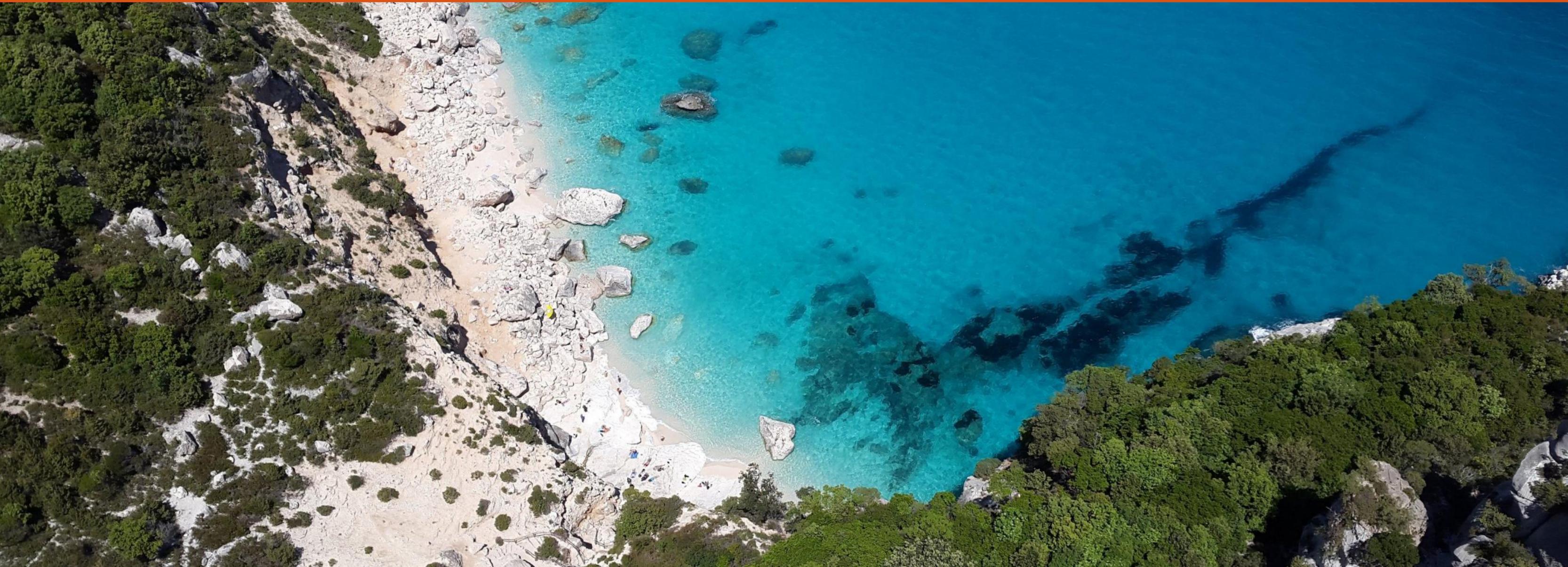# ITT Carbon Measurement Report 2024

2024 Operational Footprint, Sardinia Conference 2025, Small Events 2024

11th September 2025, Prepared for ITT by TerraVerde Sustainability

Foreword

Patrick Richards
Founder Director
TerraVerde Sustainability

"

Measurement of Greenhouse Gases (GHG) forms a fundamental part of any sustainability programme. A drawback of sustainability is that it often seems vague and difficult to define in concrete terms. By contrast a carbon measurement (an umbrella term for all 7 GHG's); is a highly effective way of evaluating the impact of an individual, a business, an event, or a country. Every product and activity has a carbon footprint, so the sum of these is quantifiable. Think of it as a basic, like measuring weight and blood pressure at the doctors.

Hence this report details the carbon footprint of ITT operations in 2024, small events held in 2024 and the ITT Conference Sardinia, 2025. Organisational benefits include:
- The ability to identify key emission sources from its activities. Concrete data supports a subsequent reduction strategy. As a result, ITT can curb its environmental impact by tackling the negative effects of global warming & climate change.
- Cultivate industry leadership, enhancing organisational reputation & building loyalty from key members, sponsors, employees and other stakeholders.
- Optimise efficiency in use of energy, transportation, food waste & other resources; facilitating cost control.
- Comply with current and future legislation, which is rapidly growing across the globe.

We trust the report makes insightful reading for the ITT team and look forward to getting feedback. "

Acknowledgements

Executive Summary

This project has delivered the following outcomes / findings:

1. The organisational measurement in place for the reporting period 1st January 2024 – 31st December 2024. ITT small events series 2024, and the 2025 ITT Conference held in June 2025 in Sardinia.

2. The footprints of the three elements of this report are as follows: operational footprint **6.42 tCO2e***, Small Events 2024 **3.69 tCO2e** and 2025 ITT Conference Sardinia **179.5 tCO2e**. Clearly the Convention is the most impactful.

3. In all components, travel contributes a substantial proportion of total emissions. At **166 tCO2e**, travel (air & ground) for the Sardinia Conference represents 92.4% of the total event footprint.

4. The energy and food related carbon footprints are also significant contributors to total footprints. Thoughtful menu and venue selection plays a crucial role, especially as more venues are transitioning to renewable energy sources and lower carbon meal options are more widely available.

5. The report gives a summary (and break-down) of carbon emissions, making recommendations for the following further actions:

   ➤ Make a public declaration of this GHG footprint and ITT's future intentions.

   ➤ Identify where carbon reductions can be made using TerraVerde's experience and projections drawn from other businesses.

   ➤ Develop a science-based target for reducing Greenhouse Gas emissions from now to 2030, with a practical action plan for the coming year.

   ➤ Develop a compelling communications strategy, which is both transparent and avoids greenwashing, but which can influence multiple stakeholders across the organisations value chain, including members, sponsors and suppliers; thus taking a leading position in this space

   ➤ Continue to compensate for the event impact and consider offsetting the carbon you can't yet reduce.

   ➤ Maintain momentum by re-measuring, especially for the convention. This should not be a "one and done." Industry wide benchmarks are useful, but the most important is to measure year on year improvements on ITT's own footprint. .

*metric tonnes of carbon equivalent (termed tCO2e).

Recommendations

TerraVerde

Key Recommendations / observations

1 With this baseline carbon measurement in hand, the association should align to global decarbonisation targets as set by the Paris agreement on climate change. This means targeting emissions reductions of 50% from the 2025 baseline year by 2030. Standards to reference are https://sciencebasedtargets.org/ & specifically for events: https://www.netzerocarbonevents.org/ . and commit to continuous improvement by remeasuring year on year.

2 Emissions from transportation dominated the footprint of all three areas measured (convention, small events and organisational operations). This can be addressed by:
- Choice of convention destination to minimise travel distances, using careful itinerary design.
- Working with key transport providers, notably airlines and ground transport providers, to deliver low carbon options.

3 Observations from the convention, bearing in mind its overall significance:
- Positively, energy consumption emissions of 2.4 tCO2e, were achieved via the venue's renewable energy tariff. However no solar was used.
- Food & drink emissions were high; contributed to by the focus on buffets. Steaks served at 10 pm for the gala dinner, created uneaten leftovers and food waste. Careful menu planning here will help.
- Paper flyers & "merch" from sponsors can be replaced with digital options.
- The hotel can curb laundry emissions, via effective guest communication

4 Successful operational execution can be achieved by breaking down the whole into individual pathways with target benchmarks. E.G.:
- Waste (notably food waste) emissions of 0.7 tCO2e should be monitored & reduced, setting recycling & waste to landfill targets.
- 100% renewable energy from the venue should become the norm.
- Elimination of any single use plastic during conference
- Event water consumption was 594 litres per delegate day. This compares to average consumption across Italy of 216 litres per person per day. Sardinia especially suffers from chronic water insecurity. ITT can play a valuable role in highlighting & addressing these destination challenges "warts & all."

5 All the above requires skilling the event's team to integrate sustainability into the lifecycle of event planning. This includes updating RFP's & supplier requirements. It also entails communication, knowledge & persuasive skills to collaborate successfully with stakeholders, including sponsors, suppliers & local communities. The informed decision-making which results is a powerful way to reduce environmental impact, whilst also ensuring that the event supports the local destination economies involved.

6 ITT has an unrivalled opportunity to inform & upskill its travel sector community, growing awareness of sustainable practices that they can take into their businesses. Convention content should be aligned to business & strategic goals, but also not shy from raising challenging questions in becoming a guiding compass for the future health of our industry.

Recommendations
ITT Conference 2025

1 Attendee and crew travel accounted for 93% of conference emissions, largely due to the reliance on flights given the location. Future planning should prioritise destinations where travel by train or ferry is feasible and aim to minimise travel distances through thoughtful itinerary design.

2 Food and drink emissions were estimated at 9.6 tCO2e. Red meats and non-local shellfish have much higher impacts than white meat, local fish, or plant-based options. Buffets can also lead to more food waste than plated meals, so careful menu planning is very important.

3 Energy consumption emissions were 2.4 tCO2e and were reduced notably through the venue's renewable energy tariff. Continue to select venues with low / zero emissions energy, either through their renewable energy contracts, but preferably through their own renewables.

4 Waste contributed an estimated 0.7tCO2e to the event emissions. Beyond reduction of physical waste, waste emissions are substantially lowered by recycling (30–70%), dependent on material. What happens to any waste should also be monitored, with a "zero-waste-to-landfill" objective. While food waste recycling is extremely important due to the related methane emissions, a potent greenhouse gas. Prioritising venues with recycling programmes in place again, is very important.

5 Water use / treatment of 0.2 tCO$_2$e though minimal to overall event emissions, however totalled 445,706 litres of water consumed. Sardinia suffers from chronic water insecurity, exacerbated by drought, climate change & aging infrastructure. ITT can play a positive role, both by selecting venues with water savings technologies and in growing awareness among delegates to moderate consumption. N.B. a breakdown of this amount is currently being sourced from the hotel.

6 Positively, the association already levies a delegate community contribution towards in-destination good causes. In 2025 this amounted to circa £3,675. The two charities supported were:
- Domus de Luna: dedicated to supporting children & families who have experienced violence neglect & social hardship.
- MareTerra Onlus: promotes ocean conservation, protection of the bottlenose dolphin & small-scale fishing in local waters.

Recommendations
Operations, Small Events, General

1 Like the ITT Conference, business travel and travel to small events venues contributed a significant proportion (75.5% of operations & 44.y% of small events). Prioritising public transport has the potential to reduce emissions by 79% (mile for mile car vs train). Selecting venues which are convenient for travel by public transport are another priority.

2 Food and drink emissions were estimated as 48% of total emissions for small events. As with the conference, consideration of menu selection and switching red meats and non-local shellfish for white meat, local fish, or plant-based options. Opting for plated options over buffets can also help reduce food waste. Gain knowledge by asking catering companies to give details at source.

3 Energy consumption emissions from buildings and homeworking was another notable emissions source. Switching to renewable energy supplies and improved data collection are impactful and easily achievable action points.

4 Communications. ITT is in a powerful position to influence members, stakeholders and supply chain partners. Communicating actions on footprinting, sustainability policies and activities, such as lower carbon meal options, reduction of waste and promotion of decision making tools for travel and flight planning demonstrate ITT's commitment and actual activity, as well as providing leadership on sustainability.

5 Training staff to integrate sustainability into every aspect of event and location planning is a powerful way to reduce environmental impact. While travel and tourism supports local economies, its footprint needs to be significantly lowered through informed, responsible decision-making.

Methodology and Key Assumptions

Overview

The ITT Conference and Small Events footprints were calculated through a combination of TRACE, a specialist events carbon footprinting tool and TerraVerde calculations.

Data was supplied by Dellar Davies, which included data from Hotel Chia Laguna on energy and water consumption, and waste and the transportation invoice from FA Travel.

For the Conference - Total event attendees numbered 250, while Dellar Davies (5) and production crew (5) numbered 10 in total.

For Small Events – Total Attendees numbered 343

Flights

Flights were estimated based on the 95% travelling from the UK, via mainland Europe. The remaining 5% from other countries have been excluded from this estimation and measurement, on the basis that a number are likely to have come from Sardinia itself. Of the 95% measured, 97% were assumed to have flown from London and 3% from the north of England. Flights were estimated as from London to Milan, or Manchester to Milan. From Milan it was assumed that all flights went to Cagliari. This is with the exception of two attendees who travelled by train and ferry from the UK.

Transport

Airport transfers were calculated using coach invoices and information provided by Dellar Davies. Taxis were estimated based on the remainder of attendees, with an average of 1.5 PAX per taxi.

Energy Consumption

Energy consumption data was provided by the venue. Emissions were reduced by 75% due to its renewable energy tariff. The grid emissions factor used was based on the International Energy Agency's (IEA) value for Italy. While Sardinia potentially has a higher emissions factor due to its continued reliance on coal, specific regional data is not publicly available.

Water Consumption and Treatment

Water consumption data was provided by the hotel. Emissions factors specific to water supply and treatment in Sardinia are not publicly available; therefore, UK emissions factors were applied as a proxy. This approach may underestimate actual emissions, given Sardinia's water supply includes a higher proportion of energy-intensive desalination. Additionally, the island's electricity grid has a significantly higher carbon intensity than the UK's, further suggesting that emissions associated with water services may be understated in this estimate.

Waste

Waste data was provided by the hotel but was not disaggregated by material type. Consequently, a general mixed waste emissions factor was applied. As the disposal method was not specified, landfill was assumed as the default scenario to ensure a conservative estimate of associated emissions.
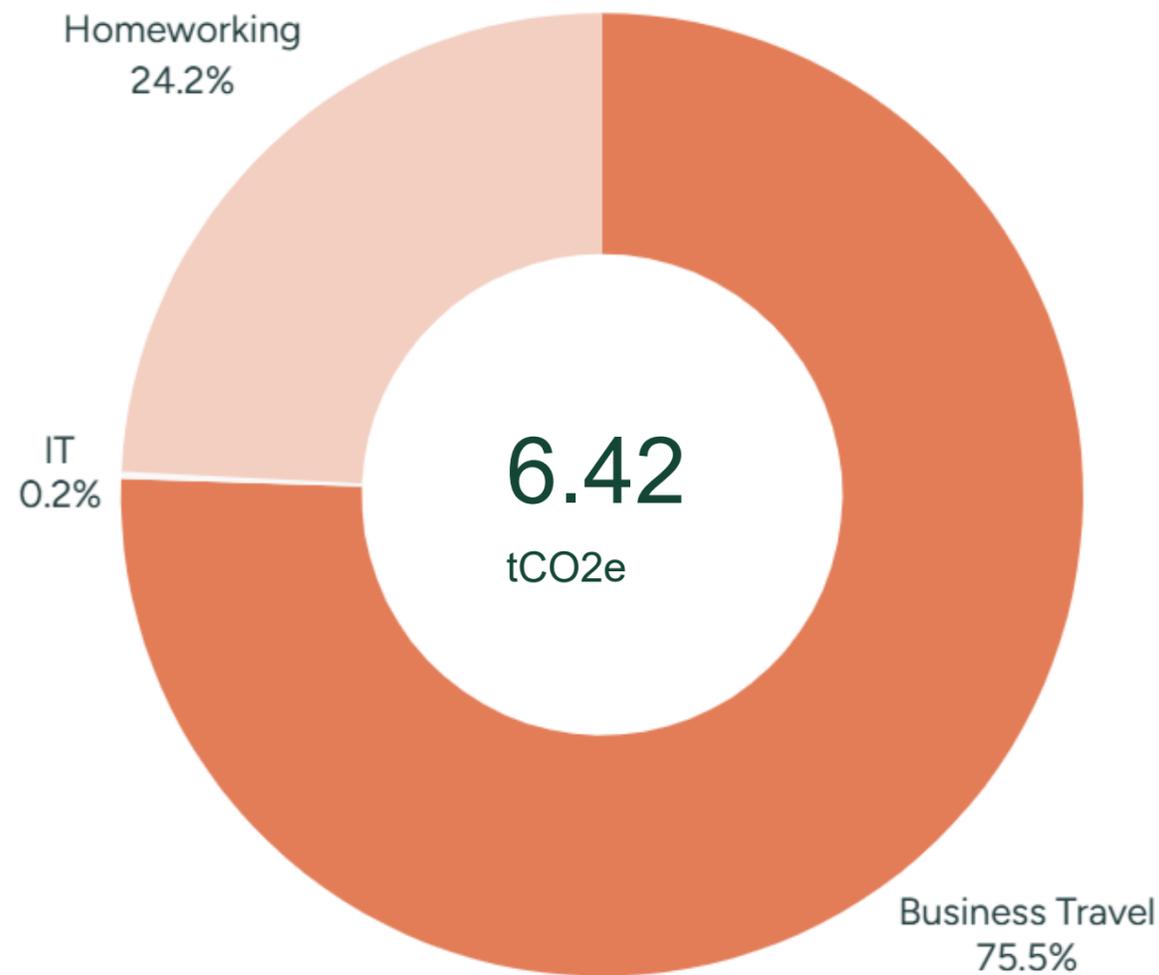
Results

Operations & Small Events

ITT Operational Footprint 2024

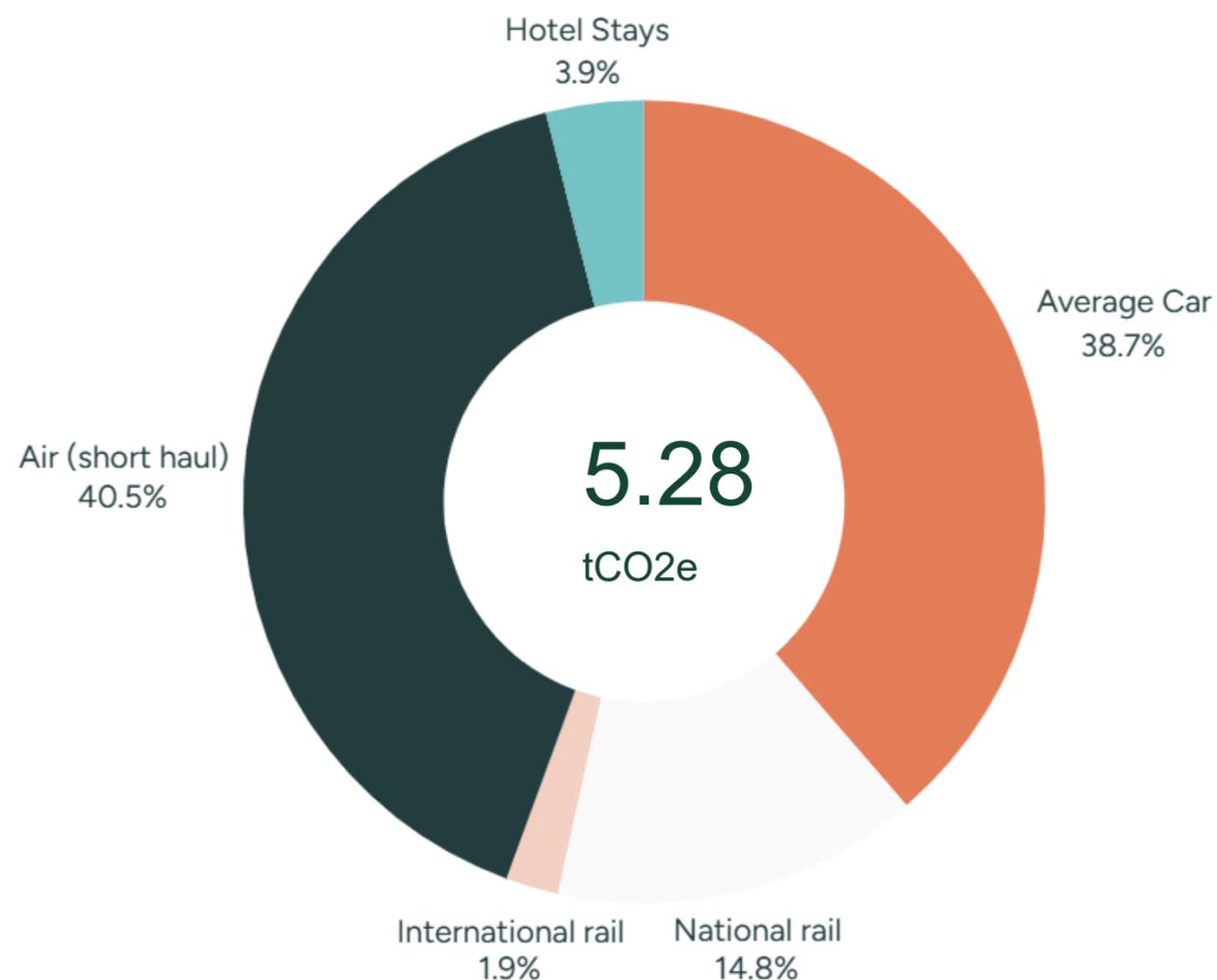| Category	Activity	kgCO2e (Direct)	kgCO2e (Indirect)	Total Emissions (kg CO2)
Business Travel	Average Car	1,299	325	1,624
	National Rail	623.39	157.69	781.08
	London Underground	8.34	2.18	10.52
	International Rail	80.28	21.06	101.34
	Air (short haul)	1,820.00	314.86	2,134.86
	Hotel Stays	208.00		208.00
IT	Software & Webhosting	16.00		16.00
Homeworking	Homeworking (office eqpt. + heating)	1,539.74		1,539.74

Total emissions for 2024 ITT operations were **6.42 tCO2e**, of which **75.5%** were attributed to business travel. This high proportion we find is quite typical in many footprints and events that require travel by air and substantial travel by car.

The subsequent slides strip out the travel footprint to give a clearer view of the components that could be reduced or controlled.

ITT Operational Footprint 2024

Travel

Category	Activity	kgCO2e (Direct)	kgCO2e (Indirect)	Total Emissions (kg CO2)
Business Travel	Average Car	1,299	325	1,624
	National Rail	623.4	157.7	781.1
	London Underground	8.34	2.2	10.5
	International Rail	80.3	21.1	101.3
	Air (short haul)	1,820	314.9	2,134.9
	Hotel Stays	208		208

Total emissions for 2024 ITT Operational business travel were **5.28 tCO2e**, of which **40.5%** was short-haul air travel, and **38.7%** travel by car.
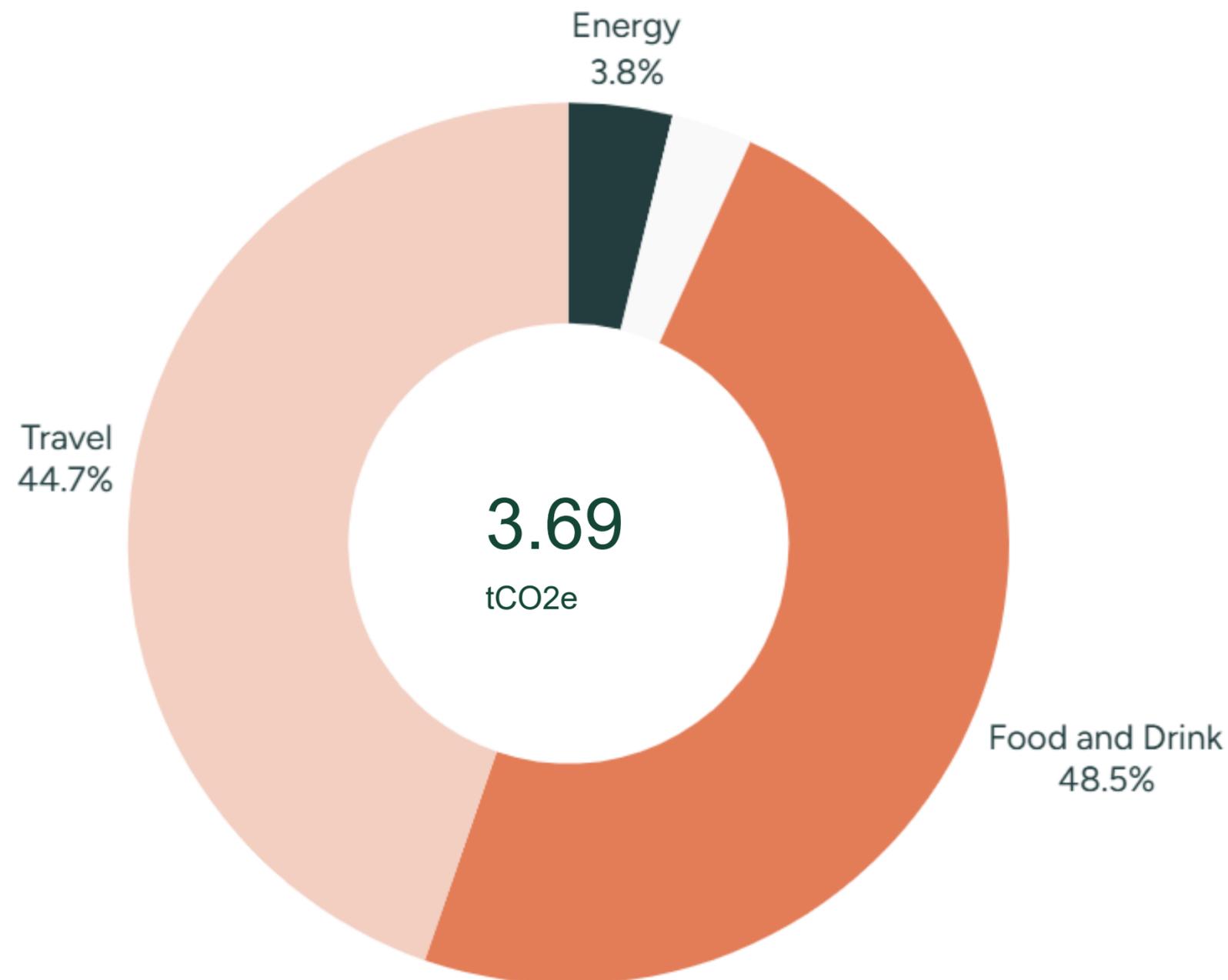
ITT Small Events 2024

3.69 tCO2e

Activity	Total Emissions (kg CO2)
Energy - Gas and Electricity	0.14
Production - Paper and Cardboard	0.11
Food and Drink	1.79
Audience Travel - public transport	1.08
Audience Travel - motor vehicles	0.57

Total emissions for 2024 ITT Small Events were **3.69 tCO2e**, of which **48.5%** was food and drink, and **44.7%** travel. Energy emissions were estimated on the basis of m^2 of event space. Production emissions are related to the use of card and paper for name cards etc. Of travel emissions, 1.08 tCO2e was from public transport and 0.57 tCO2e was from travel by car.

Results

ITT Conference 2025 Sardinia
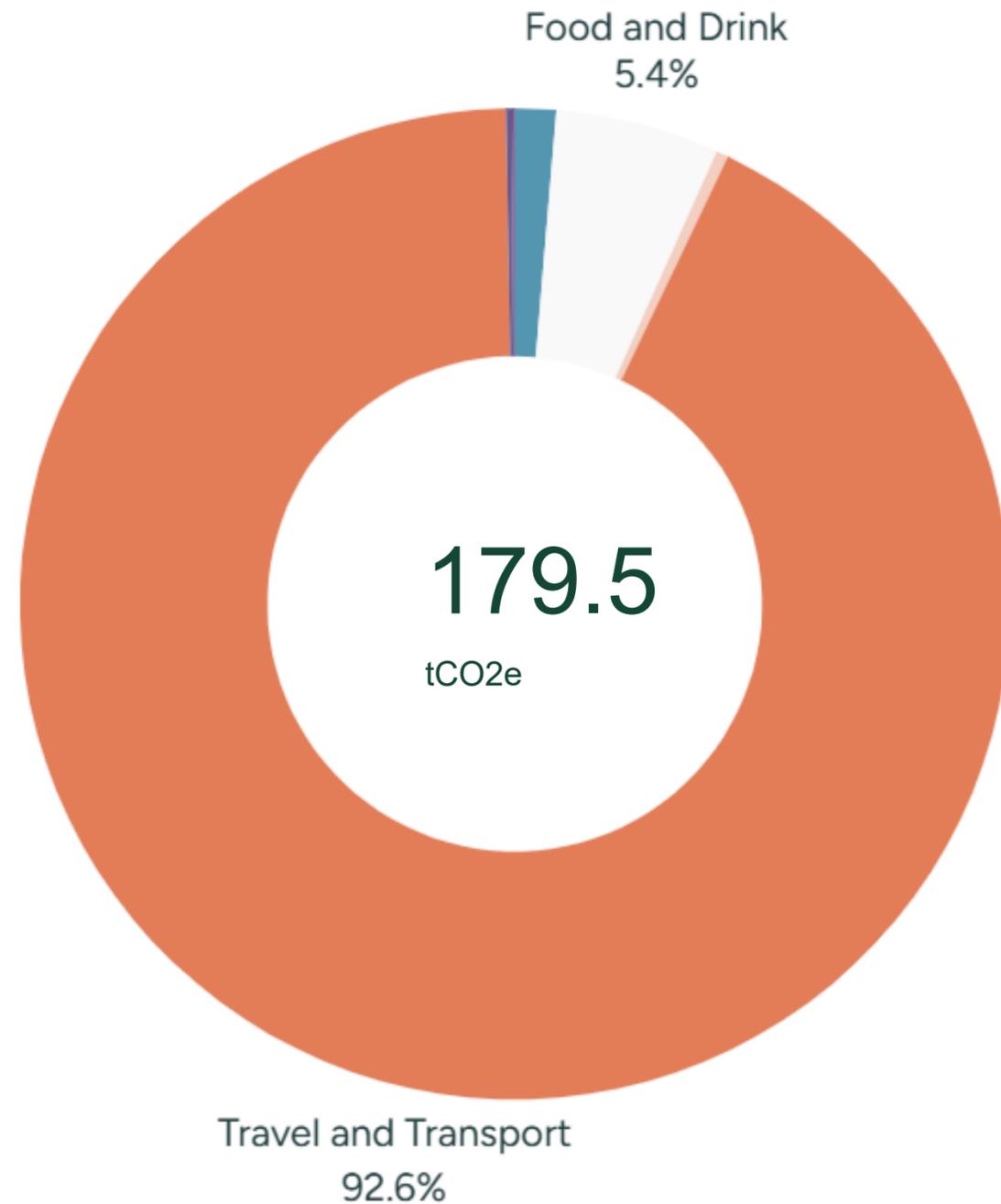
Sardinia 2025 Total Carbon Footprint Breakdown

Food and Drink
5.4%

179.5
tCO2e

Travel and Transport
92.6%

Energy	2.4	tCO2e
Food and Drink	10.16	tCO2e
Waste	0.7	tCO2e
Travel and Transport	166	tCO2e
Event & Production Materials	0.3	tCO2e
Water Supply and Treatment	0.2	tCO2e

Total emissions for the 2025 ITT Conference were **179.5 tCO2e**, of which 92.4% were attributed to travel. This high proportion we find is quite typical many footprints and events that require travel by air.

The subsequent slides strip out the travel footprint to give a clearer view of the components that could be reduced or controlled.
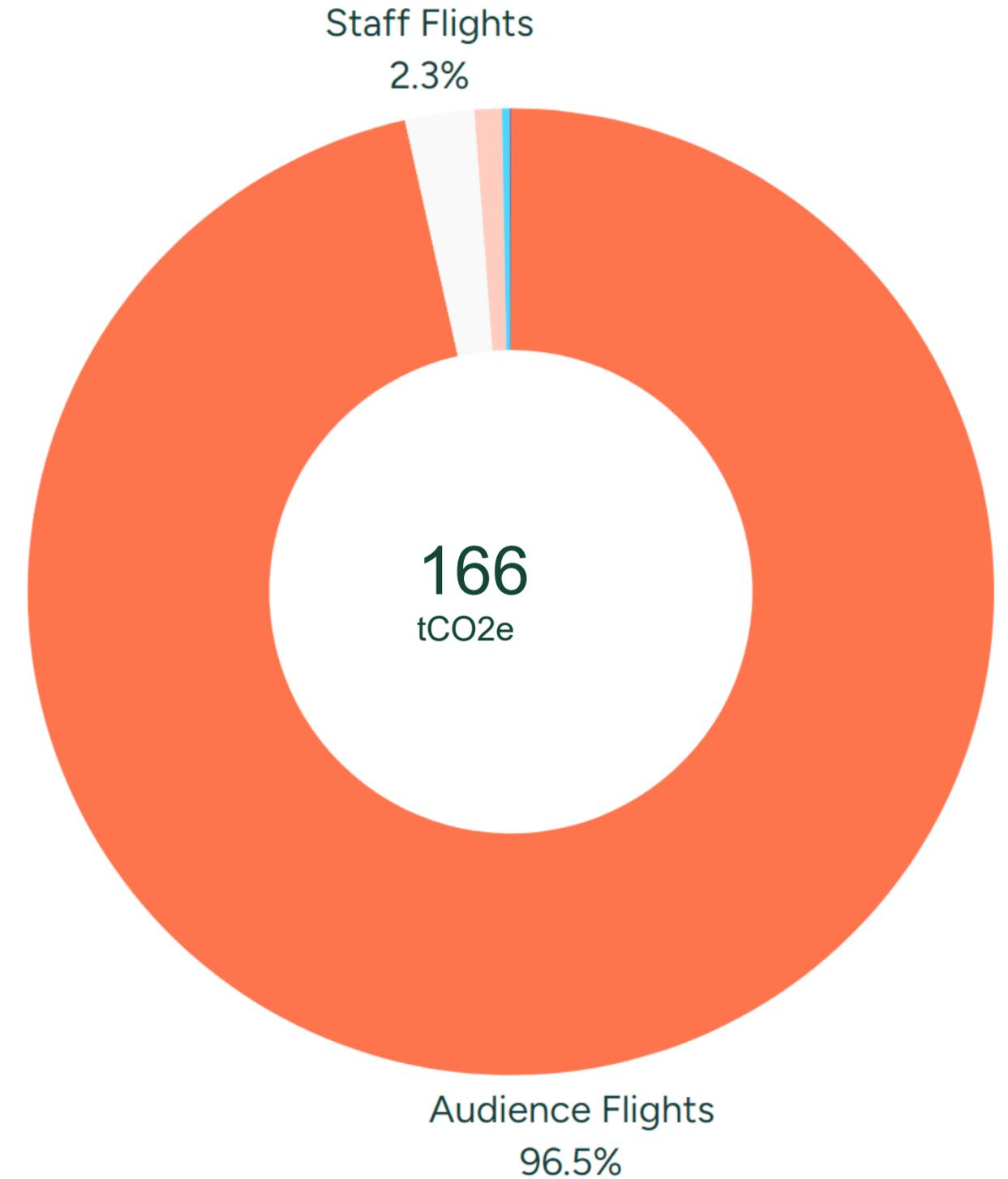
ITT Conference

Travel Emissions

Of the 166 tCO2e in travel emissions to and from the event, 160.2 tCO2e were flights, from the 95% (237 PAX) of attendees flying from the UK to Sardinia. In addition, staff and crew flights from the UK and Barcelona contributed a further 3.84 tCO2e.

Destinations where lower carbon forms of travel are possible, such as the Eurostar to France, or ferries to other parts of mainland Europe would substantially reduce emissions if an alternative venue to the UK is required.

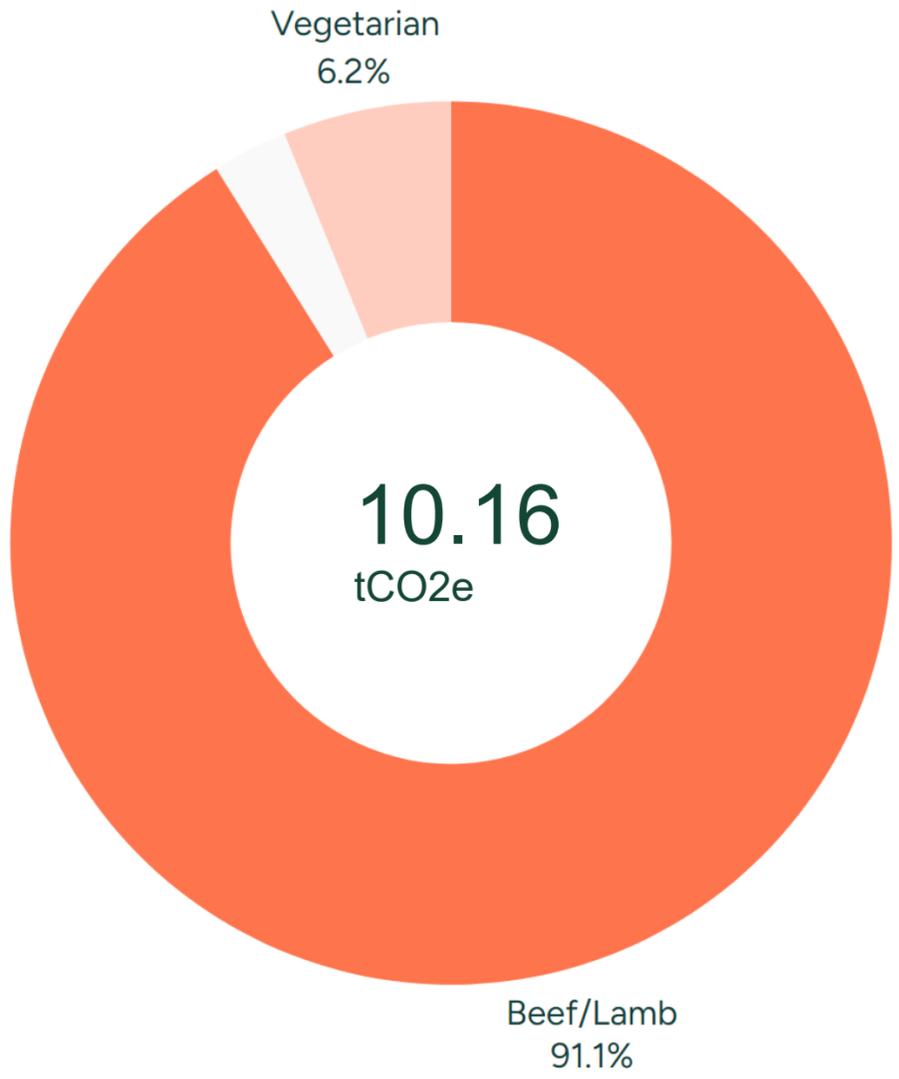|		
Audience Flights	160	tCO2e
Staff Flights	3.8	tCO2e
Audience Travel - motor vehicles	1.5	tCO2e
Audience Travel - public & non-emitting transport	0.4	tCO2e
Staff Travel - motor vehicles	0.1	tCO2e

Staff Flights
2.3%

166
tCO2e

Audience Flights
96.5%

ITT Conference

Food and Beverage

Food Type	tCO2e	Portions	Emissions per 100g (kgCO2e)
Beef/Lamb	8.57	850	2.18
Other Meat, Fish and Seafood	0.26	180	0.48
Vegetarian	0.58	670	0.32
Plant based/Vegan	0.00	0	0.11

Drink Type	tCO2e	Bottles	Emissions per 100g (kgCO2e)
Wine	0.745	525	1.42

Emissions from food and beverages totaled 10.16 tCO2e, with total food emissions at 9.41 tCO2e and beverages at 0.745 tCO2e. Emissions were saved through reusable tableware and not providing bottled water. However, a higher proportion of vegetarian, vegan and lower emissions meat options will be an effective way to reduce emissions from food in coming years. Selection of wines and other beverages produced locally will continue to keep emissions lower in this category as well, as freight of beverages from other continents significantly raises emissions.

ITT Conference - Energy, Water, Waste and Materials

Legend: Energy · Waste · Event Materials · Water Supply & Treatment

Event Materials 8.3%
Waste 19.4%
Energy 66.7%

3.55 tCO2e
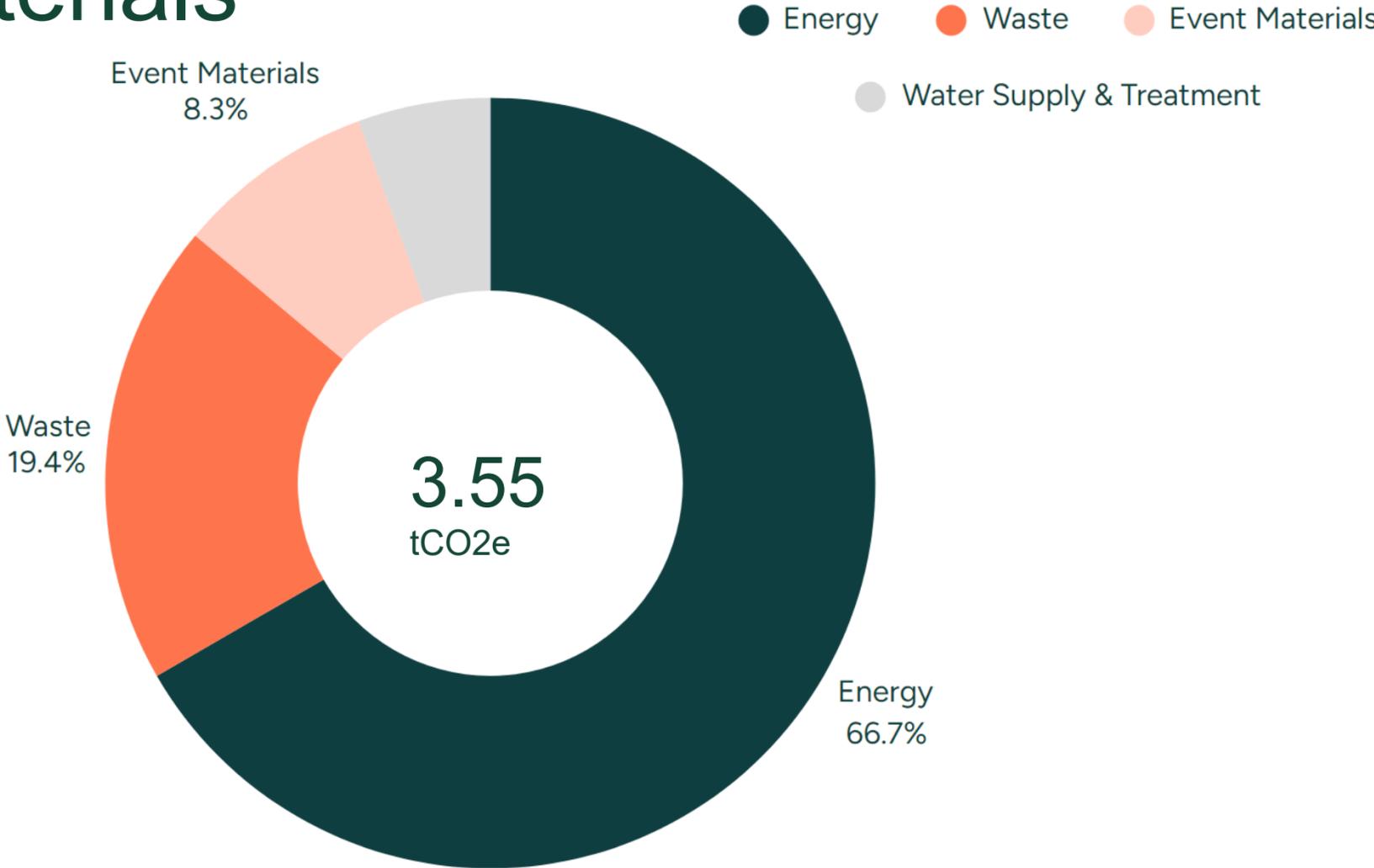
Energy	2.4	tCO2e
Waste	0.7	tCO2e
Event Production Materials	0.3	tCO2e
Water Supply and Treatment	0.2	tCO2e

Deep diving into the smaller emissions sources, energy supply is the largest emissions category, which has been reduced by 75% due to the venue's green tariff. Data on waste disposal was not available, so a general waste disposal method was assumed. Data for water consumption was provided by the hotel (445,706 litres), or 594 litres per person per day. While this is an estimate, this is a huge volume of water in comparison to the average household consumption of 100-150 litres per person per day, particularly in water scarce Sardinia.

Emissions Intensities

ITT Conference 2025 Sardinia, Small Events & ITT Operations

TerraVerde

Emissions Intensity Metrics

Conference, Small Events & Operations

ITT Conference

Emissions per attendee (250)

718

kgCO2e, all event emissions inc. travel

ITT Conference

per day (3)

59.8

tCO2e all event emissions

ITT Conference

Water Consumption per person (250) per day (3)

594

Litres water per person per day

ITT Conference

Emissions per attendee (250)

55

kgCO2e event emissions excl. travel

Small Events

Emissions per Attendee

10.8

kgCO2e all event emissions

ITT Conference

Water Consumption per day (3)

148,569

Litres water per day whole event

ITT Conference

Emissionsper day (3)

4.57

kgCO2e event emissions excl. travel

Small Events

Emissions per Event

738

kgCO2e small events only

ITT Conference

Total Water Consumption per attendee (250)

1,783

Litres water per attendee total

Decarbonisation Module

Decarbonisation Module - Travel

Mode	2024/5	% Reductions	2030
Air	166	28%	119.6
Ground Transport	3.79	77%	0.9
Public Transport	2.4	24%	1.8

Aviation

Of all travel emissions, air travel is by far the highest source of emissions. While domestic air travel emissions are relatively easily reduced through the use of ground transport. Non-domestic air travel is a real challenge to reduce, and solutions rely on a combination of approaches;

• Physical reduction of mileage through selection of venues that do not require air travel.

• Emissions vary dependent on plane efficiency. Use of carrier specific data, which is available through platforms such as Skyscanner, is a powerful tool to support informed decision making.

• Technical advancements in plane efficiency are not within the control of ITT. However, reductions assumptions can be modelled based on efficiency projections.

• SAF -C Book and Claim – SAF (Sustainable Aviation Fuel) book and claim mechanism, is an insetting approach, which has been validated by SBTi to reduce aviation emissions. This process is achieved through the decoupling of physical fuel and its environmental attributes, allowing organisations to procure SAF-C. This approach, while expensive, can support % reductions, even if cost is preventative to reduce total aviation footprints.

Ground transport

While a smaller emissions source, travel by private car and coach is still a substantial footprint. Like aviation, decarbonization can be supported by a number of options;

• Selection of venues that are convenient by public transport, and provision of information to attendees to ensure maximum use of public transport.

• Sourcing of EV (electric vehicle) transfer coaches or if not available use of HVO (bio-fuels) which can reduce emissions by around 70%

• Use of trains. For the same distance, emissions from train travel are 79% lower than an average car. This shows the power of opting for lower emissions transport where possible.

Decarbonisation Module - Food

Emissions from our food systems contribute an estimated 25 – 30% of global emissions per year. As such, reducing these are a critical element of decarbonization and controlling climate change.

There are a number of approaches, that need to be combined to tackle emissions in this category

- Menu Selection is an element that can have a huge impact on emissions and is well within control of ITT. Below is a table on potential emissions reductions through meal swaps.

Meal Swap	% reduction
Beef & Lamb > Other meats/fish	78%
Beef & Lamb > Vegetarian	85%
Beef & Lamb > Vegan	95%
Other meats/fish > Vegetarian	33%
Other meat/fish > Vegan	77%
Vegetarian > Vegan	66%

- Local and seasonal options. Reducing food miles, particularly from air freighted food.

- Organic options. Not only is organic healthier for us, it has a significantly lower impact on biodiversity, along with reductions in fossil fuels through production of synthetic fertilisers etc.

- Food waste. Reducing the physical quantity of food, a particular issue in buffets and large multicourse meals not only reduces the consumption as well as food waste. Methane is a GHG with a global warming potential 28 times higher than CO_2, food waste direct to landfill is a huge culprit of methane emissions. Selecting venues who send foodwaste to compost/AD and are supportive of sustainability goals in meals is an achievable action point.

Decarbonisation Module - Waste, Water & Buildings

Waste - Small Events Series & ITT Conference – Single use plastic use by the hotel was widely used, such as single use sachets and pots at mealtimes, an avoidable source of plastics as shown by many other players in the sector. Future steps are to select a venue with a zero/low waste policy, good recycling practices, and that can provide more data on waste types and disposal. This improved data will support procurement decisions. Food waste diverted from landfill can **save up to 80% of emissions**.

Waste from Production Materials - Event production materials were relatively low, however digital should be prioritised wherever possible. Where physical materials are essential, select recycled materials, design to be reusable and ensure they are recycled to reduce both emissions and microplastic waste.

Waste Source	Business as Usual Scenario	Savings
Food Waste	1 tonne sent to landfill - 700.3 kg CO2e	1 tonne composted - 8.98 kg CO2e
Plastic Waste	1 tonne sent to landfill – 8.98 kg CO2e	1 tonne recycled - 4.68 kg CO2e
Plastic Production	1 tonne primary material - 3,172 kg CO2e /	1 tonne recycled material 1,575 kg CO2e

Buildings -Venues, Accommodation & Homeworking - Emissions from buildings are largely driven by energy, fuel and refrigerant (for A/C) consumption.
An incredibly accessible option for reduction of emissions from energy is switching to a renewable energy tariff. In 2026, the IEA is predicting that the supply of energy from renewables will be greater than that of coal. So, while there is a gradual decarbonization of grid energy. Specific green tariffs are still the best option. Beyond tariffs, physical installation of panels provides additional reductions (and is often beneficial to companies through costs savings, and energy independence). Venue selection on the basis of green energy is very important, as is influencing stakeholders.

Water - As previously mentioned, the hotel provided an estimated consumption of 445,706 litres for the whole event, or 594 litres per person per day, which is a huge colume. Water scarcity is a major issue for many Mediterranean countries, and particularly islands such as Sardinia. Selecting venues with implemented water savings measures should be high priorities for responsible travel and events.

Appendix

Appendix A. Diagram overview of GHG Protocol scopes and emissions across the value chain
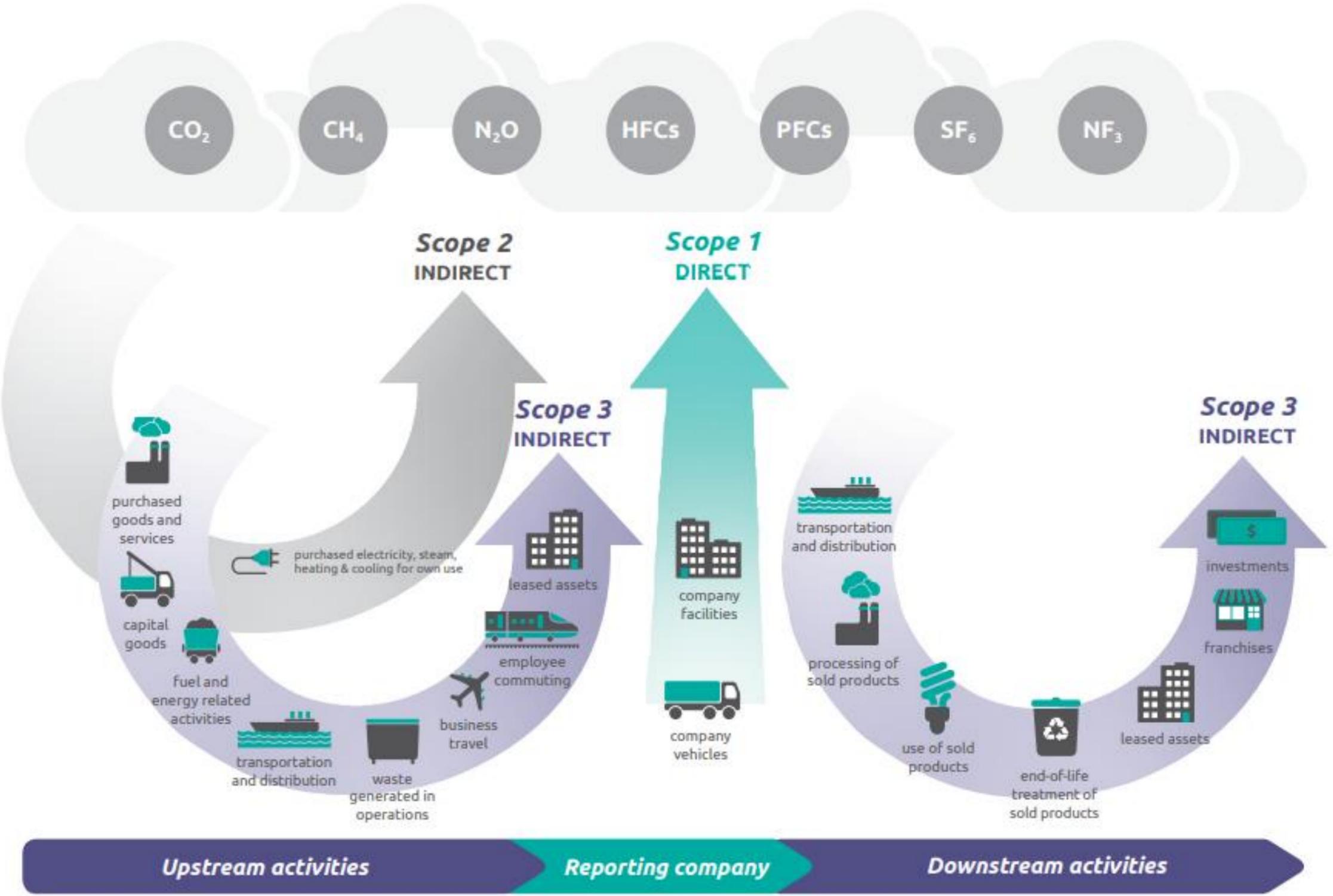
Source: Scope 3 Standard, Greenhouse Gas Protocol

"Sustainable tourism should not be considered a special form of tourism, rather all forms of tourism should strive to become more sustainable."

OECD (Organisation for Economic Co-operation & Development)

TerraVerde work with: Events Professionals, Tour Operators, Hotels, OTAs, Transport Companies, Travel Management Companies (TMC), Venues & Visitor Attractions, Convention Bureaus, Destination Marketing Organisations (DMO), Destination Management Companies and Cruises

TerraVerde are members of: GSTC & Sustainability Partners of the European Tourism Association & TTG Media

Build an industry leading strategy with TerraVerde Sustainability Ltd.

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hello@terraverde-solutions.com

Toucan: Native to rainforests in the Americas, many species face threats from deforestation for agriculture, hunting, habitat loss, and the illegal pet trade.