
terraneutra
creating a carbon positive world
EST 1892 LSBU
the carbon impact of events

project background - *provided by Terra Neutra*

At the start of the COVID-19 pandemic, LSBU's Corporate Events team swiftly moved events to a virtual platform throughout 2020-2021. During this time, a variety of events were delivered in remote format, enabling them to continue to deliver events curated & organised to raise the profile of LSBU to our audiences & stakeholders - at a time when many institutions put events on hold.

Adapting to this change of format required the team to become familiar with a different toolset, specifically video conferencing platforms - with many lessons learned.

This new way of working was leveraged to great effect & impact and saw LSBU hosting 189 events during the academic year - and with many more on either side up until today. These were often to a wider audience than was previously possible with increased national & international engagement.

In 2020 & 2021, LSBU hosted the Sustainability & Climate Action series as part of our promise to become a university of the future - *one that is conscious, responsible & sustainable*. The three part series, taking part over 11 days, included 150+ speakers from LSBU & beyond from a broad range of professionals & backgrounds addressing an audience of over 1,000 delegates.

Terra Neutra kindly took part in two panel discussions during the event series: "*Repackaging Christmas: gifts to protect the planet and its people*" - (Nov 2020) and "*Holding corporate giants accountable – why spoiling the planet is not cool*"- (Jan 2021)

project background - *provided by Terra Neutra*

As a follow up to their participation in the event series and in line with a conscious effort to make events at LSBU more sustainable & eco-friendly, we approached Terra Neutra to discuss the carbon footprint of the series whereby Terra Neutra arranged for the planting of 2150 trees. Thereby enabling LSBU to compensate for the carbon emissions impact of the series.

The results of this exercise showed an estimated 0.1 tonnes of carbon emissions resulting from;

- 77 hours of video conferencing sessions, involving
- 150 speakers, addressing
- ~1,000 delegates

By way of context, a UK academic attending a conference in New York would emit 1 tonne of carbon. The average footprint of a UK resident is estimated to be 9 tonnes of carbon emissions per year.

This carbon offsetting activity led to a more detailed set of discussions between the Corporate Events team at LSBU and Terra Neutra about the relative benefits of remote vs. physical events - thus resulting in this joint project.

This report focuses on the environmental benefits, specifically the carbon emissions impact, of remote events vs. physical events.

The objective of the exercise is to determine;

Are remote events more sustainable from a carbon emissions perspective and if so, by what factor?

methodology

GREENHOUSE GAS PROTOCOL

Terra Neutra set about measuring the carbon footprint of 10 typical LSBU event scenarios ranging from large conference to smaller meetings *(see LSBU event scenarios)*

The carbon footprint of an event is the total impact of the event relating to the total amount of CO2 Equivalent (tCO2e) emitted due to the direct or indirect consumption of fossil fuels. Emissions result from a variety of activities, like heating and cooling, powering stages, travelling to site, or managing waste produced.

Direct emissions are emissions within a company's organizational boundary from sources that the company owns or controls, like business travel in a company car or the combustion of fuel in the company's boilers and furnaces.

Indirect emissions result from a company's activities but from sources owned or controlled by another company.

These emissions are categorised into three groups or 'scopes' by the most widely-used international accounting tool, the Greenhouse Gas (GHG) Protocol.

methodology (cont.)

GREENHOUSE GAS PROTOCOL

Consistent with the accounting and reporting principles of the GHG Protocol and ISO 14064.1, the primary methodological guiding principles of this carbon footprint are:

1. Set the scope and organizational boundaries widely to incorporate emissions under the event's operational control and/or direct influence

2. Set operational boundaries to account for direct and indirect emissions (Scopes 1, 2 and 3);

3. Set clear inclusion/exclusion criteria to decide on what is included and what is not included in the scope;

4. Identify a consistent, relevant and good quality set of carbon emission factors that are to the extent possible representative of the location and setting of the event;

LSBU event scenarios

event scenarios

Scenario 1 – Large conference

- One day conference (9am – 5pm)
- 250 delegates
- Day delegate rate 2 includes
  - Breakfast (tea, coffee, juice, water, croissants, yoghurt, fruit)
  - Mid-morning break (Tea, coffee, water)
  - Lunch (Tea, coffee, water, sandwiches, finger food, fruit)
  - Afternoon break (Tea, coffee, water, cake)
- Printed double sided A4 programme
- Name badges & insert (reusable)
- Pens
- 10 x A3 signage posters
- Electricity
  - 1 x large lecture theatre
  - 2 x smaller lecture theatres

Scenario 2 – Medium conference

- One day conference (9am – 5pm)
- 125 delegates
- Catering includes
  - Breakfast (tea, coffee, juice, water, croissants, yoghurt, fruit)
  - Mid-morning break (Tea, coffee, water)
  - Lunch (Tea, coffee, water, sandwiches, finger food, fruit)
  - Afternoon break (Tea, coffee, water, cake)
- Printed double sided A4 programme
- Name badges & insert (reusable)
- Pens
- 10 x A3 signage posters
- Electricity
  - 1 x large lecture theatre
  - 3 x smaller breakout rooms

event scenarios

Scenario 3 – Small conference

- One day conference (9am – 5pm)
- 60 delegates
- Catering includes
  - Breakfast (tea, coffee, juice, water, croissants, yoghurt, fruit)
  - Lunch (Tea, coffee, water, sandwiches, finger food, fruit)
  - Afternoon break (Tea, coffee, water, biscuits)
- Printed double sided A4 programme
- Name badges & insert (reusable)
- Pens
- 5 x A3 signage posters
- Electricity
  - 1 x small lecture theatre
  - 2 x smaller breakout rooms

Scenario 4 – Medium conference

- Half-day conference (12pm – 5pm)
- 100 delegates
- Catering includes
  - Lunch (Tea, coffee, water, sandwiches, finger food, fruit)
  - Afternoon break (Tea, coffee, water, biscuits)
  - Reception (wine based on two glasses per person, soft drinks, water, finger food)
- Printed double sided A4 programme
- Name badges & insert (reusable)
- Pens
- 5 x A3 signage posters
- Electricity
  - 1 x large lecture theatre

event scenarios

Scenario 5 – Small conference

- Half-day conference (12pm – 5pm)
- 50 delegates
- Catering includes
    - Lunch (Tea, coffee, water, sandwiches, finger food, fruit)
    - Afternoon break (Tea, coffee, water, biscuits)
    - Reception (wine based on two glasses per person, soft drinks, water, finger food)
- Printed double sided A4 programme
- Name badges & insert (reusable)
- Pens
- 5 x A3 signage posters
- Electricity
    - 1 x small lecture theatre

Scenario 6 – Evening event

- Early evening event/ lecture with reception (5.30pm – 7.30pm)
- 200 delegates
- Catering includes
    - Reception - wine based on two glasses per person
    - soft drinks, water
    - finger food
- Single sided A4 programme
- 5 x A3 signage posters
- Electricity
    - 1 x large lecture theatre

event scenarios

Scenario 7 – Evening event

- Early evening event/ lecture with reception (5.30pm – 7.30pm)
- 75 delegates
- Catering includes
  - Reception - wine based on two glasses per person,
  - soft drinks, water
  - finger food
- Single sided A4 programme
- 5 x A3 signage posters
- Electricity
  - 1 x small lecture theatre

Scenario 8 – Breakfast event

- Early morning event (8am – 9.30am)
- 50 delegates
- Catering includes
  - Breakfast on arrival (tea, coffee, juice, water, sausage/bacon/egg rolls, yoghurt, fruit)
  - Refreshments post event (tea, coffee, juice, water)
- Single sided A4 programme
- Name badges & insert (reusable)
- 3 x A3 signage posters
- Electricity
  - 1 x small lecture theatre

event scenarios

Scenario 9 – Breakfast meeting

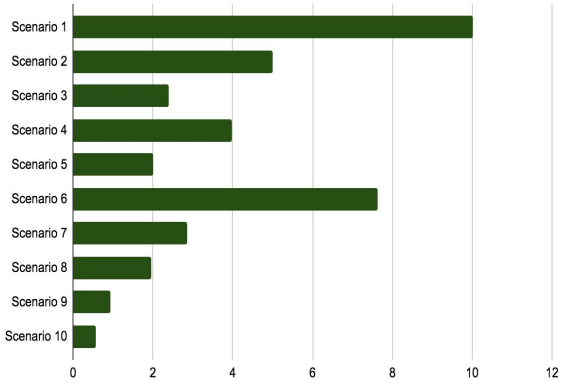
- Early morning meeting (8am – 9.30am)
- 25 delegates
- Catering includes
  - Tea, coffee, juice, water
  - Croissants
- Single sided agendas
- Electricity
  - 1 x small room

Scenario 10 – Working lunch

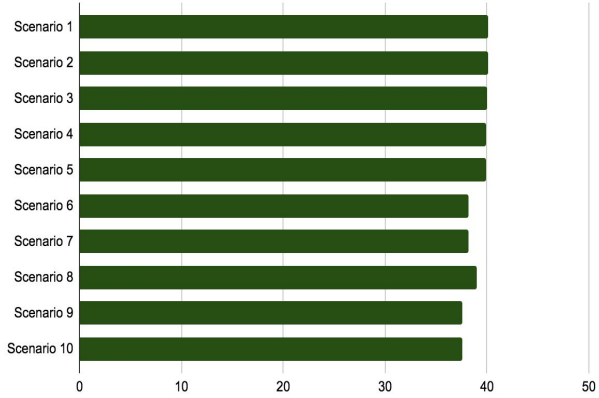
- Early morning meeting (12pm – 2pm)
- 15 delegates
- Catering includes
  - Tea, coffee, juice, water
  - Sandwiches
  - Fruit
- Single sided agendas
- Electricity
  - 1 x small room

key findings & conclusions

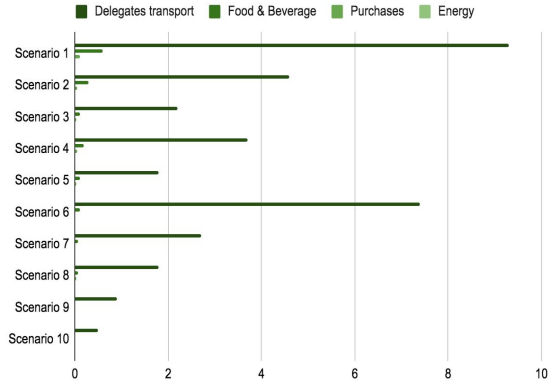
key findings



The table above shows the estimated carbon impact of each of the 10 physical events types (measured in tCO2e)



The table above shows the estimated carbon impact per delegate for each of the 10 physical events types (measured in kgCO2e)



The table above shows the estimated carbon impact per category for each of the 10 physical events types vs. virtual events (measured in tCO2e)

The carbon impact of Scenario 1 is the approximate equivalent of 10 academics flying to a conference in New York and back.

conclusion

The carbon impact for the remote-hosted Sustainability & Climate Action series was ~0.00022kgCO2e per delegate.

If we add this event into the table below, we can see that there is a **significant carbon impact saving** when compared with the physical event scenarios used in this study.

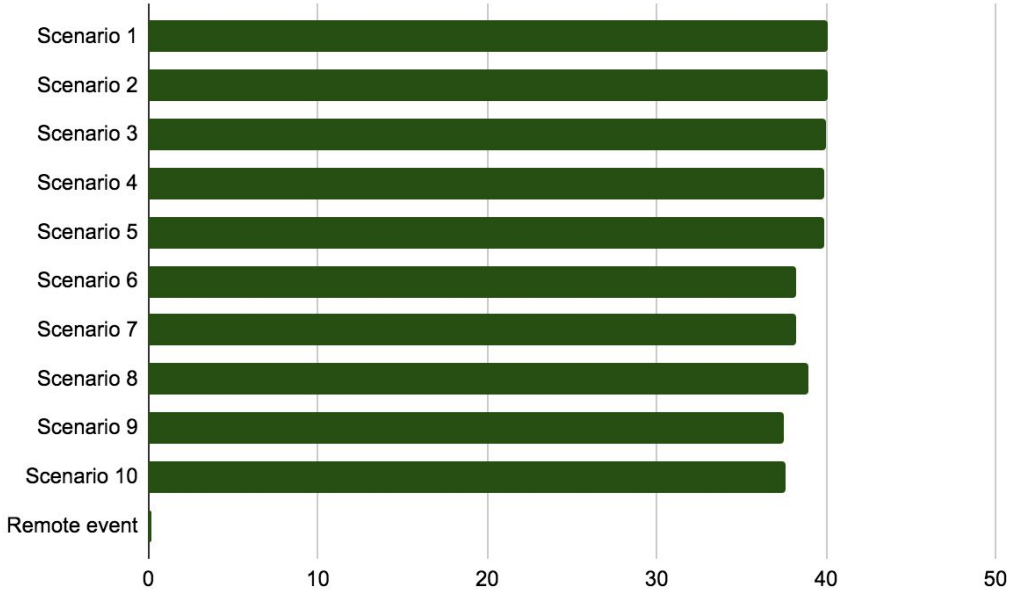
It is also useful to consider the impact of a full year of physical events...

In 2019, LSBU hosted ~10,000 visitors onsite. If we take the average impact per delegate from the scenarios listed of 39.06kgCO2e, this comes to a total of **390 tonnes of carbon emissions.**

This is the equivalent carbon footprint of

- ~65,000 cotton shirts
- ~ 859,000 miles driven in an estate car
- The average annual food consumption of 195 people

The impact of the same number of delegates for virtual events would be 2.2 tonnes.



additional benefits - *by LSBU Corporate Events*

wider engagement

- We've seen a huge national & international increase in engagement and attendance at our events.
- Having people from around the UK and the world being part of the many conversations we're holding is fantastic, valuable & reinforces our stance as a university with global impact!

accessibility & inclusivity

- Virtual events are widely accepted as being more accessible & inclusive eg. especially for people with disabilities & long term conditions; those with childcare or other caring responsibilities; or simply those who can't afford to take a whole day off work to attend.
- The move to virtual events shone a light on this issue as one of equality and levelled the playing field for many people being able to be part of & contribute to important discussions without barriers, such as cost, time, responsibilities or inconvenience being an issue.

work/life balance

- Those with busy careers no longer need to take a whole day away from their desk which has implications for their workload and stress levels.
- Whether a one-hour lecture or a full day conference, virtual events have meant people can drop in at their convenience, fitting attendance around their day and saving travel time.

speaker pool

- You have a wider remit of potential speakers to engage with.
- Those that would normally be out of reach geographically/financially/profile wise are much more accessible & willing to be involved.

additional benefits - *by LSBU Corporate Events*

logistics
They are generally easier to organise with less logistics involved. No need to worry about room bookings or clashes!

cost-effectiveness
They're cheaper to deliver. Your budget can be spent on things other than catering such as securing a more high profile speaker or content production.

smooth running
Virtual events tend to run smoother generally. Whilst they're still subject to technical issues as with physical events, it's easier to ensure they stick to time and speakers running late is less of an issue!

waste
There's less waste eg. food waste, printed collateral, etc..

organisational overhead
From an organisational point of view, with Corporate Events being a small team of just two people, we're able to deliver more virtual events that physical events. They're more time efficient & easier to set up, requiring less planning & physical setup, which means more capacity to deliver more events. Delivering multiple events in one day is much more viable & achievable and means less clashing & conflicting priorities plus a more manageable workload all round.

and not forgetting...

the weather
The weather is less of a factor in people not attending. We all know when it rains, attendance takes a dip. Likewise when it's sunny or too hot.

summary

In summary, in addition to a significantly reduced carbon footprint, it is clear that there are many benefits to delivering virtual events vs. physical events.

There are, of course disadvantages, to events being delivered virtually. Networking isn't as free flowing and it can be harder to build connections. It can be difficult to recreate the atmosphere from physical events too what with being on campus, the buzz of people coming together & the impact of branding. They aren't accessible to everyone & some people simply prefer meeting in person. Online fatigue has become a familiar issue too.

But whilst many events might benefit from taking place in person, particularly where networking is a priority, this report highlights the following:

- *Our ongoing commitment to protecting the planet & its people. Reducing our carbon footprint makes a huge difference and virtual events are one way we can do this.*

- *Events can and should be sustainable & eco-friendly. Whether it is delivering them virtually, offsetting the carbon impact or talking with the catering team to ensure non-disposables are used, there are many ways to ensure we organise our events with a more conscientious & greener mindset.*

- *Our move to virtual events has been successful & impactful in many ways. We do them well and they should continue to be part of LSBU's event offering to our now much wider audiences.*

Sustainability is a core tenet of everything we do at LSBU - events included. It is present in our course modules, our research, our facilities management, our decision making, our mindsets and our values. Our promise is to keep striving to become a university that you can be proud of for years to come, demonstrating real world impact, being fit for the future and ensuring we do all we can to protect the future of the planet & its people.

If you have any further questions about this report, please contact the Corporate Events team on events@lsbu.ac.uk

Appendix: Methodology

methodology

GREENHOUSE GAS PROTOCOL

Calculations

To carry out this study, different calculation procedures have been adapted based on the data available for each of the parameters analyzed, although the general methodological basis for calculating the emissions derived from these activities is always the same, consisting of the application of the following formula:

Carbon Footprint (t CO2e) = Activity Data x Emission Factor

Where:

- Activity data = the parameter that defines the activity and that is related to the emission factor (for example kWh of electricity)
- Emission factor = amount of CO2e emitted by each unit of the "activity data" parameter (for example 2.16 kg CO2e / m3)
- The unit used to expose the results (t CO2e) = representation of the equivalent tonnes of CO2, the universal unit of measurement that indicates the global warming potential (GWP) of each of the GHGs.

Data gathering covers, in addition to the activity data, the secondary data (conversion factors and emission factors) applicable to them.

These factors have been obtained from the UK Government's Greenhouse gas reporting: conversion factors.

methodology (cont.)

GREENHOUSE GAS PROTOCOL

Generally, an emission source has been included if it is relevant and under the event's operational control, or if organisers can exert a direct influence on the decision processes which can directly impact associated emissions.

To decide which emission sources are relevant the following criteria have been used

- Materiality or significance of the emissions of the source with respect to the total emissions of the event
- Availability of auditable data (lack of information)
- Relevance for interested third parties (participants, local community, authorities, suppliers, etc.)
- Existence or not of emission reduction potential.

The categories measured, based on the scenarios provided by LSBU were;

- Purchases (materials list)
- Energy consumption (based on green energy)
- Food & beverage
- Delegate transport

It is important to note that carbon emissions reported here are an estimate of the actual impact, based upon available data.

methodology (cont.)

GREENHOUSE GAS PROTOCOL

Scope 1

Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organisation (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles).

The events do not use any equipment or vehicle owned that involves direct emissions from fuel combustion therefore no Scope 1 emissions are produced.

Scope 2

Scope 2 is the electricity from the grid purchased by the organisation.

As the electric company selected is 100% renewable sourced energy, no scope 2 emissions have been produced.

Scope 3

Within Scope 3 emissions, the impact of the following activities are included; Delegates Transport, Purchases and Food & Beverages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