



Sustainability Report

Executive Summary

Background

In the spring of 2021, 6Connex, a Virtual Event Platform, contracted WSP, a world leading engineering and professional services consulting firm, to assess the greenhouse gas (GHG) impact of hosting virtual events on the 6Connex platform, in lieu of hosting on-site events. This engagement is a part of 6Connex' corporate goal to communicate the sustainability benefits of its platform and virtual events.

For this study, WSP analyzed 7 unique events that were hosted on the 6Connex platform in 2020. WSP and 6Connex defined the boundaries of typical activities that occur during both on-site and virtual events. On-site event boundaries consider the emission impacts from travel, hotel, meals, waste, event space, and marketing materials. Virtual event boundaries consider the emission impacts from food, waste, marketing materials, virtual workstations, and the 6Connex servers. Primary data was compiled for this assessment. WSP conducted estimations which were validated by 6Connex to conduct this study when primary data was not available.

Results

- ▶ The results of this assessment show that for each study, conducting an event using the 6Connex Virtual Event Platform is significantly less carbon intensive than conducting one in person.
 - ▶ Travel to and from events was found to be the primary driver of carbon emission impact for most events. This impact increased when more attendees flew to an event.
 - ▶ Events which had a higher amount of local attendees resulted in lower emissions from travel.
 - ▶ The duration of the event had an overall impact on the emissions.
- ▶ The carbon impacts of these events should be viewed as emissions avoided rather than saved given virtual events do not reduce emissions.
- ▶ The following documents outlines the results of each analyzed event. Analysis compares the carbon emissions of on-site events versus events virtually hosted on the 6Connex platform. Equivalent carbon emissions avoided are also estimated for each analyzed event.
- ▶ The methodology and assumptions that were used to conduct this study are included below.



Medical
Organization

Medical Organization

This nonprofit organization is a leader in the academic medicine community based in Washington, D.C., USA. Their one-day event brought 9,926 attendees together who typically would have to fly in from all over the world. By hosting their event virtually, carbon emissions related to transportation and event space were entirely avoided.

95

TOTAL EMISSIONS
FROM THE
VIRTUAL EVENT

3,501

TOTAL EMISSIONS
FROM THE
PHYSICAL EVENT

3,406

TOTAL
EMISSIONS
SAVED

Emissions Sources (Virtual)

mtCO2e

Emissions from Transportation	-
Emissions from Lodging & Event Space	-
Emissions from Meals & Snacks	63
Waste Emissions from Virtual Event	4
Emissions from Company Marketing Materials	23
Emissions from Virtual Workstation	5
Emissions from 6Connex Servers	0.01

Emissions Sources (Physical)

mtCO2e

Emissions from Transportation	2,526
Emissions from Lodging & Event Space	345
Emissions from Meals & Snacks	530
Waste Emissions from Live Event	12
Emissions from Company Marketing Materials	88
Emissions from Virtual Workstation	-
Emissions from 6Connex Servers	-

Key Takeaways:

This virtual event emits ~36X less emissions than an in-person event

- ▶ The largest impact of in-person events is associated with Travel accounting for ~72% of total emissions
- ▶ Server usage has an insignificant impact to the overall footprint
- ▶ Meals are the largest impact for virtual events ~66% and the second largest to in-person events ~15%

Transforming this event
from in-person to
virtual is equivalent to
4,173 acres
of U.S. Forests



Event Details

Methodology

The following details the methodology used to calculate the emissions associated with an in-person and virtual event using the 6Connex web-based platform. The in-person events represents the likely event that would have been held in-person if not for 6Connex. Seven completed events were selected for analysis.

- ▶ **Event Boundaries** were determined at the beginning of this assessment to ensure a consistent and methodological approach in calculating both in-person and virtual events. An on-site event considered the emission impacts from travel, hotel, meals, waste, event space, and marketing materials. A virtual event considered the emission impacts from food, waste, marketing materials, virtual workstations, and the 6Connex servers.
- ▶ WSP requested event data from 6Connex for each selected virtual event. A data request was sent to 6Connex to provide details about each event. 6Connex provided all data for each event including, the IP addresses of each attendee, the physical location, number of attendees, days, marketing material, waste, food, and the server type used by 6Connex.
- ▶ Information was compiled and reviewed by WSP to ensure data completeness. Where data was not available, WSP made assumptions and estimations that were validated by 6Connex. A list of assumptions can be found in the Assumptions section of this document.
- ▶ A data calculation workbook was created to generate the carbon impacts for both in-person and virtual for each of the 7 events. This workbook calculated the results by multiplying the activity data by the corresponding emission factor. While there is not a specific method for calculating an event, this study follows leading GHG practices to calculate the GHG emissions associated with these events. A list of sources can be found within the Sources section of this document.

Assumptions

- ▶ **Events Attendees:** All 6Connex virtual events were assumed to have the same amount of attendees as in-person events.
- ▶ **Attendee Location:** IP addresses were provided by 6Connex for each event. IP addresses were used to identify the country of origin of each attendee.
- ▶ **Event Location:** Location of each physical event was provided by 6Connex.
- ▶ **Transportation:** Air travel to and from event was calculated by assuming major airport at country based on attendee IP addresses as well as the closest major airport to the event. An online calculator was used to determine the distance between airports. For local travel an estimation of travel type (Road, Rail, and Bus) and distance traveled was used to calculate the carbon emissions.
- ▶ **Hotel and Meeting Space:** Per 6Connex, 100% of hotel stays was classified as upscale. Meeting space assumed 50 sq. ft per attendee. All attendees assumed to have stayed at the hotel.
- ▶ **Marketing Materials/Handouts:** Assumes \$30 per in-person attendee. \$10 per virtual attended which includes shipping.
- ▶ **Food:** In-person attendees assumed \$100 spend on meals per day. Virtual attendees assumed \$10 spend per day.
- ▶ **Waste:** In-person attendees assumed 4.2 lbs. of waste per day. Virtual attendees assumed 1.63 lbs. per day. Assumptions were made for end of life scenarios, i.e. recycled vs. sent to landfill (US EPA)
- ▶ **6Connex Servers:** Server types were provided by 6Connex. All 6Connex servers leverage Amazon Web Services (AWS). Servers were estimated to use 1.7 MWH/year. Emissions were calculated using location of server and energy usage. (US EPA eGrid)
- ▶ **Virtual Event Space:** The emissions from home energy consumption per user assumed 0.54 kg of CO₂e per user per day



Sources per Impact Area

Travel (United States): Flight, Car, Rail, Bus

[US EPA GHG Emission Factor Hub](#)

Travel (International – Air)

[2019 Guidelines to Defra / DECC's GHG
Conversion Factors for Company Reporting.](#)

Lodging and Event Space

[US EPA eGRID](#)
[International Energy Agency,
as cited by EIA for 1605b.](#)

Food & Event Materials & Services

[UK Department for Environment,
Food, & Rural Affairs \(DEFRA\)](#)

[Table 13 - Indirect emissions
from the supply chain](#)

6Connex Servers

[HPE server specifications](#)

[US EPA eGRID](#)

[UK: 2019 Government GHG Conversion
Factors for Company
Reporting: Methodology Paper
for Emission Factors.](#)

Waste

[US EPA Waste Reduction Model \(WARM\)](#)

[US EPA Facts and Figures on
Materials, Wastes and Recycling](#)

[Event Waste Exposé: The Dirty Dozen](#)

[Municipal solid waste factsheet](#)

GHG Equivalencies

[EPA Greenhouse Gas
Equivalencies Calculator](#)