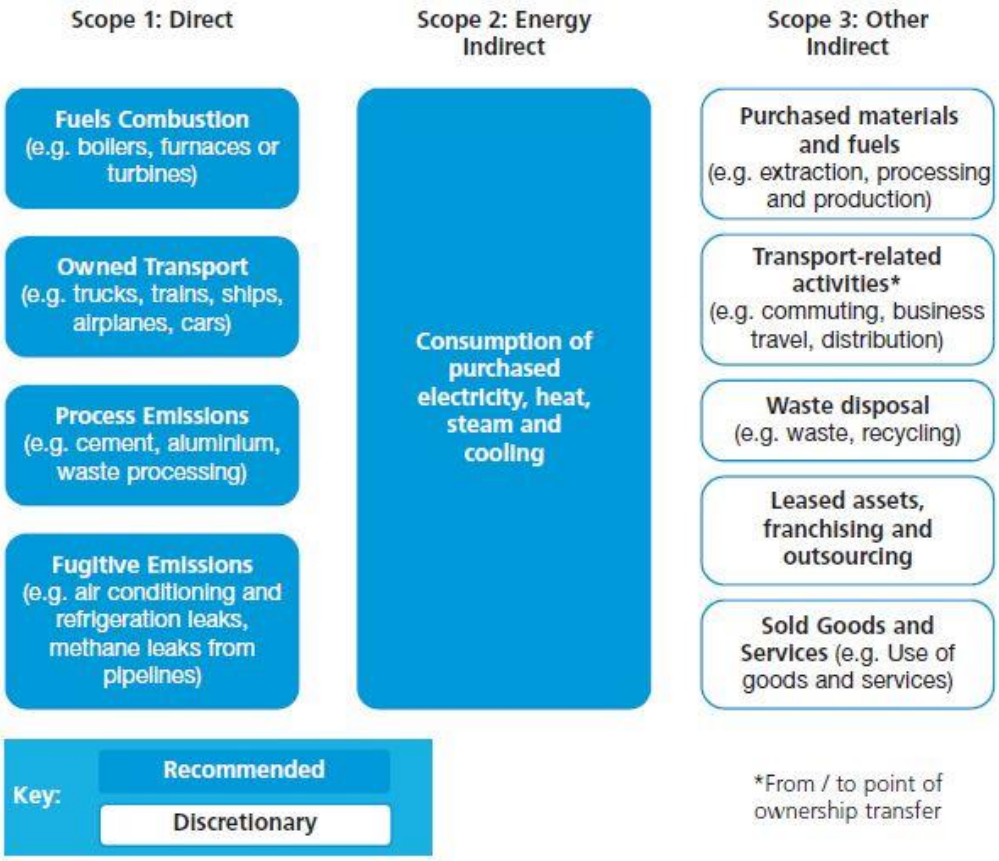
B. Operational boundary

Which activities in the organisation release greenhouse gas emissions?

In accordance with the Greenhouse Gas Protocol, the way to identify and categorise emissions-releasing activities is in three groups as summarised in Figure 1 below.

[7] Please contact Chris Champion if you wish to see the data file (cchampion@cochrane.org)

Figure 1 – Main types of emissions sources under each scope (Defra, 2009)



So the minimum that must be measured and reported by an office-based organisation such as Cochrane are the **'Scope 1'** emissions resulting directly from buildings (e.g. emissions from the gas burnt by any onsite boilers controlled by Cochrane) and the **'Scope 2'** indirect energy emissions resulting from energy usage. All other emissions are classed as **'Scope 3'** and are both indirect and discretionary. The organisation must therefore choose the 'boundary' of the organisation which determines what emissions it will measure and report on – the principles to be used are typically whether the levels of emissions are significant, can be measured (or estimated well) and then what level of control the organisation has over them. Further commentary on each of these three areas as relevant to Cochrane is as follows:

- **Scope 1 (Direct emissions):** Activities owned or controlled by the organisation that release emissions straight into the atmosphere (e.g. combustion in owned or controlled boilers, furnaces, vehicles and emissions from chemical production in owned or controlled process equipment). It is recommended that organisations report all of these emissions.
    - Cochrane does not own or control anything which directly emits carbon emissions other than the 'fugitive emissions' from onsite refrigerators which given the size and number owned will be negligible and does not need to be included in the calculation.
    - N.B. In the case of a building where the boiler was owned or controlled by Cochrane, this would include gas emissions for heating and hot water, however for all its sites Cochrane purchases heating and hot water from building owners/managers through service charges or equivalent so they go into Scope 2.
- **Scope 2 (Energy indirect):** These are indirect energy emissions that are a consequence of the organisation's activities but which occur at sources not owned or controlled by the organisation (e.g. consumption of purchased electricity, heat, steam and cooling). It is recommended that organisations report all of these emissions.
    - For Cochrane, this includes the heating, hot water and electricity consumption by Cochrane at all its sites as purchased from the landlords or building managers.

- **Scope 3 (Other indirect):** Emissions that are a consequence of the organisation's actions, which occur at sources which are not owned or controlled by the organisation and which are not classed as scope 2 emissions. (e.g. business travel by means not owned or controlled by your organisation, waste disposal, or purchased materials or fuels). It is discretionary to the organisation which of these emissions are reported.
    - Cochrane's main emissions in this area are from its use of buildings, travel, events and publications:
        - Office buildings:
            - Water supply & treatment
            - Indirect emissions from its gas and electricity use (i.e. emissions in the supply chain) additional to the Scope 2 emissions above
            - Waste and recycling
        - Travel:
            - Business travel (staff and Board)
            - Commuting (staff)
        - Events:
            - Attendee travel
            - Attendee use of hotels, facilities, etc.
            - Use of buildings hosting events
        - Cochrane Groups:
            - Use of buildings
            - Commuting, business travel
        - Publications and materials
            - Production
            - Shipping
        - Website hosting

When considering which elements from Scope 3 above to include (as they are all discretionary), an organisation should consider:

- **Significance** – The materiality of the emissions in relation to its footprint (i.e. would including the activity make a difference to the footprint);
- **Measurability** – The ability to measure the emissions (i.e. would an estimate be meaningful); and
- **Control** – The level of control it has on the emissions (i.e. can it do anything to affect or reduce the emissions).

Figure 2 below sets out Cochrane's assessment of the discretionary elements of the footprint against these criteria and which elements have been included in the footprint.

Figure 2 – Assessment of inclusion of discretionary Scope 3 activities

Category	Type	Significance	Measurability	Control	Included
Buildings	Water supply & treatment	*	**	**	Yes
	Indirect gas and electricity use	**	**	**	Yes
	Waste and recycling	*	***	***	Yes
Travel	Business travel (staff & Board)	***	***	***	Yes
	Commuting (staff)	**	**	**	Yes
Events	Attendee travel	***	**	**	Report
	Attendee use of hotels, etc.	*	*	*	No
	Use of buildings hosting events	*	*	*	No
Cochrane Groups	Use of buildings, travel, etc.	**	*	*	No
Publications	Production	*	*	*	No
	Shipping	*	*	*	No
Websites	Hosting	*	*	*	No

Attendee travel to main events has not been included within the official operational boundary of the organisation. The impact is, of course, highly significant and accounts for six times the total emissions from Cochrane's organisation footprint – so it certainly should not be ignored. The issue is the wide variability this will mean to the footprint year-to-year based on the locations chosen and the resulting number of attendees. For example, the travel footprint for main events in Athens and Vienna in 2015 was 30% higher than for Hyderabad and Panama in 2014. Locations more distant from the majority of attendees mean higher per attendee emissions, but lower overall attendees so the interactions can be quite complex. A tool has been developed (the 'Event emissions calculator (Final)') to help Cochrane in its decision making over future event locations and the reporting of emissions. Different locations can be entered and assumptions made about the number of attendees from each country which will attend and this results in an estimated total footprint. Alternative locations can then be assessed against this provided sensible assumptions are made as to the change the location would mean to the distribution and number of attendees. However, fundamentally, Cochrane has other competing priorities for its events – in order to maximise their impact, it wants to promote both global accessibility to attend these events as well as wanting, within reason, as many people to attend. So Cochrane will report emissions from key events separately but not as part of the official organisational boundary. Importantly, the new tool will be used to help plan future events while understanding the potential environmental impact and to report against actual events.

Emissions from non-travel elements of events and publications are notoriously difficult to estimate. Cochrane will continue to monitor for developments in best practice in this area as well as working with suppliers to measure and reduce impact where possible.

Website emissions are potentially easier to estimate and could be included in the future subject to getting the required information from suppliers although this is still an embryonic area.

Cochrane Groups have to abide by the environmental policies of their host institutions and the actual pattern of usage and therefore emissions would be almost impossible to measure in a meaningful way.

C. Emission types

Which greenhouse gases should be measured?

While there is a general focus on measuring carbon dioxide emissions, guidance states that best practice is to measure all six greenhouse gases covered by the Kyoto protocol: carbon dioxide (CO_2), methane (CH_4), hydrofluorocarbons (HFCs), nitrous oxide (N_2O), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6). Cochrane will therefore measure the full range of greenhouse gases.

D. Data collection

What information should be collected to calculate greenhouse gas emissions? i.e. What can be measured? What can be estimated? What can be discounted as minimal? How best to collect data?

Guidance states that where possible, actual data should be collected covering the periods being assessed. In the absence of actual data then estimates should be made using the best available data.

i. Buildings

Cochrane leases all of the buildings it uses from landlords who are responsible for the delivery of heat and power and the removal of waste (except for the London office where this is done under direct contract). None of this usage is measured at the organisational level of Cochrane. However, reasonable estimates can be made based on the floor areas of each of the current and past offices (Oxford, London Cavendish Square, London Haymarket, Copenhagen and Freiburg) compared with another actual central London site where real data has been measured. For the other 20 staff where there is no specific floor area data available, then instead a per person estimate can be used.

This approach was verified by looking at the actual gas usage of the whole of the Haymarket building which was made available by the landlord and applying the floor area percentage (7.22%) for Cochrane to give an estimate of Cochrane's actual gas usage. The estimate based on the central London building was just 8% different based on floor area and so this gives some comfort that the estimation technique is reasonable. Actual data for electricity and water has not been made available however so the estimation technique has been applied for all of these utilities.

ii. Travel

A staff survey was undertaken in November 2015 covering business travel (air, rail, etc.) and commuting patterns of staff. Staff were asked to list all trips taken on behalf of Cochrane between January 2014 and October 2015 and to also confirm their main modes and distances of getting to work over that period. In addition, the business travel of Board members was assessed. The use of an online distance calculator then allowed the total distances to be calculated so that business and commuting travel could be estimated. The business travel data was pro rated upwards to cover the missing two months to give a full estimate of 2015. The commuting data was a snapshot in time of current patterns of all staff in November 2015, so calculations were pro rated based on the average number of FTEs for each year.

iii. Events travel

Lists of attendees to past events were analysed and then the 'Event emissions calculator (Final)' was used to estimate the distances travelled to the events.

E. Emissions assessment

How to calculate greenhouse gas emissions i.e. applying appropriate emissions factors to convert usage data into tonnes of CO_2 equivalent.

Defra's latest set of emissions factors have been applied to the estimated usage data set out above to calculate the total emissions from all Kyoto protocol greenhouse gas emissions. In the case of the buildings emissions, full Scope 3 emissions including supply chain emissions have been included (specifically for travel data this includes 'well to tank' emissions). For air travel, the full recommended emissions factors have been used including:

- Radiative forcing – which is a measure of the additional environmental impact of nitrous oxides and water vapour when emitted at high altitude (i.e. contrails); and
- Uplift – which is a distance uplift of 8% to compensate for planes not flying using the most direct route i.e. flying around international airspace, stacking etc.

The approach used provides the highest estimate possible based on best practice and so Cochrane cannot be criticised for under-reporting its carbon emissions.

F. Reporting

What should be reported? i.e. how best to set up the assessment and reporting. How best to track emissions over time?

Defra guidelines state that carbon emissions should be reported as a gross figure in tonnes of CO_2 equivalent. They also allow for an 'intensity ratio' which normalises gross emissions data with an appropriate business metric or financial indicator e.g. staff numbers, full time equivalent staff numbers, turnover, units of production, floor area, etc. Using an intensity ratio allows you to compare your performance over time and with other similar types of organisations - Cochrane will use FTEs for this purpose as it gives the best sense of the size of the organisation as it changes.

Guidance also recommends choosing a 'base year' in order to be able to compare performance in the future and that this should be the earliest year for which verifiable emissions are available for. As a more or less full data set was available for 2014, then this will be used as the base year. This will allow immediate comparison with 2015. Calendar years will be used as reporting periods as these are consistent with the financial year and annual reporting cycles.

G. Management

Whether to get emissions data verified or to implement a management system? Whether to set an emissions reduction target? Whether to introduce offsetting of emissions?

These are strategic operational questions. What will be the organisation's approach to managing emissions going forward? Should external verification or certification be sought for the footprint (e.g. Carbon Trust Standard)? Would an environmental management system such as ISO14001 help? Would a target be appropriate so as to reduce emissions year on year? Should the organisation offset its emissions in some way through the purchase of carbon offsets? For now, Cochrane will focus on embedding the policy and assuring awareness across staff and Groups – we will not seek external verification, put in place an EMS or explore offsets at this time.