EVENT GHG Measurement Divergences and Commonalities

This document aims to establish topics for discussion on diversions, commonalities and gaps in GHG accounting for events, along with identifying cross-sector common topics in which we can participate and draw on ongoing deliberations.

OCTOBER 17 2024, MEETING

Attendees:

In person: Meegan, Rob, Samy, Bryonie, Izzy, Chris, Lars, Tilj, Linnea, Ian, Christian. *Online:* Poppy, Antonio, Luke, Emily, Thi, Jone, Alex, Tessa.

LINK TO MEETING PRESENTATION, LINK TO RECORDING, CHAT NOTES	
GHG Protocol or Event Operations Approach?	Agreed that operational categories are used and data is collected in a way that allows Scope 1, 2, 3 reporting to various GHG standards or other programmes. See outcomes of the meeting here, here and here. Jump to discussion in doc
Boundaries/Justifying Exclusions	Shared a set of decisions filters. See them. Requires futher discussion and agreement. Jump to discussion in doc
Stakeholder GHG Ownership	Generally agreed that attributing GHGs to various entities that own them for their corporate reporting or carbon compensation is appropriate. Requires further discussion: how to ensure event owners don't just attribute the majority of GHGs away, carbon compensation guidance, attendee travel and accommodation. Jump to discussion in doc

Outstanding discussion points:

CATEGORISATION - Accommodation, Site Logistics, Wastewater. Jump to discussion in doc
RFI, WTT, Market/Location Based Renewable Energy. Jump to discussion in doc
WASTE & RECYCLING - JB's approach to waste GHGs. Jump to discussion in doc
FOOD & BEVERAGE - Which EFs and approach do we recommend? Can we create proxy EFs from which all events can be drawn? Do we include off-site meals? Jump to discussion in doc

WORKING GROUP PARTICIPANTS

Name	Organisation	Interest	Primary Region	Sector
Tijl Couzij & Lars Lensink	GDCF/Monitor	GHG Tool Industry Programme	Europe	Music Festivals
Emily Shephard	ISLA/TRACE	GHG Tool	UK, Europe Global	MICE, Agencies
Antonio Cavallin Toscani	Università di Padova	Academic	Italy/Europe	All
Johanna Fuhlendorf	Greenview	Advises JMIC and NZCE	Europe, Global	MICE
Tessa Rainbolt	WM Consultant	Works with Green Sports Alliance	USA	Sport and Event
Alex Fintoni Claire O'Neill Jone Pérez	A Greener Future	Industry Programme	UK, Europe Global	Music Festivals, Sport, Cultural Events, Venues, Tours, Suppliers
Chiara Badiali	Julie's Bicycle	GHG Tool Industry Programme	UK, Europe	Arts, Music
Poppy Stephenson	Sustainability Simplified	Developed TRACE but not owner	UK, Europe Global	MICE, Agencies
Rebecca Lardeur	ex TRACE	GHG Tool	UK, Europe Global	MICE, Agencies
Meegan Jones	Consultant GreenShoot Pacific	Co-Chair CCA Events Working Group	Australia Global	All
Luke Howell Izzy Mills Bryonie Mathews	Consultancy Hope Solutions	Co-Chair CCA Events Working Group Consultants	UK, Global	Music & Touring Festivals and live music events Film & TV MICE Sports Organisational / business GHG accountancy
April Layla Joseph	Individual	Consultant	Singapore	MICE

Christianne Beck	Individual	Consultant	UK	MICE, Community
Shawna McKinley	Individual	Consultant	Canada	MICE
Christopher Johnson	Vision Sustainable Events	Industry programme	UK	Festivals
Samy Graia	Climeet	GHG Tool	France,Global	All
Meg Strahle, Thi Dinh	The Bulb	Consultant	UK / Global	MICE, Agencies, Large Scale
Linnéa E. V. Svensson	Greener Events Norway (YOUROPE)	GHG Tool	Nordics/Europe	Experience Sector (Music, Sports, Conferences etc)
Erlend Brenna Raabe	Green Producers Club	GHG Tool, Industry Programme	Norway Scandinavian Nordics	Music Festivals Screen Production Events

Not Yet Commented but are Participating:

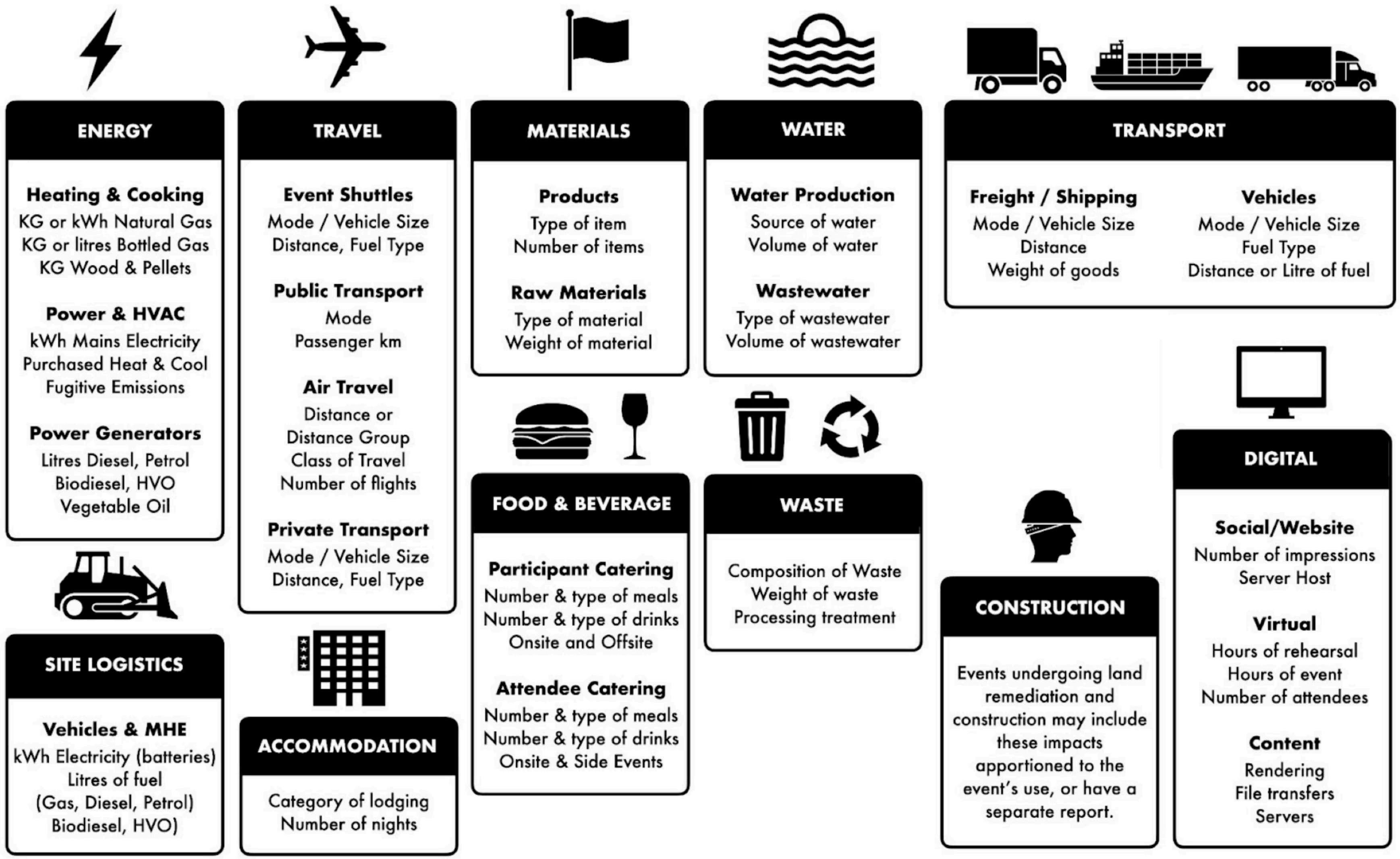
Laura Sivels	Consultant WM	Works with Council for Responsible Sport	USA	Sport
TBC	Green Events Tool	GHG Tool	Qatar, Global	All
Ian Tellam				
Danielle Azoulay				
Christiaan Elings	GDCF / Ministry of Infrastructure and Water management (Netherlands)	Protocol/Standard: Incl policy interface, connection CSRD, ownership, dissimination	Netherlands/ Europe	Government (sustainability / circularity / climate)

INTERIM AGREED APPROACHES

Event GHG Emissions Measurement - Sources and Categories

(Note: Some categorisation still under discussion)

Figure 1.1



What’s Measured, Categorisation, Approach

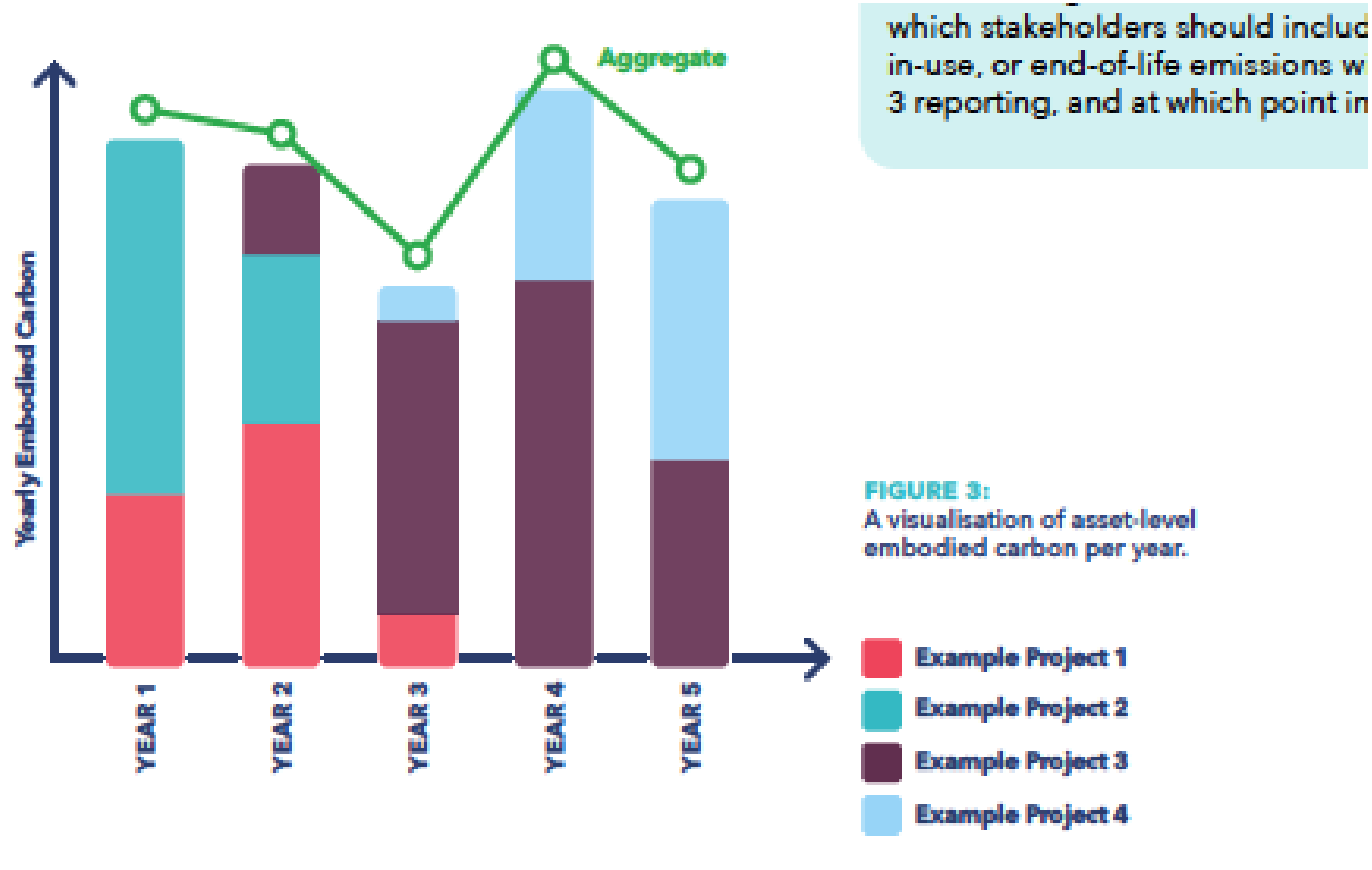
Interim Decisions
1. GHG emissions occurring because of the event is held, should be measured and reported.
2. The reporter should use the decision filters in Table 1.1 to guide identification and justification for inclusions or exclusions. A disclosure statement which includes justification for exclusions should be included in the GHG report appendix.
3. Event GHG reporting follows the principles outlined in the *GHG Protocol* *Product* and *Corporate Standards*, and I*SO 14064-1 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.* However, the ‘event’ is often not a single legal or financial entity, and so for the purposes of reporting event GHG emissions, **it is recommended that operational GHG source categories are used (see graphic 1.1), including time boundaries that reflect the event’s lifecycle.**
4. Data should be collected in a disaggregated way to allow comparisons, suit different audiences for reporting, to facilitate any requirements for calendar or fiscal year reporting, or reporting to industry, local or national programmes, protocols or standards.
5. Where required, data can also be categorised following the GHG Protocol *Corporate Value Chain (Scope 3) Accounting and Reporting Standard* categories and *CDP guidance* to facilitate inclusion in corporate GHG reporting where applicable.
6. It is acknowledged in some scenarios it may be more efficient or applicable for the GHG Protocol Corporate Scope 3 categorisation to take precedence over operational source and whole-of-event GHG impacts and categorisations.
7. Where an organisation manages multiple events, year-round company impacts (e.g. office, staff commuting, company vehicles, business travel etc) can be reported separately rather than apportioned out to each event.
8. Where an organisation exists to manage a single event, company impacts can be included with event impacts, but disaggregated where possible to allow for analysis.
9. Where both annual and event-lifecycle reporting is undertaken, blended graphics may be useful to show how event timelines which cross calendar or fiscal years affect annual peaks and troughs (see Figure 1.2).

General Principles

Fuel Used For On-Site Operations
1. Fuel used in rented vehicles and MHE, power generators, lighting towers, or portable refrigeration units, controlled by the event owner/organiser, or those provided by the contractor for essential site services, are included in the event's GHG inventory.
2. An exception to inclusion in the event owner/organiser's GHG inventory, is where a professional participant takes ownership or is deemed to own the GHGs created from fuel used in vehicles, MHE and plant.
Gas
3. Gas consumption should be included in measurement, however if possible for reporting and analysis, separated out by its various uses: transport, site operations, heating, cooking, stage effects.
Mobility (Travel and Transport)
4. Travel (people) is measured and reported separately from Transport (equipment, supplies, infrastructure).
Transport
5. Events are encouraged to measure transport, freight, and deliveries impacts.
6. Commercial courier/freight - in a mixed load: GHG emissions are accounted by weight or volume, distance, proportion of load, and vehicle size. The freight/courier company's published emissions factors may also be used.
7. Commercial courier/freight - where the delivery uses the entire vehicle: GHG emissions are accounted by distance and relevant vehicle size.
8. Sea Freight - GHG emissions are accounted by weight, and, if known, by ship size.
9. Supplier-owned transport - GHG emissions are accounted by weight, volume, proportion of the vehicle, or the entire vehicle.
Travel
10. Travel should be included for measurement in the event's GHG Inventory for event workforce, participants, and attendees.
11. Public transport, taxis/lift share, hire cars, event-organised land or water shuttles, and private vehicles are included in this category.
12. Aircraft used as part of the event experience (e.g. joy flights) are included in Travel, but should be sub-categorised for analysis purposes.

[Accommodation](#)
13. Accommodation should be included for measurement in the event's GHG Inventory for event workforce, participants, and attendees.
14. Separate emissions factors would be used for various accommodation classes, however it is acceptable to use an average.
15. Emissions factors can be from CHSB/Hotel Footprinting Tool, Ecoinvent or similar commercially available databases, or hotel or hotel chain-provided data (e.g. using the WSHA HCMI methodology).
[Materials](#)
16. Products and materials should be included for measurement.
[Food & Beverage](#)
17. Food and beverage should be included for measurement in the event's GHG Inventory for event workforce, participants, and attendees.
Site Logistics, MHE, Site Vehicles
18. Production vessels/boats (e.g. safety, marshalling, umpires, site management, onsite barges) are included in this category.
19. Aircraft used for production purposes (e.g. helicopters for media) are included in this category.
[Water and Wastewater](#)
20. Water consumption should be included for measurement
21. Wastewater treatment should be included for measurement.
Emissions Sources
22. EF sources must be disclosed in GHG reports.
Data Quality
23. Data quality must be exposed in GHG reports. Use existing data quality categorisation and filters in GHG Protocol Product Standard guidelines.
[Scope 4 Emissions](#)
24. It is not appropriate for an event to attempt to calculate Scope 4 emissions (Avoided GHGs through the 'use' or 'attendance' of/at the event).

Figure 1.2 - do an event version of this:



Event GHG Measurement Boundaries and Reporting

All event reporters should measure and report GHG emissions occurring because the event was held, ncluding time boundaries that reflect the event's lifecycle. The reporter should use the decision filters in Table 1.2 to guide identification and justification for inclusions or exclusions.

Whole of Event GHG Inventory					
Reporting Entity	**Boundary**	**Attribution**	**Office/Year Round**	**Compensation**	**Report**
1 **Total Event Impact** The 'event' is not a legal entity	GHG emissions that occur because the event is held.	Assigned as 'whole of event' impact and attribution amongst stakeholders not necessarily defined.	Annual office and business impacts may be included in the event impact, apportioned across the event portfolio or reported separately from event impacts.	The event owner may choose to compensate only those attributed to them, for some stakeholders, or for the total event GHGs.	Suitable for stakeholder and public reporting. (Most event GHG tools take this approach.)

Event organisers/owners may also choose to report according to Scope 1, 2, 3 categories.

Responsible Entity's GHG Inventory					
Single-Owner Events Owners may organise their own events or contract all or part of producing the event or an organiser.					
Reporting Entity	**Boundary**	**Attribution**	**Office/Year Round**	**Compensation**	**Report**
2 **Event Owner/Organiser** The legal entity that owns and organises event/s.	GHG emissions under the financial and operational control of the event owner/organiser.	Event GHG emissions designated as under the financial or operational control of the event owner/organiser or the percentage financial contribution or profit share.	Annual office and business impacts may be included in the event impact, apportioned across the event portfolio or reported separately from event impacts.	The event owner/organiser is responsible for any compensation strategies.	Included in company reporting and formal reporting (e.g. CDP, CSDR, S4CA).
3	GHG emissions under the financial and/or operational control of the event owner	Event GHG emissions are attributed to the event owner rather than the	The event organiser's annual office and business impacts may be	The event owner or event budget is responsible for any carbon compensation	Included in company reporting and formal reporting (e.g. CDP, CSDR,

Event Owner + Contracted Organiser The legal entity owning the event engages an organiser to produce the event.	and/or organiser and deemed material and attributable to the event owner using the decision filters in Table 1.1. The event owner or the contracted organiser may undergo the GHG measurement.	contracted organiser.. Depending on the financial system, these may be categorised as all Scope 3 for the event owner (e.g. if the contracted organiser is paid a lump sum by the event owner, and the organisers pays all invoices and costs). Some sources could be categorised as Scope 1 or 2 for the event owner (for example if costs are paid directly by the event owner).	apportioned across the client event/s portfolio, or reported separately from event impacts. Depending on the financial and operational arrangement, the event organiser year-round, office, or business impacts may be attributed to the event or to the organiser's company impact.	payments. Compensation balancing is attributed to the event owner's GHG Inventory.	S4CA).
Multiple-Owner Events Any event sponsor, partner or profit-sharer would 'own' and be attributed the relevant percentage of event GHG emissions based on their financial contribution and/or profit share, or other defined benefits or metrics (e.g. organising responsibility, decision making control, percentage of event footprint activated, percentage of event branding rights etc).					
Reporting Entity	**Boundary**	**Attribution**	**Office/Year Round**	**Compensation**	**Report**
4 **Event Rights Holder + Event Host** A legal entity owns the event rights and conducts a process to choose an event host (e.g. a host city and associated delivery partner). The event host may produce the event, co-produce the event with the rights owner, and/or use a contracted event organiser/s for event production services (see option 3 above).	GHG emissions under the financial and operational control of the assigned event organiser.	Event impacts are attributed to the Event Rights Holder and Event Host according to the defined ownership percentage. Follow the Event Owner + Contracted Organiser option above if relevant. For any side event, business or hospitality programme paid for by the rights holder outside of the event budget, 100% attribution of GHG emissions are applied to that party. These impacts would still be included in the overall GHG inventory report for 'the event'.	Annual office and business impacts may be included in the event impact, apportioned across the event portfolio or reported separately from event impacts.	The event owner or event budget is responsible for any carbon compensation payments. Compensation balancing is attributed to the event owner's GHG inventory according to ownership percentages.	Included in each party's company reporting and other reporting according to the agreed ownership split. (e.g. CDP, CSDR, S4CA).

5 **Event Co-Production and Co-Organisers**	GHG emissions under the financial and operational control of the collaborative event organisers.		Annual office and business impacts may be included in the event impact, apportioned across the event portfolio or reported separately from event impacts and kept within the reporting for each distinct collaborative event owner/organiser.	The event owners or event budget is responsible for any carbon compensation payments. Compensation balancing is attributed to the event owner's carbon account according to ownership percentages.	Included in each party's company reporting and other reporting according to the agreed ownership split. (e.g. CDP, CSDR, S4CA).
Event Participants Any event sponsor, partner or profit-sharer would 'own' and be attributed the relevant percentage of event GHG emissions based on their financial contribution and/or profit share, or other defined benefits or metrics (e.g. organising responsibility, decision making control, percentage of event footprint activated, percentage of event branding rights etc).					
Reporting Entity	**Boundary**	**Attribution**	**Office/Year Round**	**Compensation**	**Report**
6 **Partners** **Sponsors** **Participants**	Any event activation, side event, or hospitality programme paid for and/or organised by a third party event participant.	100% ownership of related GHG emissions are applied to that third party.			Included in each participant's company reporting and other required reporting. (e.g. CDP, CSDR, S4CA). These impacts would still be included in the overall GHG inventory report for 'the event'.

GENERAL SCOPE GUIDANCE WHICH IS SOMETIMES CONFUSED: (See EPA reply)

Mains Electricity When electricity is purchased directly from the electricity vendor or where the venue or site charges back consumption (e.g. kWh), it is categorised as Scope 2. If electricity use is bundled with the venue hire fee, it would be classified as Scope 3 for the event and Scope 2 for the venue/site.
Gas and Fuel Fuel ignited on-site in equipment under the control or direction of the event in equipment owned or hired is categorised as Scope 1. Fuel used in equipment owned/hired and operated by a third party is categorised as Scope 3 for the event and Scope 1 for the third party.

More Discussion!

Tessa: The contractor/caterer/vendor fuel piece I hesitate on. If they are the one bringing in their own equipment/generators/fuel sources would that not be considered scope 3 for the event organizer based on the lack of ownership/control they have over that equipment?
Meegan: Yes it's tricky to get the definition correct. If a tent/infrastructure company brings in their own forks and cranes, it needs to be captured in the event's GHGs. Caterers too. If the event supplies all the kit and others use it, then it's clear - Scope 1. If the tenting company brings in a forklift on the truck with the tent, then it's Scope 3!

Either 3.1 PG&S or 3.4 Upstream Transportation & Distribution (retail facility proxy). This would follow the same logic and treat outdoor mobile food trucks the same as when a indoor venue is providing catering through their kitchens which would be in scope 3 based on how we have defined mains.
Meegan: Bit different for mobile food trucks if they are paying a pitch fee and earning the profit, than a caterer paid to provide catering services free of charge to delegates at a conference. Thoughts?

Poppy: Yeah I agree with you 100% Tessa.
My suggested wording would be:
"Gas and Fuel
Categorised Scope 1, when purchased by the event, or if ignited on-site in equipment under the operation and control of the event regardless of whether equipment is owned or hired or whether the fuel came bundled in with the equipment hire price e.g. bottled gas in a forklift hired by the event. Fuels burned in equipment operated by a third party (e.g a contractor, caterer, vendor) would be classified as Scope 3 for the event and Scope 1 for the third party, as they purchased it and it was under their control. If mains gas is bundled into venue hire fees and not charged separately, then it would be the event's Scope 3 and the venue's Scope 1. "

Poppy: I also still don't think the Scope 2 definition is quite right either and feel the full stop and comma are in the wrong places because if it is charged back by kWh it could be scope 2. I think it should say:

"Mains Electricity (not power)
Categorised as Scope 2, when it is purchased directly from the electricity vendor or where consumption (e.g kWh) is charged back by the venue or site. If electricity use is simply bundled in with venue hire fee, then it would be classified as Scope 3 for the event and Scope 2 for the venue/site.

Meegan: haha - back again to how I thought it should be, regardless of if you buy it from the electricity vendor or the venue… Oh god!

Ownership Examples

Example A:
A race car event is sponsored by Company X who contribute 20% of the costs of the event. The total event footprint (all scopes) is 100 tCO_2e, so their share would be 20 tCO_2e (scope 3).

If Company X also had a private hospitality area as part of the event, that was measured to be 5 tCO_2e then they would own 5t + 20% of 95t =24 tCO_2e, and the other event company owns 80% of 95t = 76 tCO_2e

If Company X also directly paid for services separately to the event, that were not measured as part of the event for some reason, such as flying extra guests to attend the hospitality area that weren't attending the event or part of it, then they would also own those emissions too.

Example B:
A bar company is taking 50% of bar profits, shared with the event. Note this is a profit share of bar only, and not overall event takings. They would then own 50% of the emissions relating to delivering the bar services at the event. The event company would own the other 50% of those emissions, plus all other emissions from the event not relating to bar services.

100% of emissions would be included in 'the Event' GHG Inventory report.

Table 1.1 GHG Attribution Decision Filters

TO DO

Refer to ISO 14064:1 2018 - clause 5.2.3 Indirect GHG emissions
The organization shall apply and document a process to determine which indirect emissions to include in its GHG inventory.

As part of this process, the organization shall define and explain its own pre-determined criteria for significance of indirect emissions, considering the intended use of the GHG inventory.

Whatever the intended use is, criteria should not be used to exclude substantial quantities of indirect emissions or evade compliance obligations.

Using those criteria, the organization shall identify and evaluate its indirect GHG emissions, to select the significant ones.

The organization shall quantify and report these significant emissions. Exclusions of significant indirect emissions shall be justified.

The criteria to evaluate significance may include the magnitude/volume of the emissions, level of influence on sources/sinks, access to information and the level of accuracy of associated data (complexity of organization and monitoring). A risk assessment or other procedures (e.g. buyer requirements, regulatory requirements, concern of interested parties, scale of operation, etc.) may be used (see ISO 13065). More guidance is provided in Annex H.
The criteria for evaluating the significance may be periodically revised. The organization should retain documented information about the revisions.

Table 1.2 GHG Source Inclusion or Exclusion Decision Filters

Attribution	● Are the GHGs generated because the event exists? ● Is the activity or entity under the event's operational or financial control? ● Are the GHGs from an activity viewed as inextricably part of the event's impact, regardless of whether you have financial or operational control? ● Are the GHGs created from outsourced activities that were previously in-house or typically in-house?
Stakeholders	● Are the GHGs from a source stakeholders deem relevant and consider the event's responsibility?
Event Sector	● Has the GHG source been identified by any event sector guidance, protocols or programmes as critical or mandatory to include?
Size	● Is the particular activity's GHGs likely to amount to more than 1% of the total impact, excluding attendee travel? ● Is the Scope 3 emissions source large, compared with the event's Scope 1 and 2 GHGs, or as a proportion of total estimated Scope 3 emissions? ● Is the expenditure on the GHG source relatively large compared to other costs? ● Is the particular activity, product, material or service large in quantity or volume compared with others? ● Are the GHGs from an activity that is prominent or high profile?
Influence	● Can the event undertake or influence reductions?
Data Collection	● Can data be collected with a reasonably high level of accuracy and data quality? ● Does the organiser have capacity, competency and resources to undertake measurement? ● Do the resources required to collect the data outweigh the benefits of having the data?
Risk	● Is there a risk of significant variance between pre-event estimates and post-event actual impacts? ● Do the potential GHGs contribute to the event or organisation's climate change risk exposure, such as reputation or regulatory requirements?
Improvement	● Can you learn from the resulting data to make better decisions next time?

Table 1.3 Decision filters for inclusion of attendee travel and accom impacts in organiser's GHG Inventory

TO DO

DISCUSSION

MAIN SOURCE CATEGORIES:

Energy (mains and fuelled generators)	**Transport** (movement of ‘things’)
Site Vehicles & MHE Suggestion: rename ‘Site Logistics’, Some suggest it goes under ‘energy’)	**Travel** (movement of people)
Water (and Wastewater/Sewage TBC)	**Accommodation** Suggestion: sub-category under Travel
Waste (and Wastewater/Sewage TBC)	**Food & Beverage**
Materials (goods) Suggestion: sub-category Merchandise	**Digital**

Agree (include name)	**Disagree** (include name and a comment)	**Discussion Points To Resolve at next meeting**
Meegan Jones April Layla Joseph Johanna Fuhlendorf (see comment for water) Emily Shephard Meg Strahle Linnea Svensson Tijl Couzij Lars Lensink Erlend Raabe Antonio Cavallin Toscani	Tessa Samy Bryonie Izzy Mills	Accommodation under Travel? Energy as master category and all others as a sub-category including site logistics, vehicles etc Keep fuel used in site equipment/MHE/Vehicles separate from ‘Energy’ for power. Put under transport? Keep as it’s own? Wastewater with waste or with water?

Accommodation - sub-category of Travel

Place Accommodation as a sub-category of Travel	Keep Accommodation separate to Travel
Tessa: Based on some discussion below it may be justified to nest Accommodation under “Travel”, and same could be said for food under travel. **Izzy & Bryonie:** Agree with: Accommodation being a subcategory under travel	**Meegan:** Disagree as a sub-category and bundled with travel. For corporate accounting it makes sense under ‘business travel’ but as travel and accom are two big ticket items for events and not a minor ‘business travel’ impact, they deserve their own buckets. **Tijl:** I would not bundle accom under travel. They are fundamentally different things in my eyes. **Lars**: Agree with Tijl, especially for festivals, when accommodation is sometimes hosted by the organising party, this is fundamentally different than scope 3 travel emissions.

MHE and Site Vehicles/Site Logistics FUEL

See further discussion for MHE and site logistics.

Wastewater > waste or water category?

See further discussion for Wastewater.

Place Wastewater with Waste	Place Wastewater with Water
Tessa: Wastewater is classified with Waste in GHGP so I would leave it there for consistency “Waste & Wastewater”.	**Bryonie:** Wastewater to be included under the water category **Tijl:** in the GDCF monitor we put water use and waste water as sub categories of the seperate category water.

Isabel: If we are following the GHGP approach water supply would be under purchased goods & materials rather than its own standalone category, (& plenty of other inconsistencies with GHGP approach) Either need to align fully to GHGP and categorise event impacts under this or redefine the categories, in which case water would be a standalone category.
Tessa: Wastewater is classified with Waste in GHGP so I would leave it there for consistency “Waste & Wastewater”.
Izzy: As per page 8/9 I’d disagree and keep wastewater in ‘water’ category as we are not aligning to GHGP.

Materials

Izzy: Suggest merchandise as a subcategory

Izzy: Is there an argument for F&B to go under 'materials' as per merch? Or having merch as a separate category instead and changing materials to more build materials and other like timber, paint, etc?
Tessa: I would be interested in seeing a standalone category for Merchandise outside of purchases for operational goods and materials.

Upstream Work

Samy: How do we account for upstream preparation/work to design and plan the event?

Communication

Samy: Does communication fall into Material (print) + Digital (web) ?
- Are we also approaching these categories from a lifecycle perspective (upstream, event phase, downstream) ?
Meegan: Yes, physically produced materials for communication (signs, banners, branding, posters etc) are 'materials' and electronic communication under digital. 'Communication' isn't a source category as it's so broad.

Corporate/Product, Project Approach, Office/Event

Discussion: Product standard, Corporate standard, annual and/or project (event) reporting, GHGp categories v or + Event operational categories

CAA-Meeting [07-10]:

Luke: Scope language should be used when talking about organisation footprinting, GHG inventory is more applicable in general event context.	**Resolved,** See here
Proposed interim decision: Report by operational buckets (categories), but collect data in disaggregated manner, so it can be put together and rearranged in different ways, to, for example, also report in annual/organisational/carbon accounting type of ways. ○ These operational buckets are the only thing that will resonate in the sector (especially when addressing the '90%' of smaller events). ○ These buckets reflect the areas of actual impact that we are aiming for, i.e. the whole reason why we're doing this accounting and reporting to begin with.	**Resolved,** See here
Reporting on a per-event level, next to separate reporting on an organisational level will work on multiple levels of scale (smaller events/single event organisations vs. bigger corporations managing multiple events). ○ Different target audiences will require different types of reporting: The general public and event organisers themselves will want to see and use the operational buckets, but corporate clients (and investors, auditers, etc.) will need/want the data in the corporate reporting (scope 1/2/3) format.	**Resolved,** See here

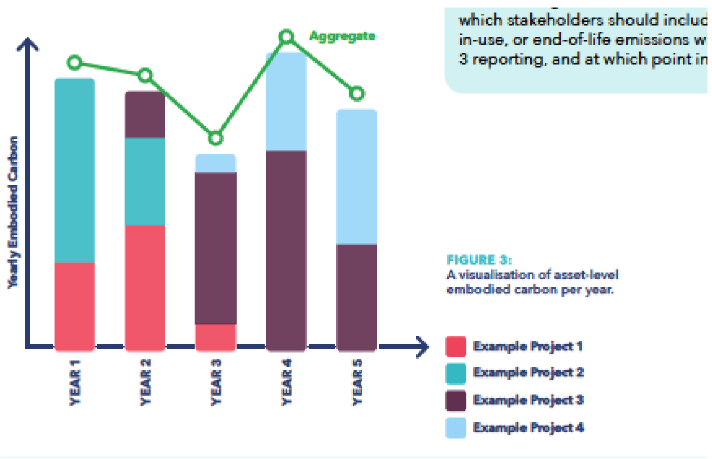
Previous Discussion:

Luke: I strongly suggest we avoid using GHG Corporate Standard as a guide for event measurement. The scopes do not apply to time-bound activity like events. GHGP is fine for organisational footprinting but not event specific, GHGP for Products / ISO 14067 is a better fit based on an inventory of emissions per impact category. **Meegan:** We're discussing not strictly following GHGP categorisation for event GHG reporting as it doesn't logically fit for events for analysis reasons. For discussion. For organisational Scope 1,2,3 reporting the entity could re-categorise their GHG accounts reports to fit GHGP categories. **Chris -** the only approach that makes sense to me is per project/event, based on impact categories, and in addition companies may report annually (voluntarily or due to regulations). Partly this is because events are so	**Resolved** See text

Isabel: This is exactly why I think Waste water should be in the water category and not the Waste category as we're not aligning to GHG Protocol.	**Not yet resolved.** **Need to finalise 'buckets' categories!**
Johanna: With the NZCE methodology, we aligned event emission measurement with the GHG product lifecycle standard instead of the corporate accounting standard (see the methodology for further context) but in short, many stakeholders come together across a specific timeframe with similar "phases" as seen in a product lifecycle. Similar to a product, there is inherent overlap in emission ownership. I think ultimately it will be helpful to highlight which emission sources could fall under either scope 1, 2, or 3 but it will be significantly different for each stakeholder so unsure if it's feasible to show in just one diagram.	**Agreed re Product Standard.** **Need to clip out guidance from NZCE on this to include in any CAA document published.**
Luke: I strongly suggest we avoid using GHG Corporate Standard as a guide for event measurement. The scopes do not apply to time-bound activity like events. GHGP is fine for organisational footprinting but not event specific, GHGP for Products / ISO 14067 is a better fit based on an inventory of emissions per impact category, **Meegan:** A discussion on the Product Standard def needs to be had. It's better for events than the Corporate Standard, but it's still awkward to use for events.The reason for this CAA work is to define an interpretation for events we can all agree to, which will have some event industry nuance. **Tessa**: Excited to have more discussion around this topic, it's the crux in my eyes.	**Resolved, See here**
Luke: And whether in some / many cases there may need to be two reports for events and event stakeholders - the organisational impact of the main stakeholder against fiscal or calendar year and the event specific GHG inventory. There would be some double counting but ideally they'd never be presented as one being added to the other - they ultimately show two different things. **Meegan:** Yes I think the outcome will be project reporting (aka like construction sector) to put a fence around the event, and then annual/fiscal year reporting for the organisation. Depending on how/who that organisation reports to. For eg. The Ocean Race does project reporting because the main race is every four years, but S4CA wants calendar year reporting which is super tricky to showcase any reductions for an event like this. But ho hum, we have to do it.	**Resolved, See here**
Luke: Broadly agree (with 'carbon account definition) but note that for organisations that run events the impacts are likely to be measured in an organisational carbon account on an annual basis but not be itemised as event specific e.g. total fuel purchased in a calendar year by organisation X goes into their annual carbon account but wouldn't show the fuel volume and GHGs from that per event necessarily	**Resolved, See here**
Johanna: In line with my NZCE background, I can't agree or disagree with the scope questions right now as the initiative has not defined ownership of emission sources yet.	**Resolved, See here**

Rebecca: might depend on who does voluntary reporting and how does mandatory reporting? **Christianne:** Scope 1 2 and 3 should absolutely be possible. Plus scope 1 2 3 changes depending on who in the supply chain is looking at the data (i.e. if you measure an event as an agency the scope split is different to when you pass it on to the client) **Tessa:** Expanding on my earlier comment - I would avoid tying to scopes - because then the event breaks the core tenant of GHG accounting by having two separate entities claim the same scope 1 and 2 emissions - I would say use the definition above to say this inventory is focused on emissions created because of the event regardless of ownership and use the broader categories of Energy, Transportation, etc - with the ability to break those down into sub-categories **Luke:** Fundamental issue with using scope terminology is that it is not designed for time-bound action such as events. Using GHG scope terms for business units linked to the event might be appropriate as part of their own annual reporting but the event itself doesn't have a scope 1, 2 or 3. There needs to be to a framework that allows for event level reporting (work has to be done on boundaries first) and then using impact categories to articulate that while also being able to apportion relevant data to a business unit that is a stakeholder of the event. The only instance where this may be different is when a large org like Live Nation runs the event and owns all the companies delivering it. But event then sponsors etc would be outside of that. Before loads of work is done looking at how to categorise what into event scope 1, 2 & 3 there needs to be an agreed framework for how to set reporting boundaries and delineate between what is going into a business unit reporting (either voluntary or mandatory) and what is going into an event impact report, as these may rarely be one and the same thing - even though the data types and sources may be the same! **Bryonie Matthews:** Agree **Meegan:** Construction sector has a good precedent whereby they do organisational reporting annually (to include live projects regardless of the stage) and then they do project GHG reporting. See page 12 of this doc: https://drive.google.com/open?id=13bjqNbFUSZYO-Lq5BOmQMi47DAf2ag-X&usp=drive_fs **Megan Strahle:** I think this depends - I have a client that puts on hundreds of events a year for their client and we do annual reporting rather than for every project, but they include a TRACE slide in their client wrap-ups ahead of the annual **Tessa:** This to me depends on the owner structure of the event, if they are a year round organziation that hosts multiple events, and is reporting a corporate ghg inventory it's likely pulled up at a higher level, but that doesn't mean they might not also report for a single events impact - which would be limited just to that event and would not include items such as year round office impacts that are reflected in the corporate ghg inventory.	
Lars: It could be argued that an office (or however you would call this) category could be added for year-round energy and material use in the office, employee commuting, working from home, etc. **Emily:** Agreed on a separation between operations/office and event emissions	**Resolved,** **see here**

Johanna: this would automatically be covered within corporate accounting aligned with the GHG protocol and most of the time very hard to apportion to individual events so NZCE excluded it **Shawna:** Separation seems appropriate here. **Tessa:** I agree with separation, disaggregating the data to tie it to individual events is unnecessarily burdensome, especially for those who host many events and the planning happens simultaneously, allocation to their corporate reporting is more appropriate.	
Fuel used in MHE: **Poppy:** My opinion is that if hired by the event that fuel has been purchased by the event, burnt by them resulting in direct emissions therefore scope 1 for the gas used. It would only be scope 3 IMO if the event hired a marquee company who happened to bring their own forklift to use so they purchased gas. Anything directly hired/purchased by the event is under their control, regardless of the wording of the financial deal of whether the cost of the gas was included in the hire fee or not etc)	**Resolve, see here**



Discussion: Revenue from high-carbon sectors

Shawna: Food for thought: I understand we're considering carbon accounting for events in this group and guidance for orgs is distinct, but I'd support inclusion of a statement or some brief language that advises event organisations of the importance of assessing their overall "exposure to activities in high-climate-impact sectors" given the chatter in SBTi about enhanced Scope 3 target setting, and climate risk assessment requirements under CSRD. I feel this is relevant because there is an opportunity to educate about the need to also consider non-CO2 metrics that help the sector to adapt to risk and influence reduction. For example, the **portion of client and sponsor revenue that comes from high-carbon sectors** may be a helpful indicator for an event org to consider. Not intending this idea to distract from the main purpose here, but it seems important to acknowledge somehow.

~~**Interim decisions:**~~	~~**Agree**~~ ~~(include name)~~	~~**Disagree**~~ ~~(include name and a comment)~~
~~**Scope 1,2,3**~~ ~~Scope 1,2,3 is only categorised for the reporting entity's carbon account, not for the entirety of the event project, which is reporting the GHG inventory of the event.~~	~~Meegan Jones,~~ ~~Johanna Fuhlendorf~~ ~~Emily Shephard~~ ~~Meg Strahle~~ ~~Tessa Rainbolt~~ ~~Izzy Mills~~	
~~**Hired Machinery Fuel and Gas**~~ ~~Regardless of whether vehicles, plant and machinery are hired and no matter who does the physical refuelling or pays directly for the fuel, if it's used for an onsite operation for the event, then it's classified as **Scope 1** for the event owner and goes into their organisational boundary (carbon account).~~	~~Meegan Jones~~ ~~Emily Shephard~~ ~~Tessa Rainbolt~~ ~~Erlend Raabe~~	
~~**Hired Mobile Power Generator Fuel**~~ ~~Regardless of whether the fuel is bundled into the hire fee or charged separately, if the supplier provides a mid-event refuelling service, or if event staff arrange refuelling, the fuel would be classified as **Scope 1** for the event owner and goes into their organisational boundary (carbon account).~~	~~Meegan Jones~~ ~~Emily Shephard~~ ~~Tessa Rainbolt~~ ~~Erlend~~	
~~**Venue Electricity, Heating and Cooling**~~ ~~Mains/grid connection electricity is classified as **Scope 2**, regardless of whether the electricity is charged separately or bundled in the hire fee.~~	~~Meegan Jones~~ ~~Emily Shephard~~	~~Tessa Rainbolt~~

Discussion: Hired Equipment

Tessa: One clarification here would be if this is delimited by operational generators and machinery fuel that the event owner has set up vs. what a vendor such as a food provider brings in - that would be a scope 3 item if the event owner were to complete a corporate inventory

Discussion: Venue Mains Power

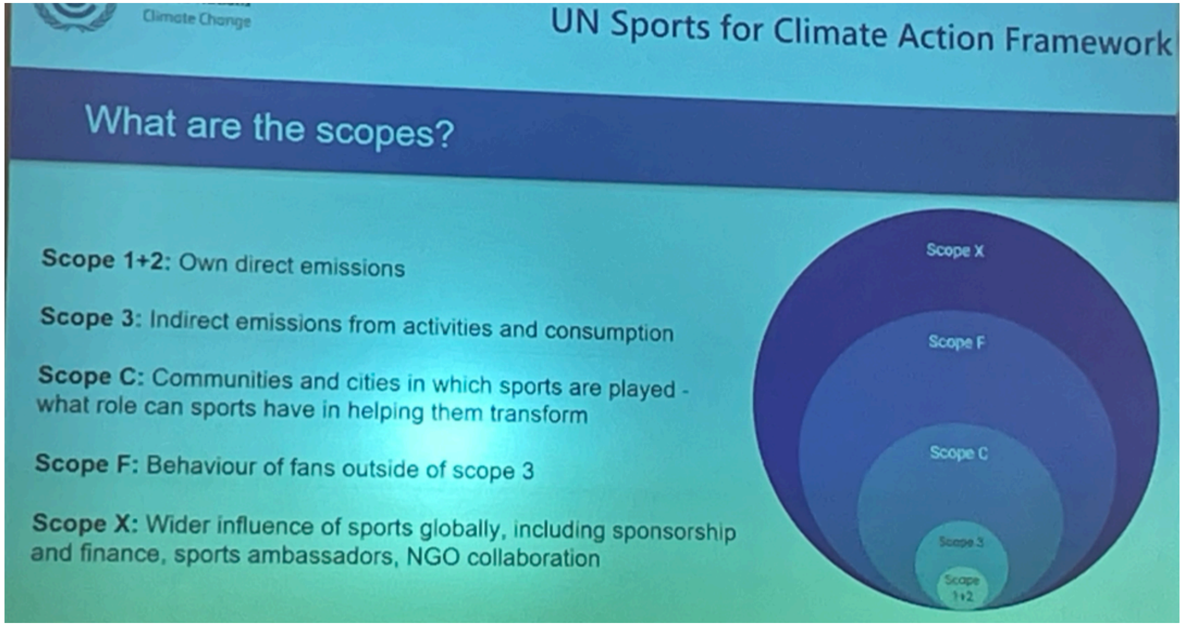
Tessa: Based on the available guidance and common practice, this is the venues emissions. It doesn't negate influence and responsibility to not have it in scope 2, it prevents double counting

Ownership Boundaries

Discussion: Should we establish a common approach to including all GHGs created because of the event but split them across GHG ownership (e.g., sponsors, competing teams, exhibitors)?

CAA-Meeting[07-10]:

What is the goal of the measurement? This dictates where to draw the boundaries. **Poppy:** It's not just about offsetting or financial responsibility (which is usually voluntary for events), but about reduction targets and focusing resources to reduce real-world emissions.	**Not resolved - what do we need to write about this?**
Samy: The main goal is to make events more sustainable, so taking a product-accounting approach would mean we have to take into account the entire (life cycle of the) event.	**samy.graia@climeet.events do you believe the table covers this now? It needs more on full lifecycle? See here**
Tijl: The entire GHG inventory should be included if you want to influence/incentivize festival (/event) organisers to address their impact. Poppy: "if you don't take responsibility for it, who will"?	**Somewhat resolved. It is included in measurement but no necessarily in ownership attribution.** **Does this need more discussion? See here**
Main points of attention for attribution issues: ○ Attendee travel & accomm. **Poppy:** I feel quite strongly that event owners/commissioners should be accountable for audience travel. Even though certain areas like audience travel are harder to measure or control, I do not feel we should give in to pressures to say its ok for event owners not to be accountable for them, as they are such high sources that need us to tackle them. **Meegan:** I feel quite strongly that 'it depends'	**Attendee travel and accom still needs guidance and examples to help decide if included or not.**
○ Sponsorships/partner programs	**Resolved, See here**
Tessa: Standards are definitely trending towards identifying more ways to include broader impacts as part of the discussion. Both Oxford Net Zero and UN Sports for Climate Action are suggesting adding layers outside of the traditional scopes. We'll have to keep a pulse on how this develops - Oxford Spheres (sphere of influence) - S4CA Scopes	**Not yet resolved. We need to write some guidance on levels of influence** **For further discussion - Scope X**

 - **Scope X:** A new category of emissions - indirect emissions that do not originate from organisations within the reporting organisation's supply chains, but within third-party organisations over which the reporting organisation has influence. **Note:** Nordic countries see Scope X as influencing attendees.	
Antonio: The selection of 'operational buckets'/drawing boundaries should start from relevance (i.e. *materiality*) of the impacts: Which activities contribute most to the total event's impact? Scope 3 *per definition* is someone else's impact, but it still should be reported. What is ownership/responsibility? Are we talking about responsibility to measure/report, mitigate, compensate, etc.? Excluding scope 3 emissions will lead to event organisers not (fully) addressing these issues. The ownership discussion only comes into play when doing corporate reporting or when talking about responsibility to balance.	**Resolved, See here**
Samy: For boundary setting criteria, possible additional categories are: Levels of maturity (e.g., starting with financial data, then physical data, then visitor survey/more complicated calculations)	**Not yet included samy.graia@climeet.events could you write something up?**
Data quality: Does poor data quality mean that something can/should be excluded?	**Resolved**

	Was already included
Level of team competency (does the team know how to do it)	**Resolved** See addition
Samy: In case of the >1% rule for inclusion in measurement, attendee travel often overshadows other categories, so maybe the 1% rule could apply to the categories that remain when disregarding attendee travel, because otherwise many relevant categories might be excluded.	**Resolved** See addition
Poppy: double counting when it comes to accountability.	

- Work done by Poppy post workshop: https://docs.google.com/presentation/d/1-28SwdplZ63F00qXpzJLEoNW-gTS-L6wCA0bUh2xop0/edit#slide=id.g2fc6295d4da_0_487

  From Poppy: Thanks for today, was a good meeting and interesting to hear diverse opinions.
  If a guide/gold standard is produced I'd be keen to see something that tackles the finer details and very specific overlaps/challenges in events that we discussed today, as like you mentioned, there are already several other more entry-level publications around, and the GHGP covers most. In that spirit, I've whipped together this rough document using your categories to solidify my opinions of ownership and scopes, based on the CDP reporting categories, for different types of event companies.... as a discussion point for this area that I dont feel has clear enough guidance out there yet. Be great to get your opinions, or feel free to use it as you see fit:
  https://docs.google.com/presentation/d/1-28SwdplZ63F00qXpzJLEoNW-gTS-L6wCA0bUh2xop0/edit?usp=sharing

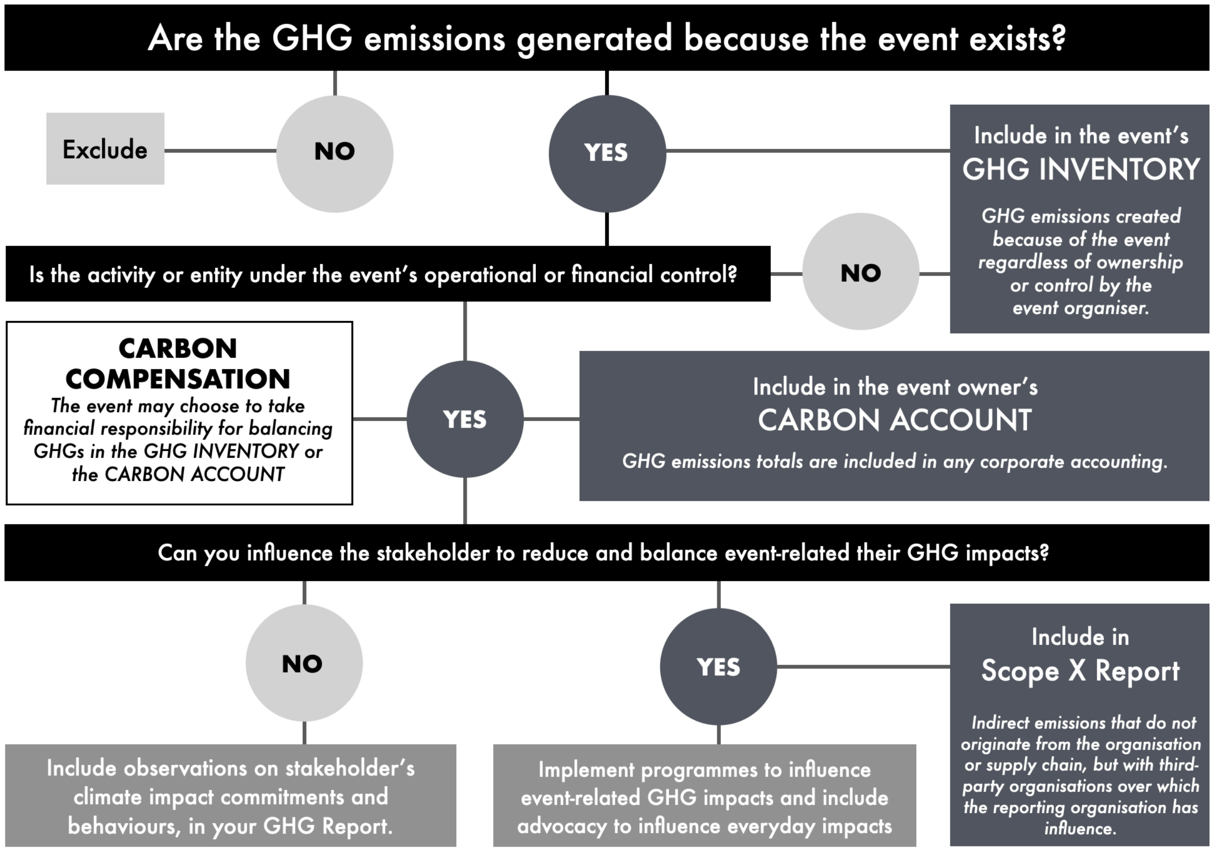
  My general ethos is to include as much as possible for everyone, under the thinking "if you don't take responsibility for it, who will", and I feel quite strongly that event owners/commissioners should be accountable for audience travel (sorry Chris!). CDP reporting allows for this to be split out, so if a company did wish to offset everything except that category they could as it's all voluntary anyway. But allowing event owners to routinely omit it could mean it does not form part of SBTi targets, which would potentially allow a company to say they have halved their scope 3 emissions by 2030, when in fact they have not tackled one of their largest sources of emissions. That very much falls under greenwashing to me. It's not just about offsetting or financial responsibility (which is usually voluntary for events), but about reduction targets and focusing resources to reduce real-world emissions. So even though certain areas like audience travel are harder to measure or control, I do not feel we should give in to pressures to say its ok for event owners not to be accountable for them, as they are such high sources that need us to tackle them.

  The other issue I feel we touched on was around double counting when it comes to accountability. In the example table at the end of the document attached, a typical event I work for would see the event commissioner and the delivery agency (as well as the venue and suppliers for the elements they are involved in) both account for the same emissions, and both need to offset them to be classed as carbon neutral. However I feel this is a non-issue as a) scope 3 is always a double count, by design b) so few companies are offsetting rarely are people doubling up on this c) there's no such thing as too much offsetting / investment in the future / draw-down of existing emissions d) offsetting is so ridiculously cheap its immaterial. However, perhaps official guidance / gold standard could allow for a balancing equation at the end whereby companies can remove any emissions already offset from their total to be purchased, where proof has been obtained. I've not had much direct experience in this so I'm unaware of whether this would qualify for PAS2060.

Previous Discussion:

Luke: Perhaps there can be a framework for different tiers of assessment boundary based on the ambition and what is material to event stakeholders? **Rebecca:** does this refer to the GHG protocol's organisational boundaries (i.e., financial control, operational control, or equity based) or something totally different? **Meegan:** Related but a little bit different. The event organiser doesn't own all the GHGs created because the event exists. I always give the example of a Formula 1 Grand Prix Race team. They are a business and they own the GHGs involved with moving their equipment and people, housing, offsite F&B, sponsor hospitality programmes etc. The event doesn't own that. In some cases, the event doesn't own the GHGs of attendee travel. Some models have all offsite hotel nights in the event's GHGs, but for public, unticketed events, that isn't correct. The attendee owns those, but the event definitely should still measure and report on these examples. **Christianne:** I think a standardised approach in alignment GHG makes sense. The biggest issue I come across is getting organisers to include audience travel in their reporting as they're not in control of it/don't pay for it, difficult to collect the data and it's the biggest contributor - how can we get more people measuring to understand it better and use the data to influence?! **Meegan:** What Rebecca says above - we need to establish decision filters to understand where the ownership boundaries are. The 'if you pay for it you own it' lens doesn't quite work in some cases. I'm thinking about bundled tickets which might include train travel, where a festival block books the train, but the attendee pays for it, though not directly, but as part of their total ticket fee. **April:** Yes, as you mentioned, there is a lack of consistency, and everyone seems to be defining their event boundaries differently. There should be a standardised sample or example approach to provide guidance on what to include or exclude in the boundaries. I believe that the size, impact, and budget of the event should determine the different sets of boundaries to be applied or implemented. **Lars:** I think the first question that needs to be answered here is: What is the goal of the accounting? The answer to this question, I think, determines the boundaries of the assessment. For example, is the goal to get a complete image of all emissions resulting from hosting the event, is it to establish only the emissions that the measuring party is directly responsible for with the goal to hold them accountable/allowing for carbon pricing, or is it to get an image of the emissions that occurred compared to a counterfactual scenario, just to mention a few. These scenarios would all result in different measurements in my view. **Poppy:** Hi, I'm late to the party so not sure if input is still wanted? But for me "ownership" is a key difficulty for events, where you have: Brand/client, venue, and agency delivering event, so the same overall scope 3 emissions could be "owned" by all three, which matters when it comes to budgeting for offsetting as Lars says. Its much clearer for festivals and owner-operated events, but for corporate supply chains the agency has a lot of control and influence on the impact, so should bear some responsibility also. I would also be hesitant to advise that the main owner of the emissions are the brands/clients, when currently it appears that it is the agencies that are leading the way in measuring, and therefore logging and monitoring the impacts of events. Who would hold the brands/clients accountable? The momentum in the events industry should be encouraged. For exhibitors I usually say that the organiser owns the overall emissions and 100% of venue energy for heating & lighting, plus audience travel, and the individual exhibitor owns the emissions from just their own stand build and travel. I haven't previously added a proportion on to the exhibitor for audience travel etc as that data isnt usually available to the exhibitor, and should be owned elsewhere IMO. For sponsors I take the emissions from the marketing materials (or proportions of) and any sponsored area. But its really varied.... so a common guide to ownership and overlapping scope 3 emissions would be a great move. **Meegan:** Regarding ownership boundaries, we need to offer some decision filters which help to identify boundaries. Events should be measuring and reporting GHGs that occur because the event was held, regardless of ownership. But there is a big piece of work to engage and ensure all GHG owners take responsibility for their portion of the pie. For reporting it would be the GHG inventory of the event AND then the GHG inventory of the reporting entity.	**Resolved,** **See here**

Poppy: The issue I come up against is that "the event" usually isnt a legal entity/company (except for independent festivals when it often is), so "the event" cannot be a reporting entity. Who owns the event and emissions is sometimes more complicated than it first appears between a brand/client, agency, venue and sponsors. A venn diagramme is often needed. **Tessa:** Mapping without a clear stakeholder perspective is where things get tricky - this is where I would love to see alignment on if events need to try to squeeze into the shape of the GHG protocol scopes or just take the broader language that is more accessible and translatable to operations while continuing to map ownership so if there was one stakeholder who wanted to roll it into their corporate accounting they could identify their impacts and the categories they fall under.	



Justifying Measurement Inclusions and Exclusions

For discussion: Should we create a common set of decision filter steps to go through to validate and justify inclusion or exclusions?

See Decision Questions

Lars: I would say yes. It might be good to leave some room for interpretation/flexibility, but a somewhat standardised guidance on what and what not to include would be very beneficial in my opinion.
Poppy: To me, this is the biggest issue here. Seeing how many users on one tool decided not to include audience travel, for example, means there isn't a clear comparative. This massively skews results. With TRACE we designed it so that it tells the user what we expect to be included and they can opt out of categories they deem "not relevant" but I wish we'd added a function that asked them for WHY; e.g. are they excluding audience travel because it was a virtual event without any, because they simply don't have any data, or because they feel they shouldn't be responsible for it? It is difficult to measure progress when not everyone is declaring the complete picture.
Meegan: Exactly. That's what this working group is about. The set down what is expected minimum practice for reporting. I'm sure you've read my side by side review and that was done in order to inform this open doc to identify where the diversions of approaches between tools and also practitioners doing manual versions of GHG accounting.
Rebecca: mmh from experience this might become a minefield as we define the different types of events, but a minefield has never stopped me from trying!
Meegan: Yes, we are going to be proposing in reporting there is a justification for inclusions or exclusions. I think it will end up being our version of a Qualifying Explanatory Statement, like in PAS 2060
Shawna: Support including some standard disclosures about inclusions/exclusions, especially if it helps tools build consistency for the purpose of aggregate analysis. Seems particularly critical for travel: “Is attendee travel excluded? Y/N > If Y: Is it expected to account for more than x% of emissions associated with the event. > If Y: Why has it been excluded? And how are you intending to close this gap in future…” (just brainstorming). Also, wasn’t sure if this comment fit best in the section above, or here. Speaking to the context of business events, many choices and resulting emissions related to the event may not be owned by the organiser, but the choice architecture often is, even if it doesn’t conveniently fit within the existing business model and solutions are hard to implement. I’m struggling with how to convey that, and create an adequate tension within a decision tree format for GHG accounting. Hence why I introduced the idea of including some limited text that acknowledges the opportunity for optional enhanced Scope 3 metrics beyond tCO_2e, like portion of event spend on suppliers with verified carbon reduction targets, or anticipated losses should the event be affected by an extreme weather event, etc. This may be beyond the scope of this exercise but it feels important to at least name
Chiara: I like the approach of trying to set a ‘minimum’ benchmark for ALL events regardless of size (which is also easier to make comparable) and then an escalating framework of mandatory reporting based on some questions to understand materiality from there. But that minimum benchmark might be quite limited when it comes to small events.
Luke: And factor in materiality? What might be materially important to some may not be the same for others so some rules of thumb here could be useful
Tessa: I 100% think we should provide guidance. To limit greenwashing and promote the ability to benchmark, different events shouldn’t be able to pick and choose what is within their bourndary or a material item. We should be very clear about major emissions categories that need a solid explanation and transparency if the event chooses to exclude it.

Tijl: I’m very much in favour of creating a guidance on this, or even a minimum set of included themes or topics. And to solve the problem for smaller parties - less means to collect data - we could maybe implement a rule like “when no data available, country/regional averages will be filled in for this theme/topic”. This way the problem of missing data, or (semi) comparability becomes less big.
Chris - I also agree, for the reasons above, so there is better consistency and accountability - I used three carbon tools as an experiment last year and got different results from all of them, and varying transparency on methodologies. As an events sector in the UK, we desperately need a common approach so we can relate to the Government about the sector's impacts with credibility. For individual events, agree that we have to be realistic about what data they can collect and so proxy factors are vital to this system functioning, so basically a bunch of off the shelf factors that expand on the current BEIS conversion factors and relate to our sector's activity.

Travel & Transport

Decision	Agree	Resolution
Separate travel (people) from transport (equipment, supplies, infrastructure).	Samy Graïa Luke Howell Bryonie M Izzy Mills Erlend Raabe Meegan Jones April Joseph Christianne Beck Lars Lensink Emily Shephard Antonio Toscani Johanna Fuhlendorf Tessa Rainbolt Alex Fintoni Chiara Badiali Emily Shephard Meg Strahle Thi Dinh	See general principles

Meegan: The reason we are measuring GHGs is not to just get a number or to pay for offsets. It's to understand the GHG sources and to work out how to reduce them. So we need them separate. They are also very distinct functional areas, operational logistics etc. They each also have various GHG owners sitting within them. If we needed an overall heading it could be 'mobility'.

Alex: Agree with Meegan's note that it should have a broad travel or mobility category, then broken down further into 'audience' 'staff' 'production transport' etc

Meegan: @Alex I was suggesting Mobility could include transport (things/logistics) and travel (people). I have one client that calls people movement logistics or 'transpo', and for equipment 'shipping'. There will always we different terms used, in all the languages. So it's only semantics. The main thing is to have people movement separate from equipment/supplies/materials/infrastructure movement.
Luke: To this point perhaps whatever categorisation is decided some regionally variable semantics that mean the same thing could be included?

Tessa: One area to define for clarification is Vendor travel that is service based - is that considered transport, even though the movement being tracked is the commute of that vendors employees.
Meegan: People driving trucks of things to the event as well as themselves = transport. People driving themselves to work at the event (offering their services) = travel. People=travel, things=transport.
Tijl: Mobility would be a good solution. Agree.

Transport and Deliveries

Decision	Agree	Resolution
Events are encouraged to measure transport, freight, and deliveries impacts.	Meegan Jones Lars Lensink Johanna Fuhlendorf Tessa Rainbolt Alex Fintoni Chiara Badiali Emily Shephard Meg Strahle Thi Dinh Luke Howell Izzy Mills Erlend Raabe	Resolved See General Principles
Commercial courier/freight - in a mixed load: GHG emissions are accounted by weight or volume, distance, proportion of load, and vehicle size. The freight/courier company's published emissions factors may also be used.	Meegan Jones Tessa Rainbolt Alex Fintoni Chiara Badiali Emily Shephard Thi Dinh Luke Howell Izzy Mills Lars Lensink Erlend Raabe	**Resolved** See General Principles
Commercial courier/freight - where the delivery uses the entire vehicle: GHG emissions are accounted by distance and relevant vehicle size.	Meegan Jones Tessa Rainbolt Alex Fintoni Chiara Badiali Emily Shephard Meg Strahle Thi Dinh Samy Graïa Luke Howell Izzy Mills Lars Lensink	**Resolved** See General Principles

	Erlend Raabe	
Sea Freight - GHG emissions are accounted by weight, and, if known, by ship size.	Meegan Jones Erlend Brenna Raabe Tessa Rainbolt Alex Fintoni Chiara Badiali Emily Shephard Samy Graïa Luke Howell Izzy Mills Erlend Raabe	**Resolved** See General Principles
Supplier-owned transport - GHG emissions are accounted by weight, volume, proportion of the vehicle, or the entire vehicle.	Meegan Jones Tessa Rainbolt Alex Fintoni Chiara Badiali Emily Shephard Meg Strahle Thi Dinh Luke Howell Izzy Mills Erlend Raabe	**Resolved** See General Principles

For Discussion:

Q. It is a laboursome process to measure this. Can we agree on proxies, or decision filters, and use agreed-upon empirical data to avoid missing this important element?

Johanna: I know NZCE is very interested in proxies for as many event emission sources as possible to support smaller organizations that don't have the resources (or are not able to get the data for some other reason). I think it's critical with proxies, however, to make sure that they're always as conservative as they can be so that there is still motivation for direct measurement (once again best if direct measurement happens on the supplier side since they have direct access to data)
Chiara: agree - the above table outlines a best case scenario for data collection but this is not practicable for many small-medium size events (this is not the only category where this applies, but it's definitely one of the more challenging & material ones). **Pushing for more suppliers/vendors to start including this in invoices/provide data will help. (MJ: excellent yes!)**
Meegan: we will have some decision filter/tree questions in common for identifying what Scope 3 to measure, (possible, practical, useful, data quality etc etc). I'll set up a new discussion point on this!
Izzy: Think decision trees will be great. I'd always suggets to clients to focus getting data from key contractors delivering bulky items/infrastucture/etc to site (a lot of these contractors track it anyway as it's link to costs…), as well as contractors who use freight forwarders/logistic providers as a lot of the big companies track the data already and it's pretty easy to get hold of. In these instances instead of using industry proxies, I'd suggest then extrapolating these figures based on contract value to smaller contractors - This could be more of a 'hyrbid approach' rather than 'best case approach'.

For Discussion:

Pushing onto vendors to provide the data

Tessa: This is the approach we often take and I think there is a lot of value in pushing for the stakeholder engagement in this area. Especially in building relationships with the major transportation companies. Proxies here would make it hard to set a reduction target but there are options for guiding assumptions when little data is available. We could help by indicating a materiality threshold to how much spend/weight so organizers can focus on the largest impact items.

For Discussion:

Offsite transport eg gift pickups

Shawna: Not sure if this is an issue for others, but I'm dealing with a few instances where events have associated shipments that are no longer arriving onsite, so would not appear on manifests or load-in/out lists for the event host. For example, gifting programs organised by the event host where attendees pick what they want via an online platform in advance and have gifts shipped directly from sponsors. Flagging in case others would value peer guidance in who owns these transport emissions given they are induced by the event but are technically shipped by the sponsor who is challenged to provide shipping data. (Also flagging because it highlights a situation where what seems like a carbon reduction for the event may actually just be a shifting emissions to someone else's balance sheet.)

Travel

Interim decisions:	Agree (include name)	Disagree (include name and a comment)
Travel should be included for measurement in the event's GHG Inventory for event workforce, participants, and attendees.	Meegan Jones Johanna Fuhlendorf Tessa Rainbolt Alex Fintoni Chiara Badiali Emily Shephard Poppy Stephenson Samy Graïa Izzy Mills Lars Lensink Erlend Raabe	Meg Strahle (Doesn't agree attendee travel should always be measured)
Ownership assignment of travel GHG impacts would be categorised as per event boundary definitions.	Meegan Jones Emily Shephard Meg Strahle Thi Dinh Samy Graïa Izzy Mills	
Inclusion of attendee and participant travel GHG impacts for carbon compensation or carbon neutrality claims would be based on the boundaries set, organisational policy or industry sector programmes and agreement.	Meegan Jones Emily Shephard Meg Strahle Thi Dinh	
Attendee accommodation that the event has no control over are not mandatory to include in the event owner's carbon account and any carbon compensation strategies unless it is part of a requirement, policy, or protocol. Attendee accommodation impacts should be measured and included in the event's GHG Inventory.	Alex Fintoni	Izzy Mills See comment

GHG Inventory = All measurable GHGs generated because the event was held, regardless of attribution or ownership.
Carbon Account = GHGs attributable to the reporting entity

Discussion:

Meegan: In many contexts, the event organiser has no control over the travel or accommodation decisions of the event attendees. Organisers may influence travel to the event from the local destination (often called 'the last mile'), but they won't have any influence on where attendees travelled from to get to the event

destination, travel mode, or type of accommodation. Unless an organiser pays (directly or indirectly) for the travel and accommodation, there is a case to say that attendee travel could be left out of the responsibility of event organisers to mitigate via carbon compensation schemes.
Shawna: Agree that event organisers may not automatically own travel emissions or be able to control attendee choices. That said, in some cases (association conferences, for example), organisers do control the choice architecture and have significant influence on whether attendees need to travel to achieve event outcomes at all and are resisting adopting event technology that could be used to generate satisfactory participant outcomes. Not saying anything should be changed above, or that this situation always applies. Just flagging there are situations where event participants believe responsibility for the choice lies with the organiser. (In my case I'm dealing with members and planning committee folks who are dissatisfied associations are re-introducing requirements to travel to events post-pandemic, and curtailing hybrid and remote event options for legal and cost reasons.)
Johanna: NZCE has not defined ownership requirements.
Meegan: From NZCE: The guidance in this Roadmap recommends that event organisers measure and report the travel emissions related to attendees and, that when calculating the overall carbon footprint of an event, they should be included. However, given the perceived low level of influence events organisers have over travel emissions, currently emissions from attendee travel to the destination and accommodation may be excluded from a company's Scope 3 (value chain) emissions
calculation (except when the organiser directly facilitates the purchase of a ticket or room).
Tessa: Attendee travel should be measured, we report data both with and without since it tends to overshadow other trends and priorites, but at the end of the day this is clear additionality the organizers and venues sole purpose is to sell tickets and gather people, influence is limited but there is much they can do around prioritizing tickets to locals, location selection, attendee engagement and education around public transportation or carpooling. Hotels have always felt a step too far, where the arguements for the general travel don't hold as much water and it get's murkier to make a reduction or engagement plan.
Alex: Agree that attendee travel should be measured, even if not taken on as a responsibility by the organiser, as it informs broader sustainability measures / partnerships for active and low-carbon transport. However, as others have said, I don't think audience accommodation is useful for inclusion (for live events), as there is even less ability to influence and it is not particularly useful. It is a bit less clear with conferences, as event organisers sometimes partner with hotels? Accommodation should be included for staff and crew however, as this can be influenced by organisers (i.e. local teams, etc)
Chiara: Broadly agree with above. I think the carbon compensation question muddies the water a bit here, as from an 'intent' point of view I'd say audience travel absolutely is part of an event value chain/as Tessa says, the whole purpose of events is to gather people, it's high materiality, and there are plenty of levers of influence organisers can pull. But can agree on inclusion in GHG inventory / inclusion in carbon account based on boundaries approach. When reporting travel emissions, should this framework encourage events to be transparent whether they focused on 'last mile' equivalent travel, or deeper surveying/measurement for transparency/understanding (see Alex' point below re. Wording of surveys)? Where approach is harder to untangle for me is around assigning participant/performer travel to an event, at least in music if/where an act is on tour from event to event.
Samy: Considering that travel typically accounts for 40% to 90% of event emissions and would not occur without the event, excluding travel-related emissions from the organizers' reduction goals would undermine efforts toward event decarbonization. Organizers can encourage attendees and participants to use low-carbon travel options where alternatives exist, and even offer car-sharing platforms when feasible. Depending on local and national transport infrastructure, organizers can significantly influence this category of emissions.

Events can also redefine attendee experiences by starting journeys at transportation hubs like train stations, rather than at the venue, or by hosting continent-based gatherings interconnected through live digital portals, reducing the need for international travel.

In this context, all elements critical to the event's occurrence (or for which the event is a primary driver) must be included in the event's carbon reduction plan. While organizers may not directly control travel emissions, leaving them solely to offsetting would be insufficient. These emissions are central to the event's value chain, and should be addressed similarly to the Science Based Targets initiative (SBTi) approach, which prioritizes emission reductions by setting boundaries that cover at least 67% of Scope 3 emissions for near-term targets and 90% for long-term targets.

Izzy: Believe attendee accommodation should be included as best practice, particularly for multi day events that do not offer camping so audiences booking accommodation or staying at a friends is vital to attend the event (city based festivals, art fairs, etc.). Completely get that for many it's a choice to stay in the area for longer after the event and book accommodation (noted in the ancillary travel section) so maybe some sort of decision tree could be useful here based on the event type.

Izzy: Assume 'business travel' / staff claimed travel would sit in here too?
Meegan: Yes, but it will depend if the event is bundling business travel into the event inventory or reporting separately for annual organisation-based GHG impacts.

Meg: Attendee Travel: not 100% sure on attendees unless client requires measurement - some clients are already measuring their own event travel / accom.
Meegan: @Meg the reason for this project is we aren't leaving it up to clients to decide what they want to measure. We are setting benchmarks for events on what they should measure. There will be common decision filters to use to justify the exclusion of a particular GHG source and so if these clients can justify it, then of course no problem to exclude. If they decide they don't want to measure attendee travel, then you have the tools to let them know what is accepted and expected good practice. If they don't have the resources to measure, that's part of the decision filters, but they need to declare in their GHG reports why they have excluded a certain GHG source.

Discussion: Ancillary Travel
Johanna: travel that happens unrelated from the event but in the destination (e.g., an event attendee decides to take a sightseeing tour of the destination not related to the event) would not need to be attributed to the event footprint. Similarly, if an attendee decides to stay in the destination longer than necessary for attending the event, that accommodation would also not need to be included.
Meegan: Agreed!
Shawna: I can get behind not being responsible for discretionary travel beyond the event by attendees as Johanna describes.
Tessa: Agreed, to and from, are the most important to capture. Not sure if this has come up for others but in the case of multi-day events - would the travel to and from each day be counted? This falls for multiple travelers including participants and attendees.
Alex: For multi-day travel would generally include the smaller commute within the city in addition to the longer travel to the city of the event.
Another common issue is people attending an event, but as part of a larger visit. For example, someone travelling from Australia to UK as a tourist and going to a gig while in the UK. As the gig itself was not the main reason for the long-distance travel, only the travel within the UK should be included. But many travel surveys are asked in such a way that we would only know that they came from Australia, which can skew the results. One way around this has been adding questions such as "if travelling from abroad, was XXX the main reason for your visit" or similar, but it is not always asked.

Meegan: @Alex in economic impact studies for events they've worked out how to ask this and separate out primary reason for visit as you mention. So that should definitely be included as a recommendation if surveys are the way that attendee travel is measured.
Samy: Agreed

RFI

Some tools use ICAO EFs, which do not include RFI, and others use the UK Government, which does. Some tools use other uplift factors, such as 8% loading for taxi-ing or air traffic control holds.

For discussion:

Q. Can or should we agree on an RFI or uplift factor approach?

Lars: I think that including RFI should be the standard
Izzy: Agree with Lars - if not we need to make it clear that consistent methodology should be used each year/each event for comparable reporting and state clearly what they've used in their methodology, to avoid any significant reductions/increases that might cause confusion.
Johanna: The problem with RFI is that there's no scientific consensus of what factor should actually be applied so I think it might be problematic as non-experts in aviation to require a specific factor until one is communicated. NZCE right now recommends but does not require the inclusion of RFI but no matter what requires a statement of whether it was included (and if so which factor was chosen, if not, then why)
Rebecca: I would guess this would depend on countries legislation? i would argue we should always take into account the higher number to be safe
Christianne: Totally agree with Rebecca's point. Depends on the local legislation but using the higher factor is always safer in case audited.
Shawna: Could look into the ICCT's recommendations for the Google Travel Impact model? Not sure what the timeline is.
Tessa: I see both sides here and it deserves a deeper dive on where the airline industry is going to land, at minimum there should be stated guidance that methodology is diclosed - with or without RF
Chiara: I also think RF should be included, despite uncertainty, as standard - but as a minimum clear disclosure.
Samy: I agree that RFI should be included. There is scientific consensus that RFI is greater than 1, although estimates vary significantly across sources (e.g., UK Government: 1.7, IPCC: 2.7).
Inclusion and transparent disclosure should be the baseline, but mandating a single, standardised number seems challenging at this time.
Erlend: Agree to include RFI as standard.

Other Vehicles (boats, heli, hot air balloons, flyovers)

BOATS

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
Public transport (not owned or controlled by the event) Measured by: per passenger distance. Included in GHG Inventory and in event's carbon account depending on boundaries, policies or protocols. **EVENT GHG CATEGORY: Travel**	Meegan Jones, Johanna Fuhlendorf Tessa Rainbolt Emily Shephard Meg Strahle Samy Graïa Izzy Mills	
Staff or attendee shuttles (viewed the same as event-controlled shuttle buses) Measured by: litres of fuel, or running time per engine size (type of vehicle) and published fuel consumption rates per hour or by distance. Included in the event's organiser's carbon account and overall event GHG Inventory. **EVENT GHG CATEGORY: Travel**	Meegan Jones, Johanna Fuhlendorf Tessa Rainbolt Emily Shephard Meg Strahle Samy Graïa Izzy Mills	
Production vessels (e.g. safety, marshalling, umpires, site management, onsite barges) Measured by: litres of fuel, or running time per engine size and published fuel consumption rates per hour. Included in the event's carbon account and overall event GHG Inventory. **EVENT GHG CATEGORY: Site Logistics**	Meegan Jones Tessa Rainbolt Emily Shephard Meg Strahle	
Hospitality Fleet (e.g. vessels hosting guests as viewing platforms or guest activities) Measured by: litres of fuel, or running time per engine size (type of vehicle) and published fuel consumption rates per hour or by distance Included in the event's carbon account and overall event GHG Inventory. **EVENT GHG CATEGORY: ????**	Meegan Jones Emily Shephard Meg Strahle Samy Graïa	
Spectator craft (viewed the same as attendee cars for travelling to the event) Measured by: running time per engine size and published fuel consumption rates per hour. Included in GHG Inventory and in event's organiser/owner's carbon account depending on boundaries, policies or protocols. **EVENT GHG CATEGORY: Travel**	Meegan Jones Emily Shephard	

GHG Inventory = All measurable GHGs generated because the event was held, regardless of attribution or ownership.

Carbon Account = GHGs attributable to the reporting entity

AIRCRAFT (e.g. helicopters, light aircraft)

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
Media, Safety, Production Measured by: hours operated and aircraft size/type Included in GHG Inventory and in event's carbon account depending on boundaries, policies or protocols. **EVENT GHG CATEGORY: Site Logistics**	Meegan Jones Emily Shephard Meg Strahle	
Guest or attendee Measured by: hours operated and aircraft size/type Included in GHG Inventory and in event's carbon account depending on boundaries, policies or protocols. **EVENT GHG CATEGORY: ????**	Meegan Jones Emily Shephard	

GHG Inventory = All measurable GHGs generated because the event was held, regardless of attribution or ownership.
Carbon Account = GHGs attributable to the reporting entity

Discussion needed for:

Hot air balloons: see discussion on gas
Fly overs: How do we account for this?
Which category do we put guest and attendee activities in boats and aircraft?

Fuel Used for On-site Operations

Interim decisions:	**Agree**	**STATUS**
Fuel used in rented vehicles and MHE, power generators, lighting towers, or portable refrigeration units, controlled by the event owner/organiser, or those provided by the contractor for essential site services, are included in the event's carbon account and classified as Scope 1.	Meegan Jones Poppy Stephenson Alex Fintoni Chiara Badiali Emily Shephard Meg Strahle Tijl Couzij	**Resolved:** See inclusion in above table "Categorised Scope 1, when ignited on-site, under the control of the event or operated by a third party under the event's direction (e.g a contractor, caterer, vendor, venue), regardless of whether equipment is owned or hired, who does the refuelling or pays for the fuel, or if fuel/gas costs are bundled into hire fees."
An exception to inclusion in the event's carbon account, is where a professional participant takes ownership or is deemed to own the GHGs created from fuel used in vehicles, MHE and plant.	Meegan Jones Emily Shephard Meg Strahle	**Resolved**: See here

Site Logistics, MHE, Site Vehicles

Final discussion needed on if it has its own sub-category and if it's under Energy, Transport, or a stand-alone category.

Proposal:	**Agree** (include name)	**Disagree** (include name and a comment)
MHE and other vehicles are included as a category 'On-site Logistics'.	Meegan Jones Johanna Fuhlendorf Emily Shephard Meg Strahle Lars Lensink	Luke Izzy Mills See comment
This is then a sub-category under transport	Lars Lensink Johanna Fuhlendorf Meg Strahle	Meegan Chiara Emily Shephard Izzy Mills See comments
For pre-charged battery-powered vehicles and MHE, the mains power or fuel required to charge those batteries offsite, is included in the event's carbon account. It would be classified as Scope 3.	Meegan Jones Poppy Stephenson Izzy Mills	Emily Shephard Meg Strahle See comments

GHG Inventory = All measurable GHGs generated because the event was held, regardless of attribution or ownership.
Carbon Account = GHGs attributable to the reporting entity

Discussion: categorisation of fuel used in MHE and Site Vehicles

Cluster under 'Energy'		**Have as a separate category or sub-category.**		**Put under Transport**	
Emily **Tessa**	would agree with bringing it under energy for fuel use Site Logistics seems like Energy? We separate by venue vs fuel within energy.	**Meegan**	I would suggest definitely not for MHE etc to go under energy. We need to be able to analyse electricity separately to fuel used for forklifts and cranes.	**Lars**	In terms of comparability of results I think it would be good to have agreements on things like this. I would argue that people should be incentivised to monitor and measure the different uses of their fuels and thus report these separately. On-site transportation (or building machinery) should be a subcategory of Transport in my view. GDCF Monitor reports on these as a
Bryonie	Fuel used in plant and machinery to be included under energy.	**Linnea**	I agree with Meegan - I do not think fuel used (in any aspect for machinery or similar)		

	Worth noting that events / festivals are rarely able to provide fuel used in generators and fuel used in plant or site vehicles separately.		should be in Energy. Fuel used for generators, yes.		subcategory under Transport in the 2024 version
Izzy	My view is that all fuel should fall under Energy, particularly for fuel used in generators where it's providing show power and is not logistics or MHE related. It could then be a sub category so electricity and fuel would still be understood separately but it is all still powering the event. This would also then standardise different events - the more mains power an event has access to means they should require less fuel in generators, and vice versa, so 'Energy' would fit both of these in. Suggest including all fuel & energy as a main category with subcategories to include generator fuel, plant & machinery fuel, mains electricity, etc separately. Plant and Machinery (fuel) being a subcategory under Energy, along with subcategories for Mains electricity and Generator fuel (if it can be separated - it's often hard for events to separate what is used in generators and what is used in onsite MHE).				
		Johanna	As per NZCE this would fall under on-site logistics		

Rebecca: it might be tricky to have a view of all evolving software.. could we look at making sure it is accounted for before asking where it gets accounted?

Johanna: suggests change the category to Site Logistics.
Luke: I'd avoid using the term logistics when talking about fuel use in generators and plant - logistics is more synonymous with transportation and freight vehicle movements

Izzy: Power generators in plant is contradictory as we'd include generator fuel emissions in 'Energy' category and not in 'Plant & machinery' emissions category, so should either not be included or category title changed? **Meegan:** We want to separate out plant from machinery as, the former, as you say, is generally for energy and the latter is generally for moving things and we measure GHGs in separate categories for analysis reasons. And yes, we're looking for a new term in the categories on the next page. Site Logistics is a suggestion. **Tijl:** yes agree with Meegan here. Plant is Energy in GDCF monitor	**Resolved.** 'Plant' will not be included in a category heading.

Battery Power

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
For pre-charged battery based power units, the mains power or fuel required charge those batteries offsite, is included in the event's carbon account. It would be classified as Scope 3. **EVENT GHG CATEGORY: Energy**	Meegan Jones Poppy Stephenson	Emily Shephard Meg Strahle (Same logic as above)

For Discussion:

Including off-site pre-charged batteries

Emily: Should this take the same approach as fuel used in rented vehicles? ie the battery has been pre-filed and therefore scope 2 in the same was as the fuel is scope 1?
Poppy: I feel they are different for a few reasons. Fuels are purchased by the event (or come included in the hire price but are specified, but most often in my experience it is separated out on invoices as many events need to purchase additional fuel) and burned under the event's control = scope 1. Whereas the electricity used to charge the batteries is purchased by the hire company and not sold on (e.g. per kWh), so it is not under the events financial control. Also, in terms of double counting, plant hire companies won't be including the gas/fuel they sell to events as their scope 1 - they didnt burn it, just sold it, like a gas station. So events should include it to ensure burning those fuels are someone's scope 1. Whereas the electricity used to charge batteries will usually be included in the hire companies scope 2 already, as practically its much easier for them to take their annual usage for electricity bills and use that as their scope 2, and they should do that as they technically purchased and used that electricity. So to avoid double counting that electricity should be the event's scope 3. Lastly, the practicalities, to me highlight control... it is very difficult for an event to accurately track battery charging by third parties yet they can track fuel use on site via mileage or their fuel purchasing/invoices.
Chiara: Technically yes, practically this is a whole other question for data collection if many different suppliers are bringing their own MHE.

Renewable Energy

How should renewable energy be treated within GHG accounting for those regions where opting into a 100% renewable energy tariff is possible?

What emissions factor will apply, and does your region consider this as 'additional' renewable energy onto the grid?

For Discussion:

Market based vs Location based - do we agree that any direct purchase agreements for renewable energy should be included? Or should any actions like this be included post-GHG inventory calculations alongside offset credits?

We should report both but what should or are the tools using?

For clarity: location based = the national grid's EF. Market based = either the electricity supplier's EFs (for example Good Energy in the UK being 100% renewables), or if you purchase RECs or Energy Attribute Certificates.

Note: See biogenic emissions below.

Chiara: Obviously we are waiting on updated GHG Protocol guidance to be published, but personally I would suggest using location-based emissions accounting for GHG inventory calculations, especially if aiming for increased comparability. We also know that green tariffs come in all shades of green, from those that genuinely do offer additionality, to those that are just repackaging certificates on paper…
Izzy: Agree with the view that market-based can be reported on in addition to location-based so events can see the impact of their green tariffs, but location-based should be the primary figure that is reported on.
Meegan: Good point and will be an interesting discussion and seeing how it all pans out with GHGP.
Tijl: I would be in favour of market based reporting. The point Chiara makes about the untrustworthiness of many green energy companies and certificates is a valid one. The problem with this is that we want to promote 'real' green power as much as we can. By not making it possible to report on using/buying it - due to location based EF reporting - we do the opposite. So can we not include some kind of an 'real renewable' power requirement?
Claire: I agree with Chiara, but Tijl raises a good point. We tend to use location and also show the impact of Market with an explanation. HVO reporting allows us to show scope 1 and then additionally out of scope emissions. Perhaps a similar approach could be taken in this instance where both are represented in the reporting.

Mains Electricity and Scope 2 or 3

For venues/sites that provide mains power connections to vendors, exhibitors, food stallholders etc, and meter their usage and charge them directly - does this go as Scope 2 (event) or Scope 3 (supply chain).

Tessa: The complication here is that it is unlikely, even with submetering, that the venue will then exclude that concumption in their accounting, and you have two entities accounting for the same scope 2 emissions. We default to the guidance - https://www.epa.gov/sites/default/files/2018-12/documents/indirectemissions_draft2_12212018_b_508pass_3.pdf - that this would lie outside of the traditional 15 scope 3 categories in a coroporate inventory, this is where having events account using the same scope 1,2,3 terminology, rather than using groupings like energy, fuels, etc., is conflicting without taking the perspective of a reporting org.
Meegan: @tessa are there any other guidance PDFs like this from the EPA? It's excellent to see and I've added it to our resources folder https://drive.google.com/drive/folders/1w_tnFAZK5enn6nhvJKPb5tFY2GhqYSqu?usp=drive_link
In this they're talking about sponsors, but no mention of the event owner or participants billed directly like exhibitors. Also there's no direction on if the venue should or does subtract user energy consumption from their Scope 2.
Tessa: I've reached out to the EPA for more context but have yet to hear back, broadly I can say venues are not subtracting these emissions out.
This is where as Events are not corporations, I don't think we need to force the GHGP Corporate language and scopes on them. Using categories similar to what we are talking about in this document, is the most common form of reporting for events that have public reports. Focusing on holistic additionally. What we have included in ours is an appendix item that then shows allocation for a specific stakeholder (the main sponsor, the event organizer, whoever commissioned the report) and how those emissions would fall in their full corporate inventory.

From EPA via Tessa:

For context, my team frequently works with sports and entertainment organizations, leagues, arenas, teams, golf tournaments, art festivals, etc. While the corporate standard doesn't quite fit this industry neatly, we recognize the GHGP or EPA will not be able to make bespoke guidance for each use case. To address the grey areas, I am working in collaboration with the Carbon Accounting Alliance (https://urldefense.com/v3/__https://www.carbonaccountingalliance.com/__;!!DHXL-mcXkJmB!8-K25uA6wMib_jmZtMPCUpNNqWbQGKbyrlLiPxLUcq7OIxk8OhC3iKBxHVRZjWp-hplB7BQjvTAsCto1UP28zw$) to help draft a collaborative industry-wide methodology that could be submitted to the Built on GHGP Program this would address leagues and teams whose structure may be more aligned with GHGP and then the events held by these organization, which do not and yet there is a positive trend of growing interest from both internal and external stakeholders to measure and understand the impact of these mega-events.

My questions come down to:

- Was this guidance created in collaboration with the Greenhouse Gas Protocol? I see the line in the Scope 3 Standard the guidance is building off of but the EPA document goes into much more detail and I am curious if there was discussion between the two parties during drafting.
Answer: We did not directly work with GHGP to develop guidance. The U.S. EPA Center for Corporate Climate Leadership's (The Center) GHG guidance is based on The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (GHG Protocol Corporate Standard) developed by the World Resources Institute

(WRI) and the World Business Council for Sustainable Development (WBCSD). The Center's GHG guidance is meant to expand upon the GHG Protocol to align more closely with EPA-specific GHG calculation methodologies and emission factors, and to support the Center's GHG management tools.

- Using this guidance as a foundation, is it correct to conclude that when measuring an event, taking a perspective of additionality and not a single stakeholder reporting perspective, using scopes would be inappropriate as scopes are solely employed for the purpose of boundary setting? Example: If a golf event wished to report not from the perspective of the event organizer or a sponsor or another stakeholder, and it's possible none of those organizations are reporting up into a corporate standard level, reporting those emissions as Energy, Transportation, Food, etc. (language closely tied to the operational structure) is more appropriate than saying the event itself has scope 1,2 and 3 emissions. This is the approach that makes the most sense to me, as when events do report against the scopes they tend to have multiple stakeholders represented in scope 1 and the concept of "owned or controlled" is null - you could see fuel sources from food vendors, as well as the venues natural gas, as well as any other stationary or mobile combustion all in scope 1 of the event, which would lead to double counting of each stakeholders, scope 1, as the event has not taken a reporting perspective.
Answer: Yes we agree with this approach - because emissions from events would be rolled up into the "other" scope 3 category, it is not necessary to disaggregate by scope

- In that same vein, looking at venue emissions in particular, is it correct to conclude that when measuring an event, the venue maintains the claim on the scope 1 and 2 emissions generated through its utilities, and belong in the venue's scope 1 & 2 and the event's scope 3 (or if the event is not reporting in scopes just simply as Venue Emissions). Where we have seen pushback is when megaevents take over an entire facility for an extended period of time, 2+weeks, there is a tendency to claim those emissions in scope 1&2, while they may be operating that space largely during that time, they still do not meet the level of "owned or operated" to functionally change the utility supplier or venue infrastructure. Our perspective is this would be double counting of scope 1 & 2 emissions, which while there are a lot of grey areas, that is one where the guidance is crystal clear and scope 1 & 2 double counting should not occur and allocation needs to follow clear boundaries.
Answer: The "Indirect Emissions from Events and Conferences" guidance states that emissions from events from the point of view of the sponsor or organizer should be included in the "other" scope 3 category. Following this approach eliminates the concern over double counting of these emissions.

To summarize, our perspective is that events when they wish to report from a holistic, additionality perspective (x emissions were generated because this event happened) they do not need to report using scope language from the GHGP Corporate Standard, because at the end of the day, they are not reporting from the perspective of a corporation or single entity. However, if they do wish to report the emissions from an event into a larger corporate report, then they need to follow the same principles of boundaries and allocation, and the majority of the emissions including venue emissions would be in that separate scope 3 category as advised in the guidance.
Answer: Yes!

Meegan: For discussion in the Scope 1, 2, 3 chat below. Many events aren’t doing corporate accounting atm. There will probably always be double counting of venue energy. Let’s check in with lots of venues on whether that omit power charged back to users (either exhibitors or the overall event client) from their Venue Scope 2 reporting.

Poppy: This is the key here. If the electricity is charged back to someone on a per kWh basis then they are the purchaser and it could be argued it is there scope 2, as it could be excluded from the supplier (venue in this case) from their scope 2 calculations as was sold on rather than used by them. NB Electricity resale is a regulated activity in some locations.
Claire: In our experience with venues (largely arenas) charge-backs for energy are still flat rate rather than kWh. The entire kWh usage of the venue is reported in their Scope 2 including that charged back to vendors etc. This varies more so where there is a tenant to another building within a complex (campus) of venues. In this circumstance the “venue / owner” takes the role of landlord towards its tenants and their consumption becomes Scope 3 for “venue / owner” and Scope 2 for “tenant”.

Poppy: My suggested wording for Scope 1 and 3 attribution of mains electricity:
Mains power / electricity is categorised as Scope 2 if it is purchased directly from the electricity vendor or metered and charged per unit e.g. kWh by the venue. Similarly mains gas categorised as scope 1 if purchased directly.
However if mains electricity or gas is supplied bundled into the venue hire, it would be scope 3 (and scope 1 / 2 of the venue) to avoid double counting of scopes 1 and 2.
Gas and fuels section - maybe I’d add “(non mains)” to be clear as different from above. There isn’t the same double counting issue here as suppliers of bottled/tanked gas (eg plant hire) are unlikely to count the burning of those fuels into their scope 1.

Hydrogen (fuel cell) Power

How do we incorporate this into GHG measurement tools? Not many have this currently.

For Discussion:
Rebecca: I feel like this is a question for the people who create carbon factor databases rather than companies who provide interfaces/measurement tools?
Lars: I think the emission factors are already there, these should just be implemented in the tools, so that [green/blue/grey] hydrogen can be selected as fuel for vehicles or generators. I don’t think it’s any different than any other fuel.

Gas

Not many tools or measurement approaches allow the inclusion of gas or separate it between plant (e.g., forklifts), cooking (e.g., food trucks), and stage effects.

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
Gas consumption should be included in measurement, however if possible for reporting and analysis, separated out by its various uses: transport, site operations, heating, cooking, stage effects.	Meegan Jones Poppy Stephenson April Layla Joseph Lars Lensink Johanna Fuhlendorf Tessa Rainbolt Chiara Badiali Emily Shephard Meg Strahle Thi Dinh Samy Graïa Tijl Couzij Izzy Mills	
Heating, cooking, stage effects **EVENT GHG CATEGORY: Energy**	Meegan Jones Emily Shephard Izzy Mills Lars Lensink	
Site vehicles and MHE **EVENT GHG CATEGORY: Site Logistics**	Meegan Jones Emily Shephard Lars Lensink	

Discussion: Including onsite cooking gas
Gas in kitchens of permanent concessionaires in venues and stadiums.
Use case example: sports stadium has permanent food outlets and the event owner receives no income from sales made, and has no control over the menu offerings. Meegan's suggestion:

a) Gas is included in event's Carbon Account as they are providing essential catering services to the event's attendees.
b) Gas would be considered Scope 3 as the event has no financial or operational control - but I'm ready to hear the argument for Scope 1.

Shawna: Agree, provided the overlap with EFs for food are understood and clarified.
Johanna: NZCE primarily separates out by logistics and venue energy for this. They don't currently require measurement of fuels used in cooking production unless it happens at the venue (assumption is this will be covered in F&B EFs).
Poppy: Agreed. This is the same for bottled gas used by outdoor event caterers and food trucks imo. It is scope 1 for these businesses but scope 3 for the event. Only gas purchased directly by the event is scope 1 e.g. for a crew catering operation or catering they directly manage. Many large festivals may resale bottled gas to on-site caterers at a premium, but as its resale to another business same applies IMO

Samy: It seems challenging to accurately distinguish between gas data for heating and cooking, and avoid double counting in the context of cooking, which is already accounted for in F&B. Additionally, the precision difference between pure food and beverage (F&B) emission factors (EFs) and the gas approach may not justify the extra effort required to collect specific gas data.
Meegan: Let’s discuss in the context of F&B EFs to see what the most common approaches are and if they already include preparation/cooking energy. I know some are only including ingredients and not prep. Also many events have meals prepared offsite and so energy and gas are not captured in the on-site measurements. Very much agree on the ‘effort’ argument.

Pyrotechnics, Fire and Flyovers

No tools include these. Should we?

Discussion: this needs focussed discussion within the group.

Pyrotechnics (fireworks)

Lars: By the way, I just had a look at the Planet Positive Event tool from Slovenia (https://planet-positive-event.eu/) and they actually do include this. I can share the data input worksheet with you if you're interested. The indicators it includes are: length of firework display [hours], gasflames [660 g butan gas/kpl], pyrotechnical effects [20 g burning matter/unit], CO2 cannons [15 kg bottle/unit].

Poppy: TRACE includes some bottled gases used in fire and pyrotechnics (energy section) but not all the possible types, and not pyrotechnics. You could input flyovers into staff tavel though!

Emily: Would look to include this - in TRACE where it's been requested we've looked at the gunpowder and material use in the construction as a temp. estimate methodology

Flares (the coloured smoke type not emergency signals)!

Flyovers - by military or commercial

Hot air balloons - thanks Poppy!

Water & Wastewater

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
Water consumption should be included for measurement	Meegan Jones Lars Lensink Christianne Beck Emily Shephard Antonio Toscani Tessa Rainbolt Chiara Badiali Meg Strahle Tijl Couzij Izzy Mills	
Wastewater treatment should be included for measurement.	Meegan Jones Lars Lensink Christianne Beck Emily Shephard Antonio Toscani Johanna Fuhlendorf Tessa Rainbolt Chiara Badiali Meg Strahle Tijl Couzij Izzy Mills	

TO DECIDE: Is wastewater under Water or Waste? See discussion in Categories

Johanna: NZCE currently only include sewage and not water supply (primarily based on materiality. However, if water is measured anyway and EFs are easily available, there is no barrier to including it)
Johanna: Does anyone have good data on this actually being a material emissions source? With NZCE we were not able to find a lot of evidence for that
Meegan: DEFRA has water supply and water treatment (sewage). But as with deferring to DEFRA for these types of EFs it's only UK related processing. I think many use it.
Chiara: it's not generally material from a carbon perspective (excl transport) but given water scarcity risk in some areas it feels important to keep as a nudge for people to remember to consider water efficiency.
Thi: Agreed with Chiara.
Izzy: Second Chiara's point, particularly relevant in South East England, and regarding safely disposing of liquids to not contaminate groundwater/water sources.

Waste

For Discussion JB's approach to waste GHGs

The emissions factors commonly used (UK Govt) for waste are generalised.
Currently, the GHG EF is for transport for recycling and composting, as the GHGs related to processing the waste are on the carbon account of the user of the new recycled product (e.g., rPET, the new product made from recycled material, compost, etc.) Does everyone realise this?

Discussion
We need to have further discussion on waste EFs, as a cross-sector point including:

- What GHG EF do we apply for landfill, where it may have gas extraction?
- Transport segment included in recycling EFs
- Should the transport of waste from the event to the first point in the waste management chain (transfer station, MRF etc) be included, or is it believed this leg is incorporated into the published GHG EFs?
- Assignment of recycling processing emissions to the secondary material
- Julie's Bicycle inclusion of embodied emissions in materials that become waste - isn't that double accounting if product/materials are already accounted? However perhaps they are only meaning packaging waste which could be scoped out of materials EFs (eg soft plastics, cardboard, timber crate framing etc). We need JB to jump in here!
- Where do we stand on waste to energy (including landfill gas extraction) if the GHGs are still occurring, regardless of some touting it as zero emissions?

Discussion

Rebecca: there is such inaccuracy in these numbers... would be great to speak to people who provide such factors
Antonio: There is a big debate in the scientific community about how to model recycling/reuse situations. The approach you describe (i.e., accounting for impacts up to the gates of the material recovery facility, also known as the "cut-off" approach) is definitely the most common because it is easier to handle. One could argue that it is unfair to allocate all of the recycling impacts to the secondary material. But you also have to consider that you are fully allocating the impact of primary production to the primary material, which might also be considered unfair. Some more nuanced approaches used in LCA studies allocate some of the primary production impacts to the secondary material and some of the secondary production impacts (i.e. those associated with recycling operations) to the primary material. However, these are difficult to operationalize in EF databases for organizational reporting.
Definitely a cross-sectoral issue that needs to be addressed!
Antonio: These are definitely non-zero emissions. However, according to the cut-off approach described above, only the users of the energy produced by the incinerator need to account for these emissions. As with recycling situations, there are more sophisticated burden-sharing approaches, but they are difficult to operationalize in organizational accounting.

Another common approach in the LCA literature is the "avoided burden" or "system extension" approach, where the waste generator fully accounts for the impacts of waste treatment (i.e., those associated with incineration or landfilling), but then subtracts the impacts associated with the primary production of the electricity or methane generated as by-products of the waste treatment process. This assumes that by producing those by-products you are displacing primary production elsewhere, which is beneficial from an environmental viewpoint. Again, even if there are many advocates for this approach, this is not common in corporate accounting.
Meegan: Julie's Bicycle advocate that for materials that are designed as single-use and end up as waste, to include that in the waste GHGs. Shambala did that for 2023 calculations and it accounted for 25% of their total footprint can you believe it! I think we need to do a deeper dive into the waste ghgs and decide on what's the best approach. I understand JB's idea - especially say for packaging - cardboard, soft plastic, and anything else that ends up in waste that wouldn't already be factored into the EFs for products and materials. It's difficult though as we don't know, for example if the cardboard and plastic used in, say, bottled drinks and their boxes, is included in an EF for a bottled drink. JB doesn't have materials in their GHG calculations model, so that makes it even trickier to compare. Let's put this one on the agenda and get JB rep and Chris from Shambala in to state the reasoning?
Tessa: There is definitely a lack of consensus in this space, GHGP allows for the use of zero emission in recycling and uses it in their own corporate accounting, but we know that SBTi feels differently at least when it is a material category. For the events we measure, waste is generally a <5% impact (not material) whether we include the emissions or not, so for encouraging the behavioral change we wish to see we zero it out - but always set a target for overall generation reduction alongside so the use of material doesn't keep climbing, the emissions from the production of the materials themselves should be captured in procurement. Would love to hear more about what others are doing - especially for organics and donation.
Meegan: @Tessa my understanding is anything over 1% should be measured and you're only permitted to exclude up to 5%.
Tessa: When events are accounting for robust travel, merchandising, and pg&S - it would fall below 1% in most cases
Meegan: So then it is up to the other decision filters about whether it's still material to include. Also for some events it might be over 1% depending on the event scenario.

Chiara: the way things work on the JB CC Tools is that 1) we now use more detailed waste processing factors for different waste destinations - assigning some of that burden (or benefit) to the producers of the waste, based on the work done in Scotland. The CC Tools are not just a reporting tool, they are intended as much as an educational tool - so in terms of motivating people to follow the waste hierarchy, it feels misleading to include the methane emissions from landfill but flatten recycling and incineration into just the transport to the waste processing facility (as per UK DESNZ factors, which also explicitly state that the factors cannot be used to compare the benefits or drawbacks of different waste processing methods). 2) Users additionally have an option to toggle the embodied material in the waste on or off depending on whether they are also calculating detailed materials/procurement data elsewhere - we worked with Ed Cook to come up with estimates for different waste streams on what those might be. The reasoning was that at the moment procurement/materials data collection is patchy at best and a huge data collection endeavour for many of the (more SME) organisations we work with so this is a useful proxy to address some of the challenges addressed in the materials section. When we work with clients, this is not always the approach we take given the more commonly used cut-off approach and ability to set other KPIs for materials usage and more detailed insight we can work with them to get around procurement/materials use.
Meegan: Thanks for this Chiara - I think it will be a terrific topic to have a deep dive into to understand your approach better. I think in some cases the material impacts of the items that will become waste (say timber or food serviceware, or drink bottles or cans) will already have been captured in the materials, products and supplies EFs.

It would be good to see what has been included and where there could be double counting, and do come up with a hybrid recommendation for those that aren't using your tool, but want to do include the actual recycling processing impacts, not just the transport (also double counted as events would typically also include transport impacts of their waste offsite to the MRF... but not the full journey to the god know's where recycling facility). So complex. Excellent you had Ed Cook on it. Let's get him involved if/when we get to have a wider chat on this complex but interesting topic!

Samy: I believe we should also consider the end-of-life impact of rented and reused materials in relation to their usage during the event, as they are not directly treated as waste.
Regarding recycling, the beneficial effects (saved CO2e) are usually associated with the downstream 'produced material' phase rather than the upstream 'waste treatment' phase.

Lars: I agree with many of the points that Antonio is making here. I just dug into the EFs behind the GDCF Model and noticed that the EF for incineration is the same with or without energy recovery. The logic here is that the EF for recycling only includes sorting and transport and excluding the positive impacts of the electricity produced from the incineration would be inconsistent with that approach.

Accommodation

For Discussion

Accommodation going under Travel category as a sub-category
Inclusion of event attendee accommodation impacts (that the event organiser has no control over) into the organiser's carbon account (as compared with overally GHG Inventory.

To Create:

Decision filters to help determine when attendee travel and accommodation is in the event owner's Carbon Account (e.g. for corporate reporting or balancing) or if it just goes into the overall Event GHG Inventory. Also needed is guidance on carbon compensation strategies for event owners on attendee impacts.

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
Accommodation should be included for measurement in the event's GHG Inventory for event workforce, participants, and attendees.	Meegan Jones Johanna Fuhlendorf Tessa Rainbolt Emily Shephard Meg Strahle Samy Graïa Tijl Couzij Lars Lensink Izzy (Agree but would include in Travel section as a sub category)	
Separate emissions factors would be used for various accommodation classes, however it is acceptable to use an average.	Meegan Jones, Johanna Fuhlendorf Tessa Rainolt Chiara Badiali Emily Shephard Samy Graïa Tijl Couzij Izzy Mills Lars Lensink	

Emissions factors can be from CHSB/Hotel Footprinting Tool, Ecoinvent or similar commercially available databases, or hotel or hotel chain provided data (ie using the WSHA HCMI methodology).	Meegan Jones, Johanna Fuhlendorf Tessa Rainbolt Emily Shephard Samy Graïa Tijl Couzij	
Ownership assignment of accommodation GHG impacts would be categorised as per event boundary definitions.	Meegan Jones Emily Shephard	
Inclusion of attendee and participant accommodation GHG impacts for carbon compensation or carbon neutrality claims would be based on the boundaries set, organisational policy or industry sector programmes and agreement.	Meegan Jones Emily Shephard	
Attendee travel and accommodation paid for by the event are included in the event owner's carbon account and any carbon compensation strategies.	Meegan Jones Tessa Rainbolt Emily Shephard Meg Strahle Tijl Couzij	
Attendee accommodation that the event has no control over are not mandatory to include in the event owner's carbon account and any carbon compensation strategies unless it is part of a requirement, policy, or protocol.	Meegan Jones Johanna Fuhlendorf Tessa Rainbolt Emily Shephard	Poppy Stephenson Tijl Couzij

GHG Inventory = All measurable GHGs generated because the event was held, regardless of attribution or ownership.
Carbon Account = GHGs attributable to the reporting entity

For Discussion:

What about:

- Air BnB / holiday houses / apartment rental
- Campsite (camping grounds offsite from festivals)
- Caravan / Motorhome nights
- Staying at friends/family/relatives/acquaintances

Lars: The GDCF monitor has external campsites included and uses an EF from Ecoinvent (0,997 kg CO2/guest*night). The tool distinguishes between overnight stays at hotel/holiday house and luxury hotels also (EFs also sourced from Ecoinvent).
Antonio: Not sure where that EF for camping comes from. Ecoinvent 3.10 has life cycle EFs only for the following accommodation facilities:
- hostel - budget hotel (3-star) - upmarket hotel (4-star) - luxury hotel (5-star)
Lars: According to our EF doc, this comes from: Ecoinvent 3.8, IPCC 2021 GWP100. Maybe it was scrapped in later versions?

Johanna: Most national EF guidance bases this on CHSB (unless hotels provide their own HCMI based figures - which for a whole event might be too much detail to take into account). CHSB is the largest database on hotel related emissions and segments by country/ region as well as hotel standard.
Johanna: Just out of interest, does Ecoinvent use another database than CHSB? I'm not aware of another database based on direct data from as many hotels as the CHSB
Shawna: Is the last point needed in light of everything else stated above it? For example, what might an organiser interpret this to mean in situations where there is a contracted room block, but attendees book outside the block? Recommend we tighten up the wording if this is a necessary point.
Tessa: For events that draw a large amount of campers and have designated ticket sales for camping, we have tried to capture the generator fuel use to power them, but I would say if attendee accommodation in general falls outside the boundary - this could be up for discussion.
Meegan: @Tessa are you meaning offsite camping? Onsite camping would be sorted with event power measurement.
Tessa: They could be on-site or nearby at designate event campgrounds - but they are using their own generator power that the event would not have access to data on
Tessa: Based on some discussion below it may be justified to nest Accommodation under "Travel". I would be interested in seeing a standalone category for Merchandise outside of purchases for operational goods and materials, same could be said for food. Site Logistics seems like Energy? We separate by venue vs fuel within energy.
Samy: Most accommodation types should be included. Otherwise certain types of events would fall short in this category (example : music festivals and certain seminars).

For Discussion:

Attendee Accommodation (not paid by event) does not go in event owner's Carbon Account but does go in Event GHG Inventory:
Poppy: Ive put that I disagree but its only a half-disagree! Similarly to attendee travel this accommodation use has only occurred as a result of the event, and the event does heavily influence this by their choice of location. Whilst data collection is very difficult I would class it the same as attendee travel, and say that we cannot routinely just ignore these emissions as they are hard to gather data for. The TRACE audience travel estimator tool includes accommodation.
Meegan: We would never ignore it and always measure or estimate it - it would always be in the overall event GHG Inventory. The quesiton is whether it goes on the event owner's carbn account or if it the responsiblity of the individuals deciding to travel and stay in a hotel, that it is their responsiblity. This is one that would be determined by the decision filter questions that you step through to justify inclusions or exclusions.
Tijl: I agree with Poppy on this. GDCF monitor also includes this

Materials

There is a wide variety of approaches to including materials, from none at all to exquisite detail. The use of EFs is incredibly varied. This all leads to incomparability between GHG measurement outcomes. Do we include materials as an optional informative measure until EFs, approaches, and inclusions are consistent? Would it ever be possible to assign proxies from empirical data?

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
Products and materials should be included for measurement.	Meegan Jones Rebecca Lardeur Poppy Stephenson Emily Shephard Johanna Fuhlendorf Tessa Rainbolt Meg Strahle Samy Graïa Tijl Couzij Izzy Mills Lars Lensink	

For Discussion: Materials and products emissions factors and recommended approaches

Johanna: NZCE is also going to be working on creating a materials EF library but not clear yet when this will be ready (for now only a draft is available in the smart production and waste management guidance document published last year)

Tessa: The availability of EFs are a big problem here and spend we know is not a great alternative, I agree they need to be measure but the lack of nuanced EFs make it challenging to illustrate a reduction pathway. There may be an EF for signage - but is there one for all the various material compositions to illustrate changing from on to another, especially an issue with recycled content items. Long-term this is pushing for suppliers to provide EFs with their product but in the short term we should have guidance on how to still illustrate progress.

Chiara: beyond material EF availability the other big challenge is actually collating this data in a way that is compatible with the EFs and doesn't just turn into a time-sink that takes away from action happening.

Tijl: GDCF monitor uses materials in broad categories (i.e. paper, plastic, wood) to avoid listing endless amounts of procured products. Next to this we 'make a distinction' - for each category - between virgin materials and 'made from recycled / second hand materials". This, to also be able to report on circular procurement of events.This also uses different EFs.

Hiring

Some tools include hiring of equipment, but there is no consistency of approach. How should we include hired equipment? We all know that rented equipment is broken at events, and we bear the costs, effectively owning the equipment. How and should we include this? High-risk categories?

Requires further discussion
Double counting
Engaging rental companies in their own reporting
Probably under the 1% rule.
Include in annexed reporting/observations

Poppy: This depends on what is hired. I recently ran the calculations on some large AV where the embodied carbon had been excluded due to being hired, but when this was divided per use over their typical 5 year lifespan those emissions per event were actually significant. So really I think we should be moving towards including it, at least for high risk categories. It was difficult to get accurate LCAs though, and they simply don't exist for may items events use, meaning resorting to manufacturing EF based on $. There would need to be some data sharing from hire companies on typical use rates too.
Emily: An area where developing some proxies might the useful to account for a per use impact in the lifespan
Tessa: This is another tricky one, so much of an event budget can be rentals and their is and EEIO factor to tie to it, but since shared economy is aligned with sustainability, I would like to see the boundary around these items tied more to the transportation and fuel/energy consumption of the item rather than the item itself or the spend on the item. If data is available on materials damaged at the event that could potentially be handled differently.
Chiara: this feels like an area to push for greater transparency from suppliers (especially AV/lighting/audio given that these are techs that are pretty event-industry specific and as a sector it would be great to 'own' that supply chain a bit more) on manufacturing side and then on hire companies side on use rates.

Offsite Fabrication

Requires further discussion

Poppy: for set and scenic built offsite if tools include production materials at all its generally just the EFs for raw materials used, and contractor travel to deliver/install. Asking suppliers to provide data on their energy used when building these items is another step towards asking for a proportion of their overall operational emissions to be included which might be a more straightforward route in the end. This overlaps with the boundaries decision tree development you mention, as its all supplier emissions offsite.
Lars: Interesting one, how this is measured depends a lot of who does the production. Is it done in-house (then measurement should be quite straight forward and it will be part of the year-round energy use), but if it is outsourced, maybe it could somehow be included in the Material category? Just like life-cycle impacts of food and beverages are also included.

Food and Beverage

Wide range of EFs and approaches to measurement (per meal, event devised EFs from menus, tool-derived proxies, per kg of primary ingredient production, or a hybrid of all).
No consistency for which stakeholder meals are included.

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
Food and beverage should be included for measurement in the event's GHG Inventory for event workforce, participants, and attendees.	Meegan Jones, Johanna Fuhlendorf Tessa Rainbolt Chiara Badiali Emily Shephard Meg Strahle Samy Graïa Bryonie M Tijl Couzij Izzy Mills Lars Lensink Chris Johnson	
Ownership assignment of food and beverage GHG impacts would be categorised as per event boundary definitions.	Meegan Jones Emily Shephard Meg Strahle Chris Johnson	
Inclusion of attendee and participant food and beverage GHG impacts for carbon compensation or carbon neutrality claims would be based on the boundaries set, organisational policy or industry sector programmes and agreement.	Meegan Jones Emily Shephard Meg Strahle	I don't fully understand this statement? (Chris J)

For Discussion

Can we establish a standard approach to inclusions, measurement and assigning of stakeholder-owned additional F&B?
Do we include only onsite and side-event meals?

Poppy: I would say that if it was part of the delegate experience, organised by the event, paid for, provided by or eaten by the crew, then it should be included!

Johanna: NZCE's approach for now is to only include F&B served at the event or side events
Meegan: What about hospitality guests brought in by sponsors for a multiple-day visit that includes breakfast, lunch or dinner offsite?
Lars: It could be argued that it provides extra insight to separate these into two distinct categories as different types of events would have very different shares of meals and beverages served (e.g. business conference vs. food truck festival vs. electronic music festival)
Tessa: Off-site meals could be very hairy in terms of the numbers of assumptions required and really test the boundaries of if it is really additionality
Meegan: It depends on your event. For example in events I've been involved with recently, there are clear numbers of crew travelling for the event. They are given one meal onsite and the other meals are paid for by themselves (with per diems) or breakfast with the hotel. We have another chat going to try and work out if breakfast is included in the hotel night EF! For attendees of the event, you wouldn't include offsite meals. But for other participants travelling you would. Or for delegates at a conference, where you're taking on all the GHG ownership (travel, accom) then you would include offsite meals too. Entrants, teams, sports, where you have distinct numbers of people, and you know the proportion travelling vs not, you could also stage an argument that offsite meals are included too. It's not hard to do the maths and assign a breakfast and an extra meal

For Discussion

Can we create proxy EFs from which all events can be drawn?
Which EFs and approach do we recommend?

Johanna: I would love to see this but across regional contexts there will be such variety it will be extremely difficult

Chris - with an event organiser hat on, even the most detailed tools I have access to (Klimato) don't factor in local produce and organic/regenerative sourcing, and so the measures we take to reduce impacts cannot be captured. I wonder if we can develop some factors?

Johanna: IOC proxies are often referred to, but these are old and need updating and are based on limited data. Some other databases which seem more detailed and accurate include the cool food pledge calculator & Agribalyse (however, of course the local context will always vary significantly)
Shawna: Flagging that Stefan Gossling is presently collecting data from hospitality providers that may enable an update to this. Study is unlikely to be published until 2025 though. Am participating so can provide an update if/when info is available to share. **Meegan:** Awesome!
Chiara: Whether we can ever arrive at a unified approach I think depends on purpose? Personally I'm very in favour of proxies especially for smaller and medium sized events as I'd rather people focus on other KPIs e.g. reaching a % or entirely plant-based/vegetarian menu offer; on the other hand especially for larger events or venues with more regular food offerings, doing more detailed data analysis to enable e.g. traffic-lighting public menus is also valid - but giving that flexibility on purpose necessitates a divergence in method and results.
Chris - agree with this as perfection can be the enemy of the good for the majority of events who dont have expertise or resources, and so realistically, if we are looking for change, we need easy ways to measure based on a few factors such as number of meals, vegetarian / red meat / chicken / vegan etc and main meal/snack/chips/dessert etc. so that key decisions are reflected

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For Clarification

Q. Is energy consumption included in per meal EFs.?

If so, offsite meal prep is therefore already included in the per-meal EF.
Onsite meal prep will have energy counted twice - event energy measurement and energy within the per-meal EF.
Electricity is difficult and nuanced to bother separating. However is there a case to say catering gas does not need to be measured if a per-meal EF is being used, as energy used in meal preparation is included in the EF.

Poppy: Online tools that have per meal input options don't always include in order to avoid double counting with the energy use when meals are cooked on-site, so a decision has to be made for tools as to what is more common for their users. For festivals and outdoor events you wouldn't want prep energy included as you'd already be logging the gas and generator use. If you were using a venue with meter readings, again you would want ingredients only (and catering team travel), and the same for using estimation tools based on EF for hotels/venues based on size. So it makes sense to exclude it from those tools, but Im not sure this is clear enough to users though, or there is no option to add on off-site energy use for prep.... but the same can be said about build production;

Chris: Feel strongly not to include energy for cooking - this should be included in energy, and confuses the focus on food impact.
Meegan: How is energy for off-site food prep included for those events where the majority of meal preparation is done offsite and brought in?

Discussion

Q. Do hotel EFs include F&B
A. No. However it includes food waste!

From Antonio: Ecoinvent accommodation datasets partly include catering (which complicate things). Their system boundary is specified as follows: "Although the case study hotel has restaurants on site, the inputs of food items have been excluded due to data availability. The energy and water consumption attributed to restaurant operations have been included. Any waste generated in restaurant operations has been included."
Tessa: A bit dated - https://www.epa.gov/sites/default/files/2018-12/documents/indirectemissions_draft2_12212018_b_508pass_3.pdf but this does have at least one option for hotel with or without F&B

Digital

Some tools and measurement approaches include digital, but the approaches are inconsistent. Should we create a commonly used approach?

Requires Further Discussion
Virtual Events (rehearsals, live event)
Social/Website (impressions)
Content (rendering, file transfers, servers)

Rebecca: we might want to collaborate with some sust. digital experts and learn from their expertise? (i.e., wholegrain digital)

Alex: ADEME / BASE CARBONE (FR) has initial standard factors. Seems to be the only one linked to a wider methodology at the moment (equivalent to UK GHG reporting methodology).

Tessa: just acknowledging digital could be very tricky to measure - so there might need to be a tier materiality of what is the minimum acceptable measurement and beyond

Poppy: Have you delved into the Albert/Ad Green calculators? as they focus on content production (more aimed at the advertising industry). I haven't done as in depth explorations as you've done but my general takeaway was that I felt you could treat most of the on-set/shooting of content as as event in itself and measure the same things (energy, transport, materials, waste, catering etc), and then post production (or animations/VTs etc) would be mostly energy use in the computer studio and staff commuting... but you're right that there's likely data streaming going on there as so much is done online or with the help of virtual servers now, and the LCA of the computer equipment could be included. Do you also then include embodied carbon for the camera equipment too.... it quickly becomes a very long piece of string, so you'd likely want to apply the 1% rule.

For TRACE we followed a published methodology, and explored a few variants, but I must say that the emissions were TINY in comparison to the live or studio elements. So the differences between methodologies generally had little impact to the overall footprints, most of which was generated from the studio/hub/home where the event was streamed from (set, travel, energy etc)
https://www.iea.org/commentaries/the-carbon-footprint-of-streaming-video-fact-checking-the-headlines

For TRACE you'd input your energy used in the venue/studio you were streaming from separately, as well as all other emissions from building any set, hiring AV, tech crew and equipment etc. like it was a normal event or hybrid one - it would be treated as the "live" element. Then the online streaming portion includes server/data centre emissions, search engine queries and web hosting, network data transfer, and the end user's home energy use and embodied carbon in their tech, over the duration of streamed content, number of end users and their location. Client viewing can be included in this, or in rehearsals. But overall the impact is usually tiny compared to the live element producing the content to be streamed. Personally, I haven't included cloud storage for storing and hosting the content post event, as it would get wrapped up with the companies annual operating emissions as would be on their cloud hosting packages with their other office data.... but maybe it should be included, plus the number of streams its expected to get over its lifetime? But then it would need to be subtracted from the companies operating emissions (which might be being done by someone else following a different methodology so could get messy).

Lars: As the internet is a global phenomenon, I would say this category would actually be suited for more high-level, standardised EFs and approaches. Maybe making distinctions for data storage in data centres in different regions could be useful though. See: https://www.climatiq.io/blog/measure-greenhouse-gas-emissions-carbon-data-centres-cloud-computing

With regards to the cloud storage, this depends on whether annual operating emissions should be considered as something separate to report or whether they should be divided over the number of events that are hosted throughout the year. This is a debate we're currently having with the GDCF people. For independent festivals that have one event per year it feels weird to exclude these impacts, but with larger holding companies or organisations that host multiple events per year it becomes complicated indeed. Either way, clear agreements should be made about this.

Another approach instead of having to log all hours and activities to particular events could be to divide annual emissions proportionally between events based on visitor*days (or budget maybe?)

Shawna: I know I could really benefit from a commonly used approach! And it could be a critical way to get event technology providers to see themselves in the sustainability picture.

Event production stages to consider that have come up for me:
1) Pre-event production sessions: I'd support Poppy's point that these might be treated like an event within an event, some of which are simple (webinar-style panel rehearsal) and some of which are really complex (live action + location + animated video).
2) Live-streaming, including the network, devices and storage: In the grand scheme of things I concur this is small, but the assumptions can lead to variations that are noticeable so should be interrogated to make sure they're valid, especially if proxies are used. I've noticed wide variation in device use across event audiences and within certain regions, for example. And situations where people are viewing on their own should be treated differently than pod or community viewing (where event-within-event considerations may additionally apply). As Poppy points out, there is a published methodology, and the IEA has proposed impact proxies. The use of multiple streaming apps should be discussed as it affects boundaries. For example do you treat attendees who are participating in an interactive organiser-provided event platform differently than passive YouTube viewers? And the who-owns-what given you have no control over device choice does come up.
3) Post-production and legacy content: Case studies I've done suggest this can be quite large, and it's growing as people save and try to monetize content. I'd agree it's likely most appropriate to allocate this to the org, as opposed to the event product. The EF factors you apply here are complicated by determining the location of the servers, and if they are grid-connected or drawing on a micro-grid, or if the storage partner has some type of green power purchase agreement. In short, overall very tricky to measure for events, and definitely worth figuring out.

Chiara: there is a range of work happening in this space, but some of the biggest challenges are around: 1) given end user devices generally make up a large proportion of this impact, should they be included, and if so, to what extent will most events have access to data on % splits between mobile, laptop etc viewers ; 2) location of viewer (linked to end user device electricity use & grid mix) …. But perhaps most fundamentally 3) what do we want to achieve / what action do we want event organisers to take. In terms of digital viewing/participation, the majority of what's been published shows that this stops being material as soon as you compare it to the impact of someone travelling somewhere. In terms of the available data, there are real challenges between retrospective reporting (which e.g. makes assumptions on how you attribute network energy use against data transmitted, and therefore quickly starts assuming more data = more energy = more carbon) vs scenario-planning of what actions will have an impact (where more data is not always in a linear relationship with more carbon) - so your digital carbon footprint is not always that useful for setting reduction targets (kind of like spend-based reporting).

Samy: This category is the most underdeveloped in terms of robust emission factors (EFs).
We account for emissions from websites, apps, livestreams, virtual environments, social networks, shared documents, and emails based on guidelines and data from the likes of IEA, ADEME, and Greenspector.

However, despite our efforts to compile and analyze this data, we continue to face significant challenges related to data uncertainty. This uncertainty arises from inconsistent reporting practices, varying methodologies across different platforms, and the complexities of measuring emissions in digital environments.
As a result, our understanding of the full impact of these digital activities remains incomplete

Pre-Production

Some tools and approaches include the pre-production period, such as office impacts, business travel, site visits. How do we get consistency on these topics?

Discussion

Poppy: The common approach I've seen now is that those that organise just one event/festival often include their annual operational emissions (by operational I mean all offsite production, offices, staff travel and WFH) but for agencies and multi-event organisers they tend to report on their emissions from operations separately as "their emissions" and then each event as its own report. IMO it would be great to attribute a proportion of operational emissions to each event, via a tool that logged them separately (which may be in dev) for the brand/client to have the more complete picture. But really we should then be asking all of our suppliers to do the same - and currently its difficult enough to get data specific to the event delivery from them, let alone ask them to measure their annual emissions or provide that data too. I know that Microsoft and some other major brands do this tho. so is something we could plan for in the future to enable events to capture their complete impact.

Lars: Another approach instead of having to log all hours and activities to particular events could be to divide annual emissions proportionally between events based on visitor*days (or budget maybe?)

Meegan: Most reporters, I believe are only including travel to the event, not the pre-prod. So we need to include a rule of thumb to ensure it's captured, and for the tools that can, include it as a separate data entry point.

Rebecca: making people clearly communicate what was measured? it does imply creating a baseline becomes challenging!

Shawna: Poppy's observation rings true for me. I will say it's not been a massive leap for many multi-event orgs to allocate pre-production hours and business travel to specific event projects if they have some type of time/expense coding system in place.

Samy: We include workdays for organizers and suppliers prior to the event, based on industry emission factors (EFs) or the company's own EFs, which are calculated using the company footprint, number of full-time equivalents (FTEs), and average number of workdays. However, the reduction levers for this category rely on decreasing the company's global footprint and should not be integrated into the company's reporting (double counting). The challenge is that not accounting for pre-production creates a gap in the event's overall picture, as the event would not exist without it.

OTHER CONSIDERATIONS

Uplift Factors

Some tools apply arbitrary uplift factors. We must identify those used in event GHG measurement and agree on approaches.

Many GHG sources are inconsistently included in tools and measurements. Should we create an ‘optional reporting’ category alongside the main GHG measurement? Examples include WTT, Refrigerants, Gas, Pyrotechnics, Fire

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WTT – Well to Tank

Including WTT impact is not consistently used and is also unavailable for all regions.
How should WTT be treated?
Lars: I think it is better to account for limited data availability by drafting somewhat educated guesses and assumptions for areas where data is missing then to exclude this entire part of the emissions because of the lack of data. WTT is an important part of fuel emissions, just like RFI is for aviation.
Poppy: Agree with Lars. I also think we should limit the amount of addendums to GHG figures as the "end user" of our reports often find them confusing enough already. Simplicity marks it easier for people to act.
Meegan: A good one to put a rule of thumb down for - need to discuss this as a cross sector consideration at CAA
Johanna: NZCE includes WTT wherever possible. As always, if not possible a statement is required.
Rebecca: this might depend on mandatory or voluntary. mandatory for scope 3 currently doesn't exist. voluntary yes they should be included in scope 3

Refrigerants

Do we try to measure this either for large air-conditioned venues or highly inefficient temporary air conditioners trying to cool temporary tented structures? Should refrigerants be included as an addendum to GHG figures?

Rebecca: yes they should
Poppy: Realistically this is very difficult for events to measure as data on this isnt easily provided to hirers.
Izzy: Agree, but particularly should be mandatory for events where ice rinks or other large scale coolant is involved under Scope 1

EF Sources & Data Quality

Interim decisions:	**Agree** (include name)	**Disagree** (include name and a comment)
EF sources must be disclosed in GHG reports	Meegan Jones Alex Fintoni Johanna Fuhlendorf Rebecca Lardeur Emily Shephard Tessa Rainbolt Samy Graïa Izzy Mills Lars Lensink	
Data quality must be exposed in GHG reports Use existing data quality categorisation and filters in GHG Protocol Product Standard guidelines.	Meegan Jones Emily Shephard Tessa Rainbolt Izzy Mills	

Emily: Agreed but needs work to define how we're approaching and measuring quality
Izzy: Agree but if this is a requirement maybe we need to define a set methodology for assessing data quality (qualitative or quantitative)
October 7th Meeting: we need to discuss databases for emission factors.

GHG Intensity Metrics

For Discussion: Should we create GHG intensity metrics for events that will allow comparisons? What could they be?

Alex: Could we report an additional total that doesn't include audience / participant travel - like a production footprint total? The % of the various activities as part of the total vary wildly depending on the audience travel impacts. A production footprint total provides more comparable and consistent % of emissions across similar events.
Meegan: Yes I think that's a good one. Number of days, physical footprint (size of event site/venue) and number of attendees do speak to the scale of the event though. So they would need to be wound in somehow.
Rebecca: again, the way events are categorised might become a serious barrier to reliable intensity metrics for events. isla has done some work on what it would mean to create global baselines for events, happy to discuss this further.
Christianne: Intensity metrics that would be useful - kgCO2e by £/$ spent, by attendee, by sq meterage of space used. If we can do by continent even better!
Lars: Yes I think it would indeed be good to have tailored metrics, could be done top-down on the basis of event typology, location, etc., but it might also be interesting to perform some cluster analyses on already existing event data, to see which groupings would pop up.
Johanna: Would be very interesting to see what can be achieved if tools with all the data access they have came together. Creating these proxies is still planned by NZCE but they've been having issues getting quality data with reliable identifiers
Chiara: JB's original intensity metric for events was audience-days - i.e. # days x # audience members on each day. We don't include e.g. # crew/participants because the original 'philosophy' was around 'cultural experience / kg CO2e' ; and we didn't go just with event capacity because some of the events we work with are multi-day and can have quite distinct # attendees per day. For the intensity metric to really allow comparability, would ideally need to define a few different benchmark scopes - probably also informed by how compatible methodology is. E.g. given variations in F&B accounting and even the dramatic difference between whether those F&B EFs take into account land use change or not, I'm not sure I'd include F&B in a 'standard' intensity metric scope.
Tessa: This goes back to the guidance on exclusions, we have done total tCO2e/attendee for the purpose of tracking YOY for a single event, but to benchmark against others they would have to have similarly robust accounts.
Samy: Global, per attendee, per day, per attendee.day, per m2

How to set a baseline?

Emily: For lots of events or businesses this is straight forward and can follow GHG guideline etc. But developing an approach and recommendations where for example the agencies event vary significantly each year - where can they compare?

Audiences for Reporting:

Meegan: We need to always remember we have two audiences for reports and should always have both types of communications. We have the general public, general stakeholder marcomms piece, and then we have the responsible business owner technical report for a technical or auditing audience.
Poppy: ha ha! totally agree... but... I'd say there are more like three levels of audience... public, technical (us/audit/sus. experts or leads) and one in between, which is where Ive found most corporate clients are, and especially their clients (in the case of an agency/supplier measuring to report to the brand/client) which is where the reports are often ending up. They have some knowledge, but not "technical", and want results and recommendations easy to digest with limited time to read more than a 10 page deck; events teams are always against the clock. When tracking KPIs for repeating events if there are more than 6 or 7 sub-set numbers to track and compare they start to loose their meaning when some go up and some go down. Obviously every client is different, and pitching it right is part of what we do, right? But for online tools I'd advocate for dashboards/summaries to be at that mid level, with the ability to dive deeper if desired to not overwhelm users.
Tessa: Definitely agree there are multiple stakeholer audiences, I would say general public, the decision makers/owners/sponsors, the operational team (neither of which are always versed in sustainbaility), the vendors/suppliers, and then people like us, peers in the industry who what all the details.

Biogenic Emissions

New - something we have not discussed - Biogenic Emissions (burning biofuels, biomass etc).

From Meegan's book:

Scope 1 and 3 Biomass Emissions

Emissions from biomass combustion (for example, biofuels, wood pellets, bonfires, and gases created during composting) should not be included in the general Scope 1 or 3 GHG accounts but should be reported separately. These GHGs are referred to as 'biogenic emissions'.

For example, biodiesel/HVO has a very small emissions factor attributable to its production, which would be included in Scope 1. However, it still produces actual GHGs into the atmosphere at a rate similar to other fossil fuels.

The GHG Protocol requires that these 'biogenic emissions' be excluded from Scope 1 or 3 emissions and reported separately to the organisation's primary GHG totals.

Poppy: Great point, and few tools do this. Biodiesel seems to be falling out of fashion again so may be less of a concern, but use of biogas seems to be picking up.
Izzy: Suggest this is 'recommended', but per DESNZ and GHG Protocol guidance it's not included in total footprint figures?

Scope 4

Interim decision:	**Agree** (include name)	**Disagree** (include name and a comment)
Scope 4 Guidance It is recommended that Scope 4 (avoided GHGs through the 'use' (attendance) of/at the event)) is not to be included.	Meegan Jones Lars Lensink Poppy Stephenson Luke Howell Emily Shephard April Layla Joseph Johanna Fuhlendorf Chiara Badiali Tessa Rainbolt	

Avoided Emissions

Interim decision:	Agree (include name)	Disagree (include name and a comment)
Avoided Emissions It is recommended to report on GHGs avoided due to interventions, use of certain products or solutions.	Meegan Jones	Lars Lensink (I think only high-level trends should be reported. Attribution of single interventions will be very tricky.)

Requires Further Discussion
Johanna: If readily available organizations can and should share this of course but I think recommending this as common practice adds a risk of adding measurement burden
Meegan: But it's the entire reason we're measuring
Johanna: I just think it may not always be 100% straight forward understanding which specific solution lead to which reductions and determining that might add more measurement burden than necessary when the ultimate goal is reducing emissions as much as possible. Just to clarify, I don't have any issues with saying if the data is available, organizations should share, just thinking of the different level of resources different organizations have for working on measurement (specifically thinking of SMEs here)
Shawna: I assume an avoided emissions metric is used as a substitute for being able to measure an actual reduction over time, correct? Where that data doesn't exist for some reason? If so, it seems important to:
1) require disclosure of the alternative scenario that enabled an avoidance to be estimated,
2) that the other scenario would have been reasonably expected to occur or
3) represent a meaningful and near-term beyond business as usual improvement of some sort, and
4) that there wasn't a hidden tradeoff that merely shifted emissions elsewhere. Just raising this as I find I have to guard against avoidance messaging that may be borderline greenwashing. Case in point: "we avoided ## by not using disposable plastic bottles" shouldn't be an annual message if it has been years since bottles were eliminated, but might be suitable for the first event where it was done. It just gets a bit slippery so I'd be careful here.
Meegan: Agreed, baseline must be set to claim reductions, and once it becomes 'business as usual' then it's not an ongoing reduction claim. I'm sure this is already clearly defined in various protocols and we can lean on that.
Tessa: Following guidance, avoided emissions are allowed to be reported outside of the inventory, as part of the general storytelling of initiatives and impact, but they are not to act as a subtraction or offset from the total, I would not even recommend putting them on the same page.

Climate Transition Budget

There needs to be budget allocated to facilitate reductions and also to pay for any carbon compensation through offsetting, insetting or carbon removals.
This budget amount is arbitrary but there we need somewhere to start to work out a budget, and good approach is to look at the typical cost of one tonne of carbon offsets or removals.

The Climate Neutral Certified Standard (https://www.changeclimate.org/standards) will introduce mandatory allocations within budgets for climate transition, as part of their certification, in their new standard from 2025. The amounts defined are USD$15 per tonne in 2025, $18 in 2026 and $21 in 2027. This could be a good guide for you in establishing your own budget.

DEFINITIONS

		Agree (include name)	Disagree (include name and comment)
Carbon Account	GHGs attributable to the **reporting entity.**	Meegan Jones Meg Strahle	
Scope X?	Event-related GHGs within the organisers sphere of influence.		
Event GHG Inventory	All measurable GHGs generated because the event was held, regardless of attribution or ownership. Formal Definitions: list of GHG sources and GHG sinks, and their quantified greenhouse gas emissions and removals over a specified period of time and within specified boundaries. (ISO Net Zero Guidelines). list of GHG sources and GHG sinks, and their quantified greenhouse gas emissions and removals. (ISO 14064-1:2018)	Meegan Jones Tessa Rainbolt Emily Shephard Chiara Badiali Meg Strahle Samy Graïa Izzy Mills Linnéa Svensson	
Attendee	Ticketholder, spectator, guest, delegate, at-event audience, virtual attendee ISO 20121: organisation and/or individual that takes part in an event for the primary purpose of receiving services or content	Meegan Jones Tessa Rainbolt Emily Shephard Meg Strahle Luke Howell Izzy Mills Tijl Couzij Linnea Svensson	
Participant	Competitor, entrant, exhibitor, trader, sponsor, performer, activity provider, speaker. Does not include event organiser workforce. ISO 20121: organisation and/or individual that takes an active part in the contents of an event	Meegan Jones Tessa Rainbolt Emily Shephard Chiara Badiali Meg Strahle Luke Howell Izzy Mills Linnea Svensson	
Supplier	ISO 20121: organisation providing products, services or facilities	Meegan Jones Tessa Rainbolt Emily Shephard Chiara Badiali	

		Meg Strahle Samy Graïa Luke Howell Izzy Mills Tijl Couzij Linnea Svensson	
MHE	Material Handling Equipment - forklifts, cranes, scissor lift, cherry picker, reach stacker, telehandler, diggers See discussion re GHG categories	Meegan Jones Meg Strahle Izzy Mills	
Carbon Neutral	After taking action to reduce emissions, currently unavoidable emissions are neutralised through purchasing credits from beyond value chain mitigation projects. See discussion	Meegan Jones Meg Strahle Izzy Mills	
Net Zero	Where 90% or more of GHG emissions have been reduced and the remaining are mitigated through carbon removal. (SBTi) condition in which human-caused residual GHG emissions are balanced by human-led removals over a specified period and within specified boundaries (ISO Net Zero Guidelines)	Meegan Jones Meg Strahle Izzy Mills	

Discussion: Carbon Neutral Definition
Luke: Perhaps align these with ISO standard definitions and/or IPCC?
Meegan: This is aligned with SBTi - happy for other definitions to be written in here.
IPCC: https://www.ipcc.ch/report/ar6/wg3/about/frequently-asked-questions/

An interesting article: https://ecostandard.org/wp-content/uploads/2024/05/ECOS_Carbon-neutrality.pdf

SBTi and NZ/CN: https://sciencebasedtargets.org/blog/net-zero-jargon-buster-a-guide-to-common-terms

Chiara: flagging that at JB we try to nudge people away from carbon neutral claims (even where backed by standards) as we encourage organisations to take a more expansive view of climate investment than carbon credits/offsets. Also b/c different orgs set different boundaries for their carbon neutral claims.

Discussion Passive Viewing Audience:
Tessa: Audience: This is for broadcast/media viewers as well? Or should that be separate
Meegan: For discussion how we define it. My understanding is that 'takes part' means physically attending the event. However an online audience that is attending a virtual event is definitely an attendee. Who has a suggestion re passive viewers of events?

Shawna: I'd support clarifying attendee/participants definitions a bit more. As an example, the attendee vs participant vs audience question has become a big consideration for TED, where there can be four distinct ways to engage and the passive audience can be very large:
1) participants physically in person, (MJ: This is by ISO definition an 'attendee')
2) a registered group of participants viewing live on an organiser-provided platform (who are considered part of the live event community and do sometimes take part in the physical event in a limited capacity),
3) a live, passive and unregistered broadcast audience via a third-party platform like YouTube (not available on-demand, difficult to track) and
4) the global audience that consumes Talks that are uploaded from events to TED.com. #1 and #2 have been included in the event measurement scope. There have been attempts to estimate #3, but it's more uncertain. #4 is measured but not allocated to events as it's considered part of the org footprint.

Meegan: @shawna - We could add 'virtual attendees' for your #2.
#3 and #4 could be considered unregistered viewing audience (either live or accessing archive content). My thought is these wouldn't be included in GHG measurement, but this is definitely one for discussion
@Meegan Thanks for the add re. Virtual for 1 +2. Can see how 3 + 4 may not be suitable for the event GHG measurement. It may help to provide guidance that 4 should be considered in the org's footprint though, especially for agencies, corporates or associations that continue to host their own legacy content.
Tessa: do we have anyone in the group in the broadcasting space that can shed light onto how they measure these? I know it's been discussed in that industry - can recommend some folk if they are not already involved.
Chiara: DIMPACT has a tool & published methodology for serving digital media (especially streaming but also digital publishing) - https://dimpact.org/tool - which the likes of BBC are part of. But agree with Meegan that #3 and #4 in practical terms are better treated outside event inventory.

Chat Notes from 17th October Meeting

Poppy Stephenson
10:02 AM

Morning. Meegan you're muted.... not sure if you've begun speaking yet!
Meegan's Notetaker
10:03 AM
Hi, I'm an AI assistant helping Meegan Jones take notes for this meeting. Follow along the transcript here: https://otter.ai/u/KVqiNm9tLUGQO70QAd4sqlilrPw?utm_source=va_chat_link_1 You'll also be able to see screenshots of key moments, add highlights, comments, or action items to anything being said, and get an automatic summary after the meeting.
Luke Howell
10:03 AM
Secret meeting - we can watch but can't listen
You
10:06 AM
Hello all, can everybody hear Meegan wel? I'll be your chatbot for today :)
keep
Pin message
Luke Howell
10:06 AM
Seems ok
Slide made by Izzy
Tessa Rainbolt
10:06 AM
I can! Good morning everyone! Calling in from NYC
Luke Howell
10:07 AM
At 4am! That's dedication
You
10:07 AM
Respect!
keep
Pin message
Tessa Rainbolt
10:08 AM
Definitely outs me for being a major nerd on this topic
Luke Howell
10:09 AM
Welcome to the club. You're among a global set of ultra nerds here
Meegan's Notetaker
10:15 AM
Hi, I'm an AI assistant helping Meegan Jones take notes for this meeting. Follow along the transcript here: https://otter.ai/u/KVqiNm9tLUGQO70QAd4sqlilrPw?utm_source=va_chat_link_2 You'll also be able to see screenshots of key moments, add highlights, comments, or action items to anything being said, and get an automatic summary after the meeting.
You
10:37 AM
Linnea Svensson was speaking just now, and after this you heard Chris Johnson
keep
Pin message
Tessa Rainbolt
10:45 AM
But tagging it to a specific stakeholder - so to that point without a stakeholder perspective and reporting boundaries, scopes won't line up
Luke Howell
10:52 AM
Maybe we need to phase our approach to this - settle on some initial fundamentals first and then as a 2nd phase we can look at whether Scope X, C, F, 4 etc etc are something we need to engage with and follow up on
Alex Fintoni
10:53 AM
agree, start with making sure the basics are clear and understood before starting on broader aspects which are still in development

You
10:56 AM
Agree, als in this project, state where we all agree on, is powerful as a base. And topics open to discussion, 2nd phase can me notified already and follow later
keep
Pin message
Poppy Stephenson
11:00 AM
I disagree here. If it happened because of the event, its included. Hard line. All of Scope 3 is "someone elses" already so why split it further? All of scope 3 is under your influence but not direct control. To chris's point of the purpose of measurement, inventing another scope to reduce accountability seems counter productive. Offsetting is so cheap anyway.
Poppy Stephenson
11:02 AM
However... whilst I would include all of this in the impact of the event, I wouldn't necessarily include it in the delivery company's annual reporting.
Emily Shephard
11:05 AM
Agree ^^^ Especially due to the influence that you can have (providing reduced cost/combo public transport tickets, changing venue to suit delegates locations to more online components & engagement opportunities - the decisions you make within the event can have a direct impact on decisions made by delegates so with that ownership
Poppy Stephenson
11:06 AM
@Luke that's the difference between company and project emissions IMO. Streaming might be reported (like the event impact) but omitted from the company's scope 3 in annual reporting.
Luke Howell
11:06 AM
MIT is developing a decision model for impacts of live music that shows how decisions are key in where impacts come from and can be mitigated
@poppy Yes totally, measure everything and then figure out how to apportion it after depending on variables like type of event, client, mandatory, voluntary etc
Luke Howell
11:08 AM
However, the caveat there is that we probably won't always be commissioned to measure everything
Even if as professionals we want to
Tessa Rainbolt
11:08 AM
Agree as well - I think influence is key here, its likely less of a question of if it is included and more of an question of if that data is available and you have insight into all of those ancillary activities. From a GHGP perspective, this is where you can leverage the scope 3 categories outside the 15 (CDP - calls it "Other Upstream" and "Other Downstream", EPA has left it open to be named and I have seen/used "Event-Related" emissions
Alex Fintoni
11:09 AM
you'd think streaming would fall into 'use of sold product', releases and artists being the products:)
Luke Howell
11:10 AM
I made the same argument!
Luke Howell
11:12 AM
With regards streaming I think it came down to two factors - one being that the DSPs didn't actually have any data they could share so there wasn't a clear way to easily or accurately measure the impacts. And the other factor being that the impact is likely huge and they didn't want to include it in their impacts as they all want streaming to increase and couldn't figure out a way to show growth while decarbonising
Christopher Johnson
11:13 AM
Agree. Its confusing to adopt scope 3 as direct responsibility in reporting as it is someone else's, AND, best practice should be to report on all three scopes and demonstrate measures in place to influence them, For me to effectively influence third parties, it needs to be clear what is their direct responsibility.
Luke Howell
11:14 AM
But only using scopes for organisational reporting - for project / event specifics probably should avoid scope language
Scope terminology at least - the event itself is a product ultimately
Poppy Stephenson
11:16 AM

I think it is part of "the event" impact, but could be excluded from "the company" impact as we didnt pay for it / commission in
Emily Shephard
11:18 AM
Potentially going off on a tangent? Is there a way of approaching it in minimum viable in relation to the event. ie for the event to take place x numbers of attendees need to attend, which may be a % of the total attendees, and that's the % of travel emissions to take ownership of/include for offesetting.
Tessa Rainbolt
11:19 AM
We've laid this out as a grid of here are all the emissions sources generated because this event exists, and then in the columns identified the various stakeholders most likely to report, so you can indicate for each source where the various emissions fall in their corporate reporting. So column one is the event itself and everything is a yes and expressed in the operational buckets, and the the others align with scope language if you take that reporting perspective entity.
Would be great to collectively create a similar rule of thumb
Luke Howell
11:19 AM
We've done similar - we should collude on a standard appraoach to that!
Luke Howell
11:21 AM
I'm really sorry but I have to go - this is a brilliant discussion and I appreciate you all for joining and contributing. Izzy and Bryonie will contnue to represent from HS side!
You
11:22 AM
Thank you Luke! All the best to you
keep
Pin message
Christopher Johnson
11:24 AM
So, reflecting on discussions today, does this work: best practice is to (a) report against impact categories and (b) collect data in a way that can be analysed or reported against scopes to enable events to 'take responsibility for influence'. Is it that simple?
You
11:25 AM
and with B we can go really deep, also liking the comment of Tessa
keep
Pin message
Erlend Brenna Raabe
11:25 AM
We see different events using Green Producers Tool, trying to include emissions from for example audience or attendees even though its hard to directly impact their choice of travel. However, the information is useful to get insight into for example where majority of attendees or guests are coming from a specific place and then to also consider give other alternatives for traveling more environmental friendly. The event can get into a partnership with a train company to add more departures, etc.
Erlend Brenna Raabe
11:26 AM
However agree with the compensation part - that the event should probably not compensate for those emissions
Poppy Stephenson
11:26 AM
The EPA Greenhouse Gas Inventory Guidance Indirect Emissions from Events and Conferences states that sponsors should take ownership of % of emissions related to their contribution in relation to full event costs
Thi Dinh
11:28 AM
A contact of mine attended an event where they limited in-person attendance to participants already in the country and offered virtual attendance for international participants so I think it is definitely under the influence of the event organiser/owner to be able to place restrictions to attendees, brands, exhibitors, sponsors, etc to nudge more sustainable behaviour
Poppy Stephenson
11:29 AM
Audience travel is often 90% of the impact of the events I measure.
Tessa Rainbolt
11:31 AM

I agree, attendee travel has to be included, the whole purpose of events is people gathering, we can't deny that or be surprised that people showed up. There are multiple ways to engage in that and reduce emissions the event should be considering. That being said - to Poppys point, the inclusion often overshadows other sources so we present both with and without fan travel, to make sure we are able to illustrate the next layers of opportunity
Alex Fintoni
11:32 AM
Direct scope 3 is a good concept: same with material purchases. falls in Scope 3 but you have direct control over what you choose to buy in , merchandise, etc.
Poppy Stephenson
11:34 AM
Can we create 2? One for whats included in "the event" and one for the "organising company annual emissions"?
Antonio Cavallin Toscani
11:38 AM
Perhaps useful to provide a bunch of examples for all these questions?
Christopher Johnson
11:41 AM
@ Tessa, and/but events may not be in control of how attendees travel, and so it still feels like it falls into influence category. If regulation in future was based on full direct responsibility for travel, events who have no control over transport infrastructure or attendee travel, may not be able to go ahead? Or maybe that would be the point, ie events that require international or long distance travel would not go ahead?
Tessa Rainbolt
11:41 AM
CRS includes all scopes - though again I would point to the use of scopes in both their framework and this decision tree can be misleading - I'd recommend the more generic "emissions source" - Does this "emissions source" account for more than 1%
Emily Shephard
11:42 AM
I think an additional category is needed to take into account measurement experience within the team. So suggests a reduced scope of measurement or level of detail measurement or way to prioritise that builds up. The majority of clients I work with the main blocker is feeling overwhelmed. i guess also highlights importance of us developing proxies
Poppy Stephenson
11:43 AM
Examples of things Ive found falling into the 1%: stationary and consumables purchases, gaffa tape etc (for corporate events, festivals get through lots lol), office coffee and milk, staff using a handful of e-scooters etc. But also virtual elements of hybrid events... often the emissions from the virtual attendees are very small compared to the live in person elements.
Tessa Rainbolt
11:46 AM
We could consider is it >1% when fan travel is removed - since that can overshadow other emissions. As an example from a venue, their electricity impact can jump from 10% to 30% when travel is set aside momentarily, which helps reinforce the opportunity and drive action to reducing that category
Poppy Stephenson
11:47 AM
Personally I think we set out a gold standard / framework. Maturity and competency are for individuals to work towards with training or guidance on how to work towards achieving the gold standard/framework.
Poppy Stephenson
11:51 AM
AdNet Zero recently released their measurement framework guidelines, so we could aim for something similar. (although theirs is a little rigid to apply to every supply chain)
Emily Shephard
11:51 AM
agree with working towards a gold standard, but competency should be taken into account in order to encourage getting started with measurement. So maybe it's a bronze/silver/gold standard that you match to where you with maturity/company/supply chain buy in etc in order to give the space to learn 7 train an onboard stakeholders
Poppy Stephenson
11:52 AM
@Emily, IMO thats where isla would come in
Emily Shephard
11:55 AM
@poppy Agreed and something we're working towards with upskilling, but it would support if there was an industry-standard measurement expectation/standard for first timers, a universal 'this i where to start'
Tessa Rainbolt
11:56 AM
This is why we have intentionally chosen not to release a framework or methodology guidance, of course we have our own internal, but we are more focused on this collective as it's more likely to be adopted than if any one of us as an individual group publishes or reports in silo and adds to the divergence

Antonio Cavallin Toscani
11:59 AM
ISO is revising ISO14067 right now. We might reach out and ask to revisit the event specification there. Many people will look at that as a starting point