

Practice to be assessed and included in the Guidelines

Number/code: OM/E4

Title: SEPARATE WASTE COLLECTION

Guidelines section:

<input type="checkbox"/>	Governance	<input checked="" type="checkbox"/>	Operational management		
		<input type="checkbox"/>	<i>Context of the event</i>	<input type="checkbox"/>	<i>Procurement</i>
		<input checked="" type="checkbox"/>	<i>Event</i>	<input type="checkbox"/>	<i>Mobility and logistics</i>
		<input type="checkbox"/>	<i>Stadium management</i>	<input type="checkbox"/>	

Description:

A system of separate waste collection has to be set up both in the common areas open to the public and in the technical areas reserved to staff and service providers.

The choice of the different waste fraction to collect separately should be taken considering:

- 1) The local waste management regular practices (which are the fractions that are normally collected separately in that Municipality) and the local waste facilities;
- 2) The type of waste that is normally produced in every specific area (e.g. food waste in restaurant and kiosks, toners in offices, special waste in the infirmary etc.).

Separate collection of waste containers should be placed accordingly.

Environmental benefits:

Ensure maximum waste recycling rate, prevent waste to landfill, exploit the event to educate spectators and raise awareness over waste management issues.

Examples:

- 1) EXPO Milano 2015 : During the six months of the event, an average of **70%** separate waste collection rate was maintained. Five different waste fractions were separated by both staff and visitors: paper, plastic and aluminium, glass, organic and unsorted waste. Additionally, special and hazardous waste produced by staff during regular work and maintenance operations were collected separately on request by the interested pavilion.

The amount of waste prevented and the amount of materials recovered were registered through the “CONAI environmental meter”: a system developed by the Italian packaging consortium for measuring how many resources can be recovered through an efficient separate waste collection system. According to **CONAI’s Environmental Meter**, selective waste collection and the transferral of resources for recycling allowed savings for 306 tonnes of CO₂, 4.7 million kWh of

electricity and over 50,517 m³ of water. The Meter was indeed created to quantify the avoided impact in comparison with unsorted waste landfilling, based on a model measuring the phases of collection, transportation, pre-treatment and recovery of waste. Based on LCA (Life Cycle Assessment) methodologies, it was implemented with data provided by AMSA and by the plants the different materials were sent to. Quantities of material collected and sent to recycle also allowed to obtain secondary products. Here are some examples for each material: 244,196 fleece sweaters from PET plastic; 2,552 benches from other mixed plastic; 59,022 wrenches from steel packaging; 2,855 moka pots from aluminium; 2,545 wardrobes from wooden boxes over 6 million shoe boxes from paper and cardboard packaging; almost 1,500,000 bottles from glass; 193 t compost from organic waste.

2) Russia 2018 World Cup :

There are two separate areas for waste processing :

- Front of house (FOH): spectator areas and general access areas where Competition spectators and guests are located;
- Back of house (BOH): service (technical) areas, where work is performed to prepare, manage and hold the Competitions.

To make the SWC easily understandable in spectator areas, a two-flow waste collection system shall be organised in the FOH for spectators:

RECYCLABLE - plastic bottles, glass bottles (only in Hospitality areas), film-based packaging, aluminium and tin cans, glass and broken glass, clean paper;

GENERAL WASTE - food and drink remnants, soiled paper wrapping and dirty napkins, hygiene-related items, teabags, other waste that is considered non-recyclable.

In particular, a two-flow SWC system was introduced in all the general access stadium areas, including, but not limited to, territories around stadiums, stadium entrances/exits, areas close to food and beverage selling points and merchandise concessions, hospitality areas, any other places with open access for spectators.

In the BOH areas, a multi-flow system for segregated waste collection was set up in service areas where the functional offices of the LOC, FIFA representatives, partners and service providers are located (a significant part of BOH areas is located in the overlay infrastructure), depending on the type of work producing the waste. The colour scheme for containers in technical areas is recommended but is not mandatory. Containers for collecting specific types of waste were labelled in English and Russian and intuitively understandable pictograms were used.

Results of the waste management of Russia 2018 are not available yet.

- ## 3) Heinz Field – Pittsburgh Football Stadium: the facility developed an intensive recycling plan involving placement of recycling containers at entrances, cardboard collection, and recycling behind vendor counters. In addition, each suite is equipped with a blue recycling bin located next to a trash can. Suite owners and participants are instructed to place all plastic cups, aluminium cans, plastic bottles and glass bottles into the recycling bin. After the game, cleaning crews remove the recyclables to a gondola and take them to a 30-yard recycling compactor at the loading dock. The City of Pittsburgh Recycling Division supported a consultant to work with facility management to secure funding for containers and implementation support. The Steelers and Heinz Field committed to be a full partner in the effort and provide airtime on the Jumbo-Tron as well

as a player to serve as a spokesperson. These efforts have contributed to Heinz Field recycling 6-7 tons of material per NFL game.

- 4) The Montréal Canadiens worked for more than half a year to increase their landfill diversion rate, starting with the installation of 945 new three-tier recycling and garbage bins around the building. The team also formed a Green Squad of nine staff members responsible for managing waste during events and tracking waste flow. In addition, a team of 10 people manually sort all disposed materials at the end of each event. With these measures in place, the Canadiens succeeded in achieving an average recycling and composting rate of 85 percent (approximately 1,000 tons annually, including more than 230 tons of compostable materials).
- 5) FIFA World Cup 2006: With separate collection in and directly around stadiums (within the external security ring) a distinction has generally to be made between areas accessible to spectators and the backstage area (caterers, retail outlets, offices). The collection of the four waste fractions glass, paper, (plastic) packaging material and residual refuse was planned in spectator areas. Waste-collection islands for the different fractions were placed at regular intervals and at central points. Security control took place at entrances to the external security ring. These guaranteed that no external waste got into the stadium and its immediate area. Waste glass was therefore found in spectator areas only at entry control points. In the backstage area, waste primarily comprised cardboard packaging material and large quantities of glass from catering in the hospitality area. Besides the four fractions, biowaste, in particular, had to be considered in the hospitality area. In the backstage area separate collection generally played a more important role since more recyclable material was found and employees were instructed on the quality of waste separation to be ensured. Special Green Goal symbols for separate collection were designed for the four important fractions glass, paper (paper, cardboard packaging materials), plastic (plastics and other packaging materials) and residual refuse. In addition, notice boards in the stadiums drew attention to the separate collection of waste and to deposits on beakers. Catering personnel in all stadiums were informed about waste avoidance and separation. Employees in spectator areas did this very graphically by wearing Green Goal T-shirts, which drew attention to the separate collection of waste.
- 6) FIFA World Cup 2010 in South Africa: The Stadium of Cape Town adopted a two-bin system in the stadium, viewing areas, and fan walk, with appropriate signage developed to promote waste separation. This system allowed for a 65% diversion of waste generated in the stadium away from landfills. Overall, the total waste generated from all venues where the two-bin system was implemented amounted to 616.89 tons, of which 358 tons were recyclable wastes. The total recycled waste amounted to 58%.

Economic benefits:

Prevention of waste disposal costs, possible profit from selling of some recovered materials.

Applicability and replicability potential

Separate waste collection system can be adopted in every stadium.

Source

[EXPO MILANO 2015 – The legacy of a mega-event in a circular economy perspective](#) (p. 68)

[EXPO MILANO 2015 - Waste Management Guide](#)

[FIFA WORLD CUP RUSSIA 2018 - Waste Management Concept](#) (pag. 16 – 18)

[Heinz Field – Pittsburgh Football Stadium](#) (p. 23)

[NRDC Report - Guide to Composting at Sports Venues](#) (p. 11)

[FIFA WORLD CUP GERMANY 2006 - Legacy Report](#) (pag. 54-55)

[French Ministry of Sport](#) (p. 11)