

BP London 2012 Fuelling the Future Pavilion

Proactive approach to waste minimisation



Background

BECK interiors acted as principal contractor on the Fuelling the Future pavilion, a temporary structure commissioned by BP for the London 2012 Olympics. The pavilion consisted of 300m² of interactive visitor space. The showcase was a double-height single storey building containing a cyclorama; a multimedia experience for the general. The showcase, a lightweight aluminium structure constructed from standard component parts from the rental market was clad with a mirrored Dibond material to give it a bespoke feel.

The showcase employed an innovative raised entrance solution to eliminate the need for excavations within the concourse and pad foundations. This solution ensured the showcase was accessible to all while reducing construction and reinstatement time and costs.

Client
KBW

Contractor
Beck Interiors

Architect
AND Architects

Engineer
Momentum

Year
2012

Outcomes

Waste Minimisation

BECK's strategy to minimise wastage on site consisted of:

- Maximising the use of standard size elements from the rental market.
- Using offsite manufacturing for the construction of new elements (e.g. wooden cyclorama)
- Reducing packaging. The vast majority of the structural elements of the pavilion were delivered in crates and stillages that were sent back to the respective suppliers which were then reused for dismantling.

As a result, BECK Interior achieved a very low wastage rate of 1.15t/100m². The Fuelling the Future pavilion's waste arisings were one of the lowest compared to other temporary pavilions build on the Olympics Park. [Fig 1].

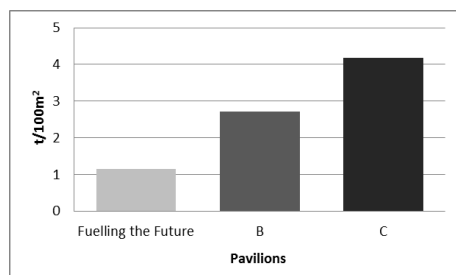


Figure 1 - Pavilions' wastage rate comparison

The use of standard components from the hire market and the elimination of a conventional foundation solution were key strategic factors in achieving a sustainable outcome. It is clear from CABE's appraisal of the structure that these key sustainability innovations did not compromise the aesthetic of the building.

During the deconstruction phase, BECK Interiors and their consultant KLH Sustainability actively liaised with various local charities to find a beneficial end use for a number of materials that could not be returned to the hire market or to the original supplier for closed-loop recycling. 83% of materials were returned for onward use in the hire market and an impressive 11% (by weight) of materials were donated to charity which saved approximately £400 in disposal costs.

Donations included:

- Approximately seven tonnes of FSC and PEFC certified timber from the cyclorama. The timber was donated to the UCKG Help Centre.
- Soft wood and MDF used for the internal walls of the showcase were re-used in the construction of a training and youth centre near Finsbury Park.



Outcomes continued...

- 150m2 of insulation used as fire protection during the Games was donated to the local HEET project. The HEET project is a non-for-profit organisation focusing on insulating low-income households in the London Borough of Waltham Forest.
- The polycarbonate dome used as a projection area during the Games was donated to a national charity operating locally, Groundworks. The dome was incorporated into Arc in the Park, a fully inclusive open access adventure play and sports facility, located in Newham.

In total 94% (by weight) of components was either returned to the hire market or reused by various charities [Fig 2]. The residual waste was recycled either by the suppliers of the product or through licensed waste carrier. A recycling rate of 95.6% was achieved for the residual 4.6 tonnes of waste materials, resulting in a mere 0.2 tonnes of waste going to landfill. KLH has developed a set of policies and guidance documents to support the delivery of sustainability objectives including:

Summary

The amount of materials donated to charity or reused would not have been possible if the structure had been demolished as opposed to carefully deconstructed. It is important to stress that deconstruction was made possible as the structure was designed to be easily dismantled in the required timeframe from the onset. It was not simply claimed “unboltable”, as an after-thought.

Enabling reuse generate multiple environmental, economic and social benefits. The embodied environmental impacts (including embodied carbon) associated with the life cycle of new materials are greatly reduced. The financial savings go beyond the lower disposal cost, it translates in cheaper construction and design costs compared to similar structures. Finally liaising with local groups contributes to strengthen relationships with the wider community.

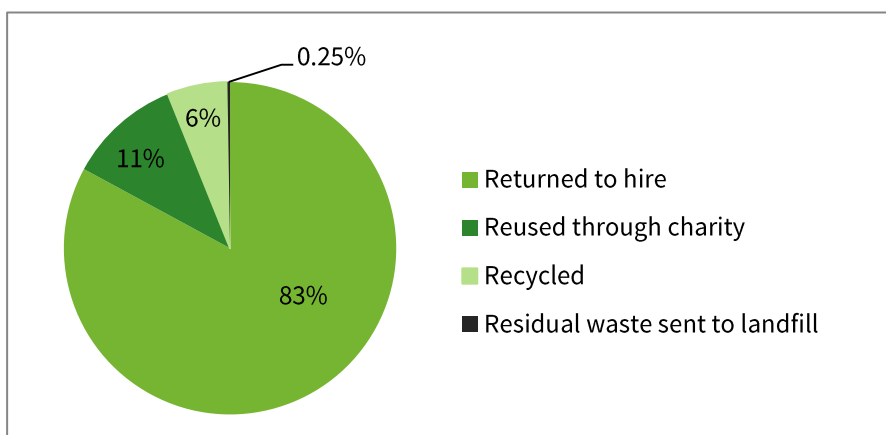


Figure 1 - Fuelling the Future Pavilion - Components end of life breakdown