

NET  
ZERO CARBON  
EVENTS



# Smart Production and Waste Management Guidance

December 2023

# Contents

<b>Introduction</b>	<b>03</b>
<b>A word from the workstream leads</b>	<b>04</b>
<b>Part 1: Smart Production</b>	<b>06</b>
<b>Part 2: Waste Management</b> Key principles and best practices	<b>16</b>
<b>Part 3: Waste Management</b> Relevant terms to familiarise yourself with	<b>27</b>
<b>Part 4: The Materials Library</b>	<b>32</b>

# Introduction

After [the NZCE Pledge](#) and [the NZCE Roadmap](#) were created and published in Phase 1 and 2 respectively, Phase 3 has been focused on the creation of practical guidance documents for the decarbonisation of the meetings and events industry.

Five workstreams were created to discuss and ultimately provide guidance on the decarbonisation of the specific action areas defined in the NZCE Roadmap:



Venue energy



Food and food waste



Logistics



Smart production and waste management



Travel and accommodation

In addition, three transversal workstreams were created to support the initiative and provide guidance on the issues that touch on all action areas:

Measurement



Carbon Offsetting



Reporting



This document provides the first version of the guidance document for the Action Area “Smart Production and Waste Management”. To read the documents that the other workstreams have produced, please visit [the NZCE initiative’s resources page](#).

# A word from the workstream leads

The Smart Production and Waste Management workstream has been divided into three subgroups to provide the best guidance possible for the events industry. While some aspects of event-level measurement remain complex, especially in relation to production and materials, we feel it is extremely important to get everybody started with their decarbonisation journey under the principle:

**START NOW, START SIMPLE.**

Go to the next slide for more info

# A word from the workstream leads

Accordingly, we prepared an overview of best practices for the events industry. These best practice overviews have been prepared by two of our subgroups because of the different topics covered:

**Best Practices for Smart Production** and **Best Practices for Waste Management**. In addition to providing context for each of them, we compiled a list of bullet points outlining best practice ideas to start a first thought process in your event organisations. A future version of this document will provide an update of these ideas including more detail on each to make them more actionable while retaining an easy-to-understand approach.

The third subgroup of our workstream has compiled a **Materials Library**. This library provides an overview of different materials that are used within the events industry and their respective emission factor sources. A draft version of this materials library will be released at the same time as this document. It is in an ongoing piece of work and accordingly, some aspects will be added and updated in future phases of the NZCE initiative, such

as information on reuse (which is critically important as many materials are not reused in the events industry as they would be in other industries), on individual emission factors, and on volume to weight conversions. We are planning to launch a call for data to add more materials to this list and strengthen the applicability of our reusability data and emission factors for the whole events industry.

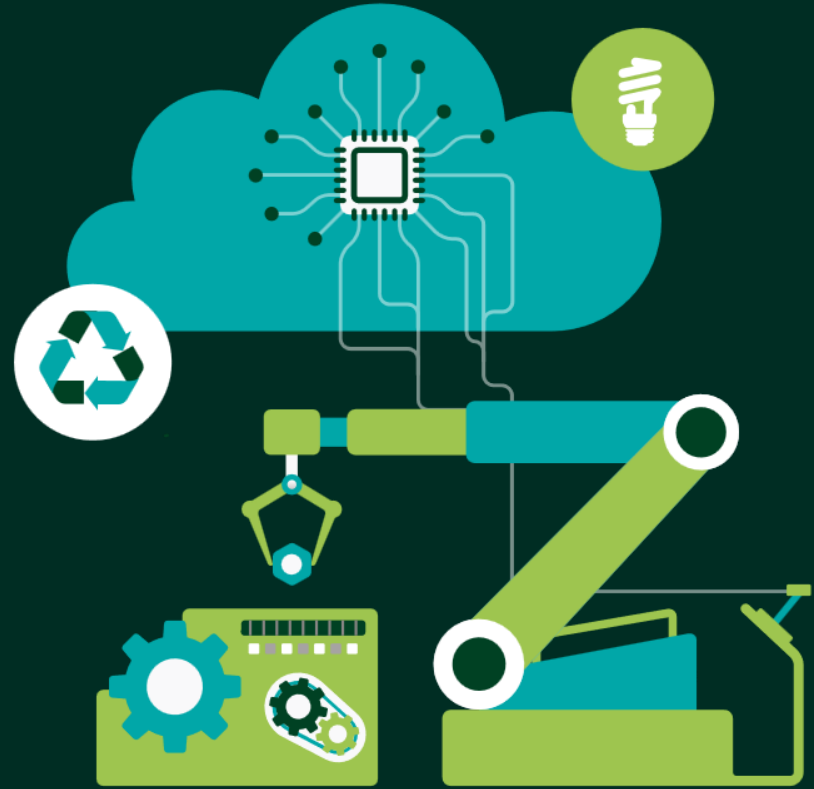
Our aim was to make the library detailed enough to add value for more advanced organisations but also not too detailed so that non-specialists can use it easily as well. In addition to providing support for measurement, we hope that this list will enthuse producers to rethink their current product offerings and start to innovate to reduce emissions and enable higher amounts of reuse.

**Happy Reading,**

**IFES – International Federation of Exhibitions & Event Services**

**Edwin Van der Vennet, beMatrix & Jörg Zeissig, Holtmann+**

# Part 1: Smart Production



# Best practices

**In March of 2023, we started compiling a best practices and key challenges list.**

These lists provided the basis for this guidance document.

We want to thank the following workstream members who contributed to the lists:

**Andrew Lane**  
Harrogate Convention Centre

**Gabriel Garrido**  
Smart Room BCN

**Helen Sheppard**  
RX

**Isabel Heard**  
The Javits Center

**Lauren Bergloff**  
Freeman

**Lucille Ryan**  
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**Michael Guillory**  
The Expo Group

**Nico Fontana**  
Montecolino

**Nil Sönmez**  
Easyfairs

**Pauline Tezsedre**  
Galís

**Pierre Darrason**  
Viparis

**Sarah Chew**  
IFES/ Kingsmen

The following pages will present the best practices recommended for the events industry as well as an example of how these best practices will further be developed into practical examples in the next iterations of this document. Logically, there will be some overlap between smart production and waste management best practices as the way things are produced or sourced often has significant implications for how it is later disposed of (or not).

# Category establishment

The best practices identified were sorted into the following categories with their respective subtopics:



## COMMUNICATION

Communicate  
Discourage /  
Encourage  
Promote  
Campaign making  
Speak



## REDUCE REUSE RECYCLE REFUSE

Avoid, eliminate  
substitute, change  
Replace, repair  
Upcycle  
Store, keep, stock  
Longevity, life cycle  
Challenge, defy,  
question



## RESEARCH

Ask  
Contrast  
Collect data  
Evaluate  
Read



## DESIGN AND MATERIAL SELECTION

Efficiency  
Research  
Re-imagine  
Longevity, life cycle  
Eco-friendly



## LOGISTICS

Redistribute  
Redimension  
Reduce



## MONITORING

Regulate  
Report  
Schedule  
Manage



## DIGITAL WORLD

Digitalise



# Category prioritisation

Then, the categories were ranked in order of importance through a workstream internal survey.

Workstream members were asked to rank the following categories from one to seven, one being the most important to them and seven the least

Ranking	1	2	3	4	5	6	7	Total points	Final hierarchy	Rank	Translation into value
Communication	1	2	2	1	1	0	0	36	3	1	7
Reduce, Reuse, Recycle, Refuse	5	1	0	1	0	0	0	45	1	2	6
Research	1	0	1	1	2	1	1	25	4	3	5
Design and material selection	0	4	3	0	0	0	0	39	2	4	4
Logistics	0	0	1	2	1	1	2	20	5	5	3
Digital world	0	0	0	0	1	3	3	12	7	6	2
Monitoring	0	0	0	2	2	2	1	19	6	7	1

## Final hierarchy

- 1 **Reduce, Reuse, Recycle, Refuse**
- 2 **Design and material selection**
- 3 **Communication**
- 4 Research
- 5 *Logistics*
- 6 *Monitoring*
- 7 Digital world

*Other workstreams (not smart production)*

Max number of votes per rank:

7

# Best practices

1



## REDUCE - REUSE - RECYCLE - REFUSE

Recycle, reuse and reduce at every opportunity to minimise wastage

Discourage prospects from requesting multiple design proposals from each tenderer for every tender called. Every design not used is waste of design resources and energy.

Ban certain materials (e.g., hazardous materials, materials that cannot be diverted from landfill, virgin materials)

Eliminate printed materials or reuse them multiple times

Design signage to be reusable or recyclable

Choose a carpet free event or switch to fully reusable or recyclable carpet solutions

Use (and encourage the use of) rental items, such as furniture or dishware, where possible

Find more sustainable solutions for lanyards and badges and collect them at exit to reuse them at your next events

# Best practices

2



## DESIGN AND MATERIAL SELECTION

Wherever possible, use (or propose the use of) more sustainable materials

Design out waste, for example by designing to reassemble or reuse

Switch from heavy to light materials in design wherever possible

Incorporate the use of modular booth systems wherever possible

Use water-based latex prints instead of UV prints

Adopt a less is more mentality

Review the design phase for efficiency (Avoiding production mistakes reduces the amount of waste)

Opt for quality production methods to ensure longevity (specifically, if material is aimed to be reused for future shows)

## DESIGN AND MATERIAL SELECTION

### WOOD

- Use certified wood (FSC or PEFC), or other sustainably managed forest resources.
- Aim for at least 50% of recycled wood material as well as wood-based products with 50% reduced emissions of formaldehyde

### CARPET

- Choose carpet made from recycled and recyclable material and ensure recycling after use where reuse is not possible.
- Reduce offcut waste resulting from the show-floor design, size of the gangways, and the laying technique.
- Install carpets without the use of glue and double face glue neoprene.

### PAINT

- Use acrylic paint derived from plant-derived pigments (not petrol).
- Review possibility of using paint that captures and stores carbon dioxide from the air or is made from recycled industrial waste

### SIGNAGE

- Use digital signage and direct-to-substrate printers where possible
- Switch to cardboard or paper-based signage which is readily recyclable. At minimum, switch to non-PVC plastic signage that can be recycled
- Use print carriers that are recycled and fully recyclable after use
- Use eco-friendly materials for substrates (e.g., graphics)
- Use environmentally friendly inks like water-based products and avoid polluting products like solvents

# Best practices

3



## COMMUNICATIONS

Educate exhibitors and encourage them to make better choices as indicated in the previous sections

Communicate with customers to consider sustainable options and their benefits and highlight the problems of less sustainable options, such as disposable stands

Provide an overview of difference in emissions wherever possible. Use the measurement methodology published by NZCE or calculators aligned with it to determine emissions

Reward exhibitors who use reusable or otherwise sustainable stands through communication measures/ awards

Train event teams to systematically apply the golden rule "Recycle, reuse, and reduce" to minimise waste and guide attendees to do the same

# Best practices

5



## DIGITAL WORLD

Use digital show guides (e.g., through apps) and floor plans to eliminate printed material

Avoid printed marketing and favour electronic communications as much as possible

Digitalise processes (e.g., online booking, e-invoicing, e-registration)

Encourage visitors to bring tickets in digital format

# Best practices

(example)

1



**REDUCE  
REUSE  
RECYCLE  
REFUSE**

As mentioned above, we will increase the guidance around each best practice example in future iterations of this document. Below, you can find an example of our best practice:

Recycle, reuse, and reduce at every opportunity to minimise wastage.

CHALLENGE	ACTIONS / SOLUTIONS / ALTERNATIVES	RESULT
Offering coffee in a booth during the event generates aluminium or plastic capsule waste.	<ul style="list-style-type: none"><li>• Offer a coffee machine that grinds bean coffee</li><li>• Offer a machine using a coffee filter</li><li>• Offer compostable coffee capsules</li></ul>	<ul style="list-style-type: none"><li>• Reduction in aluminium and plastic waste</li></ul>
Aluminium and plastic capsule-waste is put into the 'general waste'.	<ul style="list-style-type: none"><li>• Supply a specific container for capsule waste in the booth</li><li>• Make sure that the event organisers properly manage the waste at the end of the event</li></ul>	<ul style="list-style-type: none"><li>• Reduction of the volume of landfilled waste</li></ul>

# Part 2: Waste Management

Key principles  
and best practices





# Key Principles

In addition to consolidating the waste related items from the best practices and key challenges lists highlighted before, the waste management group has also created an overview of the key principles that should be considered regarding waste management at events.

These are:

①

You can only manage what you can measure

②

Understand the waste journey

③

The waste hierarchy

④

Target setting

⑤

Action plan

⑥

Compliance and duty of care

The following pages provide more detail on each of these key principles

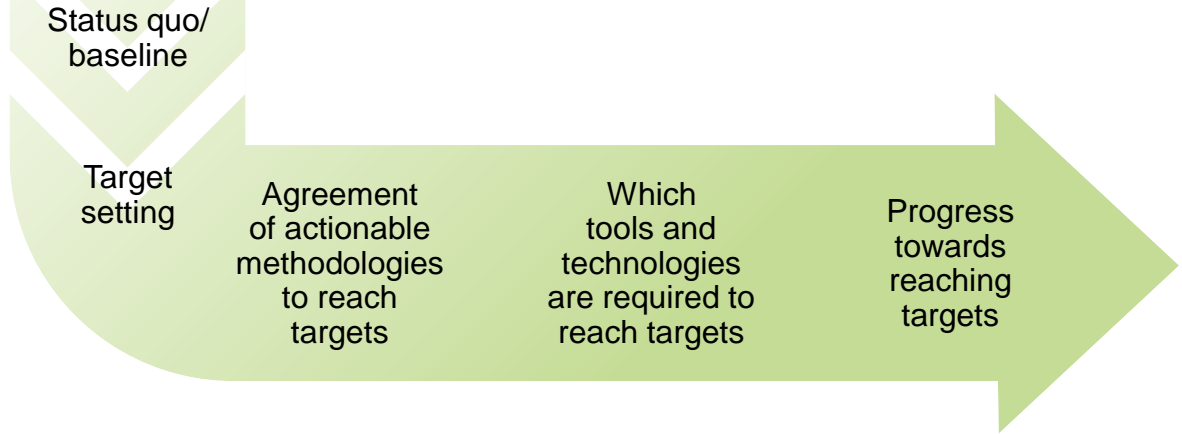
# Key Principles



You can  
**only manage  
what you  
can measure**

## Identify waste streams that are being generated.

Accurate categorising and measurement of waste allows better understanding of:



**Accurate measurement** also allows organisations to remain prepared for changing legislation and to be able to assess the usefulness of technological innovations.

# Key Principles

In order to identify relevant issues and come up with appropriate solutions, the waste journey needs to be mapped out according to:

All internal waste movements at the event and venue

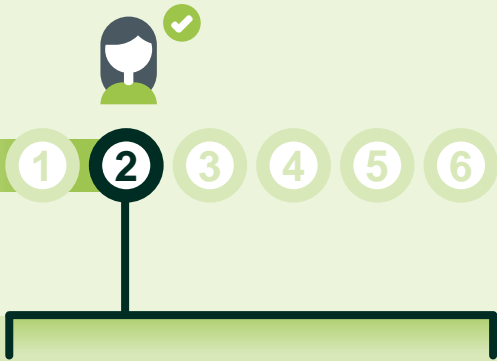
All external waste movements



This should best be separated out by show/hall/ event/ tenant

Especially, where and how waste is transported from the event/venue and how it is treated and ultimately disposed of

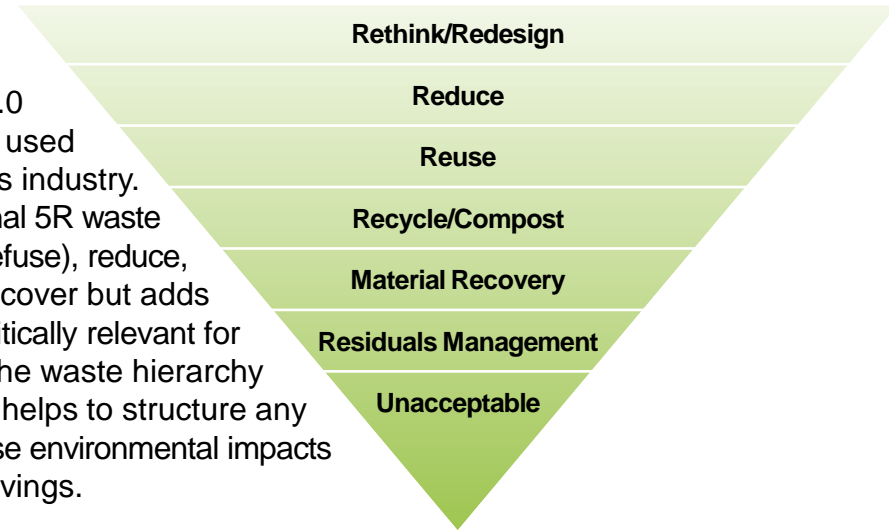
**Understand  
the Waste  
Journey**



# Key Principles

**Once waste is measured and the journey is understood sustainable solutions for each waste stream should be identified as per an agreed waste hierarchy.**

On the right, we are highlighting the waste hierarchy 8.0 that is currently being used by actors in the events industry. It is based on the original 5R waste hierarchy of prevent (refuse), reduce, reuse, recycle, and recover but adds more context that is critically relevant for the events industry. The waste hierarchy is a valuable tool that helps to structure any waste strategy, minimise environmental impacts and maximise cost savings.



## The Waste Hierarchy



# Key Principles



## Target Setting

Now that you are measuring your waste along its journey that you have mapped out, identified opportunities to move up in the waste hierarchy, you can start setting targets to ensure that you make sufficient progress in your waste management. These targets should naturally align to your organisation's sustainability goals, for example for emission reductions. Your baseline can be created based on the measurements you've already made.

**Target Metrics must be SMART and can be connected to recycling rates, recovery rates, diversion from landfill, volume of waste reduction, cost per tonne, etc.**

# Key Principles

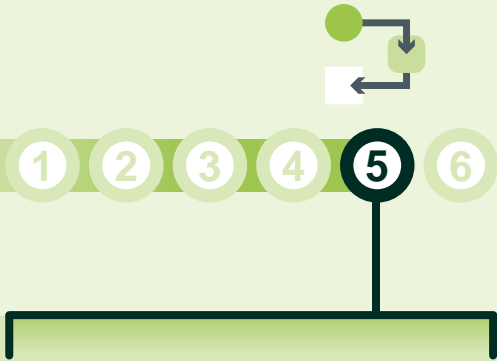
To make sure that targets are reached, an action plan must be implemented.

The action plan should firmly **embed waste management into event management** to ensure it is anchored firmly in all processes. It should also outline **how each stakeholder group (venues, organisers, delegates, exhibitors, event attendees, supply chain entities, etc.) should be engaged.**

Additionally, it should outline the waste journey identified in a previous step and with it provide an overview of **identified waste types, how they should be separated** to ensure non-contamination, and **how they should be disposed of** and treated on and offsite.

**Measurement processes** should be outlined in this action plan as well and **resource allocation for all waste management processes** should be defined (for budget, staff, and time). Finally, the action plan should provide an overview of relevant **technological solutions** that will be used to close any gaps in the action plan.

## Action Plan



# Key Principles



1

2

3

4

5

6

## Compliance & Duty of Care

Each event/venue is required to manage waste within a legislative framework. Waste legislation is complex and expertise is required to understand and implement it. The consequences of a compliance breach are significant from both a financial and reputational perspective.

**Reducing waste as soon as possible along the lines of the waste hierarchy can reduce the need for compliance related work. Documentation on waste movements is required in most countries, so measuring your waste and understanding the waste journey as per key principle #1 and #2 can support compliance.**

Additionally, in most countries, specifically in Europe, the duty of care with regards to waste sits with the producer of the waste. Unless officially transferred, this is usually determined by where the waste is produced rather than who produces it i.e., a venue rather than an organiser.

# Best practices

Just like the smart production group, we have ordered the best practices into categories:



**ONSITE WASTE  
MANAGEMENT**



**OFFSITE WASTE  
MANAGEMENT**



**SOLUTIONS,  
INNOVATION,  
TECHNOLOGY**



**COMPLIANCE &  
DUTY OF CARE**



**PERFORMANCE  
MEASUREMENT,  
DATA & REPORTING**



**STAKEHOLDER  
ENGAGEMENT**

As highlighted in the smart production section, there are inherent overlaps between production and waste.

We are trying to reduce redundancy and accordingly most of the waste hierarchy related items that were already mentioned in the previous section, are not included in this section.

We will be continuing to collect best practice examples falling into these categories and present them in future iterations of this document.



# Best practices



## ONSITE WASTE MANAGEMENT

- Adopt a less is more mentality
- Recycle, reuse and reduce at every opportunity to minimise wastage
- Implement onsite waste separation and sorting centres and ensure non contamination of waste streams
- Introduce easy to understand signage for front of house waste separation and ensure staff availability for support of attendees in properly sorting different waste streams
- Implement a leftover item and food donation program
- Reduce physical promotional materials and if necessary, make sure they are useful to attendees for a long time and made from sustainable materials



## OFFSITE WASTE MANAGEMENT

- Create partnerships with local recycling companies
- Create partnerships with local associations for material and food donation
- Create partnerships with local farms for food waste

# Best practices



## PERFORMANCE MEASUREMENT, DATA & REPORTING

- Implement a waste measurement and reporting system.
- Identify inefficiencies and opportunities for cost savings and lessened environmental impact

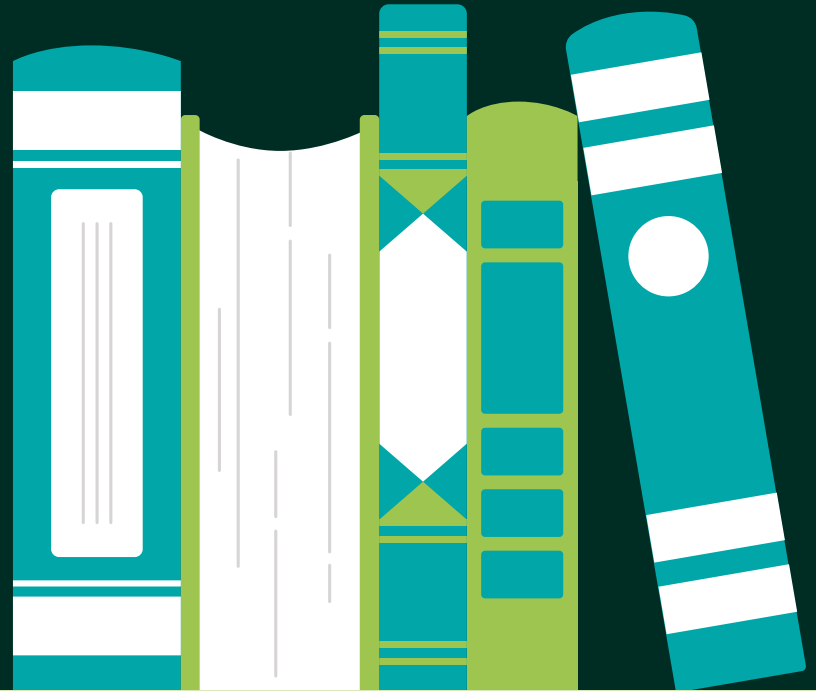


## STAKEHOLDER ENGAGEMENT

- Collaborate with all stakeholders to ensure that best practices are followed by everyone involved in waste management processes
- Ensure strong, clear, and frequent exhibitor and attendee communications about venue-specific waste streams
- Encourage exhibitors to rent booth furniture
- Include clauses in RFPs for sustainability considerations (e.g., plastic free containers and an expected solution for leftover food redistribution for caterers)

# Part 3: Waste Management

Relevant terms  
to familiarise  
yourself with



# Relevant terms to familiarise yourself with

The following slides provide an overview of waste management related terms. This list aims to support your understanding of different terms that you might come across as you are progressing on your decarbonisation journey.

<b>Anaerobic Digestion:</b>	A natural biological process where microorganisms break down organic materials, such as food waste and agricultural residues, in the absence of oxygen. This process produces biogas and nutrient-rich by-products.
<b>Avoidance/Prevention:</b>	Strategies and actions taken to reduce the generation of waste or environmental impact by minimising the consumption of resources and goods.
<b>Bale:</b>	A compacted and bound package of recyclable materials, typically made of paper, cardboard, plastic, or metal, for easier transportation and storage.
<b>Biogas:</b>	A renewable energy source produced through the decomposition of organic matter in anaerobic conditions. It primarily consists of methane and carbon dioxide and can be used for heat and electricity generation.

<b>Carbon Measurement:</b>	The process of quantifying the amount of carbon dioxide and other greenhouse gases emitted or sequestered by an activity, process, or product.
<b>Circular Economy:</b>	An economic model focused on minimising waste and maximising resource efficiency by reusing, recycling, and repurposing products and materials.
<b>Compactor:</b>	A machine used to compress waste materials, reducing their volume and facilitating easier transportation and disposal.
<b>Dehydrator:</b>	Equipment designed to remove moisture from organic materials, often used to reduce the weight and volume of food waste.
<b>Digester:</b>	A synonym for an anaerobic digester, a system used for anaerobic digestion.

# Relevant terms to familiarise yourself with (cont.)

<b>Disposal:</b>	The final stage in the waste management process, where waste is permanently removed or treated, often through landfilling or incineration.
<b>Diversion:</b>	The process of redirecting waste away from landfills or incineration toward recycling, composting, or other environmentally friendly alternatives.
<b>DMR</b> Dry Mixed Recycling:	A waste stream that consists of mixed recyclable materials such as paper, cardboard, plastic, and metal containers, which are collected separately from general waste for recycling.
<b>Duty of Care:</b>	Legal responsibility for the proper handling, storage, transportation, and disposal of waste, ensuring it does not harm the environment or public health.
<b>Environmental Savings:</b>	The positive impact on the environment resulting from actions or practices that reduce waste, energy consumption, or emissions.

<b>General Waste:</b>	Non-recyclable waste materials that are typically sent to landfills or incinerated.
<b>Incineration:</b>	A waste treatment method that involves burning waste materials at high temperatures to reduce volume and generate energy, but can also produce pollutants.
<b>Landfill:</b>	A designated site for the disposal of solid waste, where waste is buried or compacted and covered with soil to reduce environmental impact.
<b>Macerator:</b>	A machine used to break down and shred organic waste, such as food scraps, into smaller particles, often used in wastewater treatment.
<b>MRF</b> Mixed Recycling Facility:	Mixed Recycling Facility: A facility where mixed recyclable materials are sorted, processed, and prepared for recycling.

# Relevant terms to familiarise yourself with (cont.)

<b>Organic Waste:</b>	Biodegradable waste materials, such as food scraps and yard waste, that can be composted or used for anaerobic digestion.
<b>Recovery:</b>	The process of retrieving valuable materials or energy from waste, often through recycling, composting, or energy generation.
<b>Recycling:</b>	The process of collecting, processing, and reusing materials from waste to create new products or reduce the need for virgin resources.
<b>Reuse:</b>	The practice of using items or products again, either for their original purpose or in a different context, to extend their lifespan and reduce waste.
<b>Service Provider:</b>	A company or organisation that offers waste management, recycling, or environmental services to businesses and households.
<b>Skip:</b>	A large open-topped container used for the collection and transportation of construction and demolition waste or other bulky materials.

<b>Volume of Waste:</b>	The amount of space occupied by waste materials, often measured in cubic meters or cubic feet.
<b>Waste Compliance:</b>	Adhering to laws and regulations related to the proper handling, storage, transportation, and disposal of waste materials.
<b>Waste Containment:</b>	Measures and structures put in place to prevent waste materials from leaking, spilling, or harming the environment.
<b>Waste Documentation:</b>	Records and paperwork associated with waste management activities, such as tracking the disposal of waste or verifying recycling efforts.
<b>Waste Hauler:</b>	A company or organisation responsible for collecting and transporting waste materials from their point of generation to treatment or disposal facilities.

# Relevant terms to familiarise yourself with (cont.)

<b>Waste Hierarchy:</b>	A prioritisation framework that ranks waste management options from most to least environmentally friendly, typically in the order of prevention, reuse, recycling, recovery, and disposal.
<b>Waste Legislation:</b>	Laws and regulations that govern waste management and disposal practices, ensuring public and environmental safety.
<b>Waste Movement:</b>	The transportation and transfer of waste materials from one location to another, often from collection points to treatment or disposal facilities.
<b>Waste Stream/Grade:</b>	A specific category or type of waste materials based on their characteristics or source, such as municipal solid waste or hazardous waste.
<b>Waste Treatment:</b>	Methods and processes employed to manage and reduce the environmental impact of waste materials, including recycling, composting, and incineration.

<b>Waste Treatment Technology:</b>	Technological solutions and processes used to treat waste, such as anaerobic digestion, incineration, and landfill gas collection.
<b>WEEE Waste:</b>	Waste Electrical and Electronic Equipment (WEEE), referring to discarded electronic devices and appliances.
<b>Weight of Waste:</b>	The mass of waste materials, often measured in kilograms or pounds.
<b>WtE Waste to Energy:</b>	The process of converting waste materials into energy, typically in the form of heat or electricity, through methods like incineration or anaerobic digestion.
<b>Zero Waste:</b>	A goal and philosophy that aims to minimise waste generation by promoting recycling, composting, and responsible consumption, with the ultimate aim of sending no waste to landfills or incinerators.

# Part 4: The Materials Library





# What have we done so far?

This workstream has created a Materials Library and has published a draft version of it in support of the NZCE Measurement Methodology 2023. It is intended to provide a starting point for users to calculate emissions associated with materials commonly used at events in areas such as stand production, signage, and

flooring along with appropriate carbon conversion factors (emission factors) for calculation.

You can find the first draft of the Materials Library below.



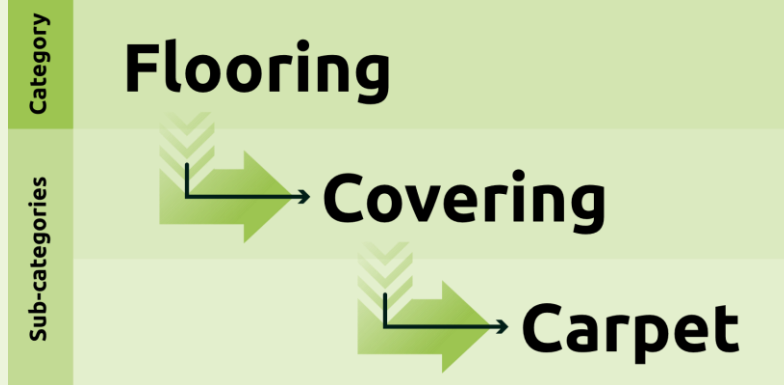
NZCE Production & Waste - Product Library		Please refer to the SP&WM guidance document (available on the resources page of the NZCE website) for more context on the Materials Library & intended use.		PENDING APPROVAL					
Category	Type	ID	Composition	Unit of measure for conversion	Emission Factor	Source	Year of issue	LCA Activity	GHG Protocol Recommended
		<i>Brief description of the materials, type, weight, density, etc</i>	<i>Please provide the items composition, e.g. 100% PVC</i>	<i>Please specify the correct unit of</i>		<i>Specifies the emission factors original source.</i>		<i>Information: This denotes the stages of the items lifecycle accounted for in</i>	<i>Information: This column refers to whether the Emission Factor provided comes from a Green House Gas Protocol</i>
1.) Flooring									
Sub Floor / Platform									
Platform/Sub Floor		ID	Composition	Unit of measure	Emission Factor	Source	Year of issue	LCA Activity	GHG Protocol Recommended
Platform/Sub Floor	Construction	Pre-Fab Floor Panel	Open Panel Timber Frame (Chipboard, wooden beam)	kg		ICE - DB V3.0	2019	Cradle to gate	Yes
Platform/Sub Floor	Construction	Chipboard	Timber, Chipboard (No carbon storage)	kg		ICE - DB V3.0	2019	Cradle to gate	Yes
Platform/Sub Floor	Construction	Wood Beam	Timber, wood-I-beam (No carbon storage)	kg		ICE - DB V3.0	2019	Cradle to gate	Yes
Epoxy Floor	Construction	Recycled plastic high re-use raised exhibition floor (tile) (22kg/sqm)	100% Recycled Polypropylene 50cm x 100cm	tonne		Defra	2023	Cradle to shell	Yes
Platform/Sub Floor	Construction	Adjustable frame (22kg/sqm) - For above component	Aluminium frame 100cm x 100cm	kg		ICE - DB V3.0	2019	Cradle to gate	Yes
Platform/Sub Floor	Construction	Elevated floor steel bar stands	Steel support bars	kg		ICE - DB V3.0	2019	Cradle to gate	Yes
Underlay		ID	Composition	Unit of measure	Emission Factor	Source	Year of issue	LCA Activity	GHG Protocol Recommended
Underlay	Floor	Carpet padding	Polyurethane Flexible Foam 10mm	kg		ICE - DB V3.0	2019	Cradle to gate	Yes
Underlay	Floor	Polythene Underlay	100% Virgin PU	tonne		Defra	2023	Cradle to shell	Yes
Underlay	Floor	Polythene Underlay	100% Closed Loop recycled PU	tonne		Defra	2023	Cradle to shell	Yes
Covering		ID	Composition	Unit of measure	Emission Factor	Source	Year of issue	LCA Activity	GHG Protocol Recommended
Carpet	Floor	Fully recyclable (closed loop) aisle type carpet +/- 300g/m2	100% Polypropylene	m2		Supplier provided	Not Specified	Cradle to grave	No
Carpet	Floor	Fully recyclable (closed loop), standard exhibition type carpet +/- 200g/m2	80% Polypropylene, 20% Polyester	m2		Supplier provided	Not Specified	Not specified	No
Carpet	Floor	Nylon (Polyamide), pile weight 300 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes
Carpet	Floor	Nylon (Polyamide), pile weight 500 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes
Carpet	Floor	Nylon (Polyamide), pile weight 700 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes
Carpet	Floor	Nylon (Polyamide), pile weight 900 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes
Carpet	Floor	Nylon (Polyamide), pile weight 1100 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes
Carpet	Floor	Nylon (Polyamide) carpet tiles, pile weight 300 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes
Carpet	Floor	Nylon (Polyamide) carpet tiles, pile weight 500 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes
Carpet	Floor	Nylon (Polyamide) carpet tiles, pile weight 700 g/m2	Nylon (Polyamide)	m2		ICE - DB V3.0	2019	Cradle to gate	Yes

DRAFT

# What have we done so far?

The Library has been compiled by industry stakeholders including organisers, suppliers, and general service contractors (GSC), to be as representative of the materials used as possible.

Each material has been categorised and sub categorised under its main area of use for ease of navigation, for example like in the figure below:



As it has not been possible to list all materials and their varying types and specifications, material compositions have been included to assist users in identifying an appropriate match. It is recommended that users find the closest match for the material(s) they wish to calculate emissions if a direct match cannot be found.

The DEFRA (UK): Greenhouse gas reporting: conversion factors 2023 and Circular Economy and University of Bath: Inventory of Carbon and Energy (ICE) Database Version 3.0 emission factor databases as specified in the measurement methodology represent the primary emission factor sources in this document. These cover the cradle to shelf and cradle to gate period (respectively) of the materials lifecycle and are appropriate for production calculations. Note these do not account for use or disposal. Approval for re-distribution of the individual emission factors is currently in progress, and we will look to publish them in the next version of the Materials Library. Users who wish to find the correlating emissions factors independently may do so by following the links provided in the Materials Library.

# What is planned for the next NZCE phase?

**The events industry is diverse and it is critical to continuously develop this Materials Library to make it as applicable as possible for stakeholders in different regions and with different event types.**

**Next versions of this Materials Library will include:**

- more detailed information on emission factors for each material
- supplier specific emission factors for innovative materials that might not be covered by large databases yet
- guidance on volume to weight conversions (as most emission factors are provided for data based on weight)
- a user manual with step-by-step guidance for measuring emissions related to materials with the Materials Library

It must be noted that the Materials Library in its current form has a European focus, sourcing primarily from two European-based databases and might, therefore, not be directly applicable to all regional contexts. We are looking to further expand the list throughout the next phase to make it as applicable to different regions as possible.

Accordingly, as part of the next phase, we will also be issuing a request for data. If your organisation's product or material has gone through an LCA assessment and you now have information on its emission factor, or you know of any emission factor data bases that might be relevant for specific global markets not currently covered by the sources used for our Materials Library, keep your eyes open for future communication from the NZCE initiative or already reach out to us at [info@netzerocarbonevents.org](mailto:info@netzerocarbonevents.org) to be contacted once we start this call for data.