

London Organising Committee of the  
Olympic Games and Paralympic Games Limited

February 2012



# *London 2012*

## *Zero Waste Games Vision*





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## Foreword



Dr Liz Goodwin  
Chief Executive, Waste and  
Resources Action Programme  
(WRAP)

As anticipation builds ahead of London 2012, I very much welcome the commitment to make these the world's first truly sustainable Olympic and Paralympic Games.

The London Organising Committee of the Olympic Games and Paralympic Games (LOCOG) has been working hard to embed sustainability into the management of all the Games-related projects and venues, information and knowledge, procurement and contracts. There is still, of course, further work required to ensure that the organisation meets its vision to use the power of the Games to inspire lasting change. This requires others, including the Waste and Resources Action Programme (WRAP), which has a commitment to supporting greater resource efficiency, to take up the baton after the lights have gone down on the Closing Ceremony of the Paralympic Games.

A number of standards have been applied to all the Games-related activities to help LOCOG ensure that it achieves its goals, and that sustainability can be measured. These standards provide a framework within which all the events can seek to meet climate change, waste, biodiversity, inclusion and healthy living targets.

The London 2012 Zero Waste to Landfill target is widely considered to be a flagship sustainability commitment and I'm pleased that WRAP is playing a part in helping to deliver this. We've worked with LOCOG to improve packaging recycling during the Games – a major source of waste for all events. We've also developed an online Event Resource Management Plan (RMP) tool, and I am especially proud that this has been awarded the Inspire mark.

LOCOG's view of valuing waste materials as resources, which are often in scarce supply, complements WRAP's own vision of moving to a world without waste. Developing ways to prevent waste arising in the first place, for example by reducing consumption, designing out waste at product inception, or applying new business models that focus on reuse or leasing, is, in my view, critical to longer-term success.

LOCOG's work to date shows some great examples of thinking creatively. However, where waste does arise, having the necessary arrangements in place to reuse, recycle and compost waste as much as possible requires early planning.

I'm pleased to say that WRAP is building on its work with LOCOG by working with others in the event sector to develop a roadmap for resource efficiency. This will take forward the learning developed from the Games and, through its Zero Waste Events Protocol, will set out the role that all types of organisations involved can play in the delivery of more sustainable events. For example, in Scotland, where we deliver the Scottish Government's Zero Waste Scotland programme, we are already working closely with the organisers of the Glasgow 2014 Commonwealth Games.

The London 2012 Food Vision, published in December 2009, is also being followed through at national level in our work with the hospitality and food service sector to develop a voluntary agreement that will help reduce the quantity of food and packaging waste, and encourage increased recycling.

With millions of others, I'm looking forward to what promises to be an exceptional Olympic and Paralympic Games this summer. I'm equally excited about the potential to help deliver a more resource-efficient event sector with bottom line benefits for both the UK economy and its sustainability performance.

I wish everyone a happy, memorable and, of course, waste-free Games!

**Dr Liz Goodwin**  
**Chief Executive, Waste and Resources Action Programme (WRAP)**



## Introduction

The management of resources at a major global event like the Games is absolutely vital to the successful operation of the venues and official facilities. Furthermore, waste and resource management is undoubtedly one of the more visible elements of the Games sustainability performance.

London 2012 promised a truly sustainable Games that will inspire a lasting positive impact before, during and beyond the main event.

The way in which waste and resources are managed must reflect this promise. We and our partners are committed to delivering a more resource-efficient Games.

London 2012, and our partners, aim to ensure that waste is minimised throughout the programme, from planning to legacy, and that the 2012 Games show how waste reduction and recycling make financial as well as environmental sense.

A development on the scale of the Olympic Park and an event on the scale of the 2012 Games provide the opportunity to create a micro-economy of waste efficiency, putting in place the infrastructure and processes to minimise waste and to maximise reuse and recycling.

The Olympic Delivery Authority (ODA) has played an extremely prominent role to date, as it has been responsible for the demolition, remediation, design and construction work on the Olympic Park and other new permanent installations for the 2012 Games. The construction phase is now pretty much complete and the ODA has more than delivered on its challenging reuse and recycling targets and its sustainability performance has been described as 'game-changing for the construction industry' by the **Commission for a Sustainable London 2012**.

Staging the largest then the second-largest peacetime logistical operation in the world in a sustainable way is a significant challenge and LOCOG is already taking sustainability into new areas of event operations.

Finalised in 2009, the underlying concept of the Games Waste and Resource Management Strategy<sup>1</sup> is that waste materials should be viewed as a 'resource'. Key to achieving this strategy is a consistent and integrated approach to waste and resource management.<sup>1</sup>

An operation on this scale is a unique challenge, and requires a unique approach. This document details the steps that London 2012, and our partners, will take to deliver a Zero Waste Games and complements our overarching commitment to stage a Low Carbon Games.

This Zero Waste Games Vision is the result of one lengthy and detailed process, and the start of another. It is the product of several years of research, analysis, and consultations with industry and sustainability experts, advisory groups and key partners.

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<sup>1</sup> Incorporated within the **London 2012 Sustainability Plan**, 2nd edition published in December 2009

## Our Zero Waste Games Vision

**Vision:**  
'To deliver a Zero Waste Games, demonstrate exemplary resource management practices and promote long-term behavioural change.'

### Zero Waste concept

Living a One Planet lifestyle means reducing waste, as well as minimising the carbon impacts of our consumption. Burying waste is not a sustainable option in the long term: landfill creates methane, a more potent greenhouse gas than carbon dioxide, as well as creating carbon dioxide emissions through transport and through the energy embedded in the material we throw away.

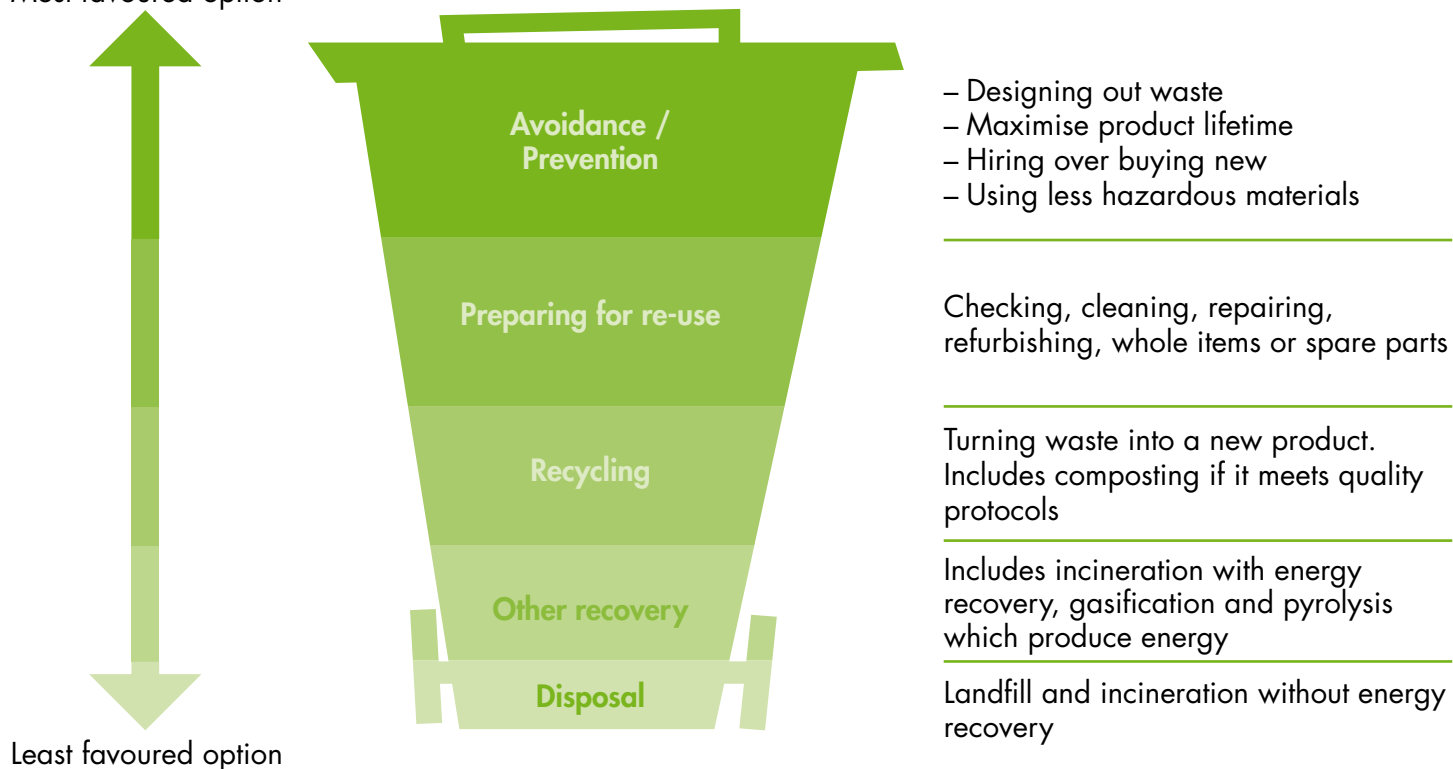
Zero Waste is one of the One Planet Living principles and is a philosophy that encourages the redesign of resource life cycles so that all products are reused. It discourages the use of landfill or incineration and ultimately seeks to eliminate the concept of waste altogether.

Zero Waste is a commendable aim and as a term is increasingly gaining traction in both public and private sectors. All the nations of the UK have declared their intentions to move towards Zero Waste economies and a number of businesses have also adopted Zero Waste principles as part of their sustainability strategies.

However good the strategies and plans are, though, in the majority of cases there will always be a small fraction of waste that cannot currently be avoided, reused or genuinely recycled. This is often compounded by the fact that mainstream, commercially viable technologies do not always exist. The use of landfill, incineration, energy recovery or other treatment technologies therefore have a role to play for the foreseeable future. This should not compromise the overall Zero Waste aim, though. The strategy should focus on getting as high up the waste hierarchy as possible, focusing on avoidance and reuse first.

### Waste hierarchy

Most favoured option



## Games context

London 2012 is the first summer Games to publish an all-embracing Zero Waste Games Vision. The task we have set ourselves is considerable but one we feel is necessary.

Managing waste in a responsible way has featured high on the agenda for successive Olympic and Paralympic Host Cities since the Lillehammer Games in 1994. The organisers of the Sydney 2000 Games published a waste and resource recovery strategy<sup>2</sup> and achieved much with 68 per cent of waste generated as a result of event operational activities being diverted from landfill. More recently, the Vancouver 2010 Games also made a commitment to pursue a Zero Waste strategy and recycled and composted 63 per cent of waste and diverted 77 per cent from landfill in the period between January and March 2010.<sup>3</sup> Despite these impressive achievements, a complete picture of how waste and resources were managed at a Games has yet to be published. For example, limited waste management data exists for the installation and decommissioning phases either side of competition periods where significant waste may still be generated.

London 2012 operates in a very different context to most other organisations in that its timescales are much shorter. In theory it has the ability to take much more of a 'command and control' approach to delivering its Zero Waste Games Vision. Identifying areas up front which have the potential to create waste and then employing strategies which either avoid its generation in the first place or target solutions which can be reused, recycled or composted is fundamental. A consistent and integrated approach to waste and resource management also needs to be taken throughout all 'closed venues'<sup>4</sup> operated by LOCOG.

In addition to our 'closed venue' operations, waste and resource management considerations also exist in connection with our other activities, such as the corporate and public events we organise including test events, the sale of merchandise, and the provision of material to promote and communicate the Games (such as tickets and spectator information).

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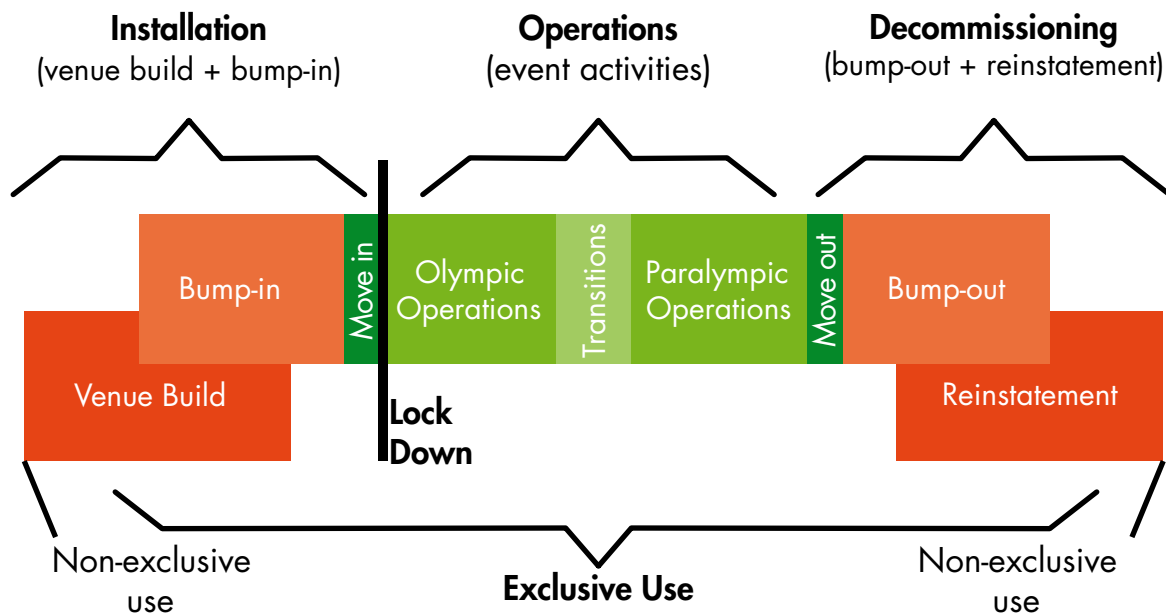
2 The Sydney 2000 Olympic Games Integrated Waste Management Solution, published in October 1998 by the Sydney Organising Committee for the Olympic Games

3 **VANOC Sustainability Report 2009-10** published in December 2010

4 'Closed venues' are sites managed by LOCOG where access is restricted (for example, a ticket or pass is required to gain entry)



## Generic 'closed venue' lifecycle



### Notes:

- Venue build – the period during which the venue is being constructed to meet the needs of Olympic and/or Paralympic operations
- Bump-in – following the build of a space, bump-in is the period of time in which Logistics and Technology are bringing and installing all the furniture, fixtures and equipment (FF&E) and technology equipment into the spaces
- Move-in - the period when the venue team move from their current office space at LOCOG headquarters to their workspace on venue
- Transition - the period of time between Olympic operations and Paralympic operations when a venue is modified to suit its Paralympic use (applies to Paralympic venues only)
- Move-out - like move-in, move-out refers to the venue team packing up their offices and moving out of their venue space
- Bump-out - the period when Logistics and Technology are moving FF&E and technology equipment out of the spaces and sending them to the appropriate warehouse for the dissolution programme
- Reinstatement - the process of taking out the temporary infrastructure and returning the venue to the venue owner

There are also many situations where Games-related waste will arise at 'open' sites across the UK – for example, along the route of Road Races, at Live Sites, cultural events, the Torch Relays, official hotels, Host City and co-Host City activities, and at transport hubs and approach routes to venues (the Last Mile). By definition these situations cannot be controlled in terms of material types entering the waste streams. In many instances LOCOG does not even have an influencing role to play. We are therefore working with suppliers, partners and local authorities to encourage the alignment of waste practices at these 'open' sites with those adopted for 'closed venues'.

## Scoping our requirements

To gather the wide range of knowledge, insight and leadership this Zero Waste Games Vision is built on, we have consulted a wide range of industry experts, sustainability practitioners, advisory groups and themed sub-groups.

This document is the culmination of several years of research, analysis and consultation.

A Technical Advisory Group was established in late 2008 which comprised specialists from universities, businesses including London 2012 commercial partners, NGOs, the Environment Agency, Government, WRAP and the National Non-Food Crops Centre. As the strategy and various plans evolved, the experts on the group were called upon as required to seek advice on various aspects. Wider stakeholder discussions also took place to draw on additional commentary and debate on a series of specific questions relating to the emerging strategy, notably issues surrounding availability of infrastructure to deal with organics, communications and packaging. **Annex 1** provides a list of all organisations that have been engaged as part of the process.

Every Functional Area<sup>5</sup> and each venue is different in terms of the range of activities being undertaken and materials passing through it. To build a picture of the task we have in front of us, we also commissioned detailed modelling and projection of the likely flow of materials during the Games.<sup>6</sup> Waste composition analysis and modelling techniques were used to make estimates for the total material flow arising from Games-time activities. The model builds a picture of potential waste which may be generated. This information has proved to be vital as it has helped inform our waste reduction and minimisation interventions and identified priority materials and areas to focus efforts and align with existing waste management infrastructure. For instance, approximately 40 per cent of operational waste is likely to be food or food-contaminated packaging.

The initial scoping also concluded that the costs of achieving high recycling were economically advantageous compared to a business as usual scenario where the majority of waste would be landfilled. Recommendations were also made in respect to the need for LOCOG to keep track of the market value for recyclables to enable us to be an 'intelligent customer' when we went to market to procure waste and resource management services.

Estimates regarding waste arising from the installation and decommissioning phases of a venue proved to be a challenging task given the limited transfer of knowledge that has taken place to date.

We have done a considerable amount in an attempt to understand our

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<sup>5</sup> A Functional Area is a defined team which has been established to deliver specific aspects of the Games (for example, Technology, Catering, Workforce, Legal) and manage associated suppliers of products and services. Not all Functional Areas are operational during the Games

<sup>6</sup> Games waste management requirements scoping undertaken by Resource Futures on behalf of LOCOG and the London Development Agency between November 2008 and June 2009

challenge and the solutions required but we do not pretend to have all the answers or solved all the issues yet.

### **What we want to leave behind**

We see the Games as a huge opportunity not only to leave a positive mark on the UK's event, catering and hospitality sector, but to contribute to the development of exemplary resource management practices and promote long-term behavioural change.

We recognise the opportunity for the principles and practices developed in connection with the Games to be used more widely. Using this opportunity to share our learnings throughout the industry would be a major achievement.

### **Our commitment**

In order for London 2012 to claim it has staged a Zero Waste Games it will:

- Ensure, wherever possible, that the amount of waste produced in connection with its activities will be minimised.
- Ensure that no waste arising within 'closed venues' during the operational period will be sent directly to landfill.
- Treat all waste as a potential resource within 'closed venues' and seek closed-loop solutions (that is, seek 'real' recycling solutions, rather than downcycling)<sup>7</sup> wherever appropriate and practicable, and:
  - Ensure that at least 70 per cent, by weight, of operational waste is reused, recycled or composted<sup>8</sup>;
  - Take reasonable endeavours to reuse or recycle at least 90 per cent, by weight, of the material arising from the installation and decommissioning of our venues<sup>9</sup> (stretch target).
- Work with suppliers, partners and local authorities to encourage alignment of waste management practices at 'open' sites with those adopted for 'closed venues'.
- Work with partners to develop tools, public education and outreach initiatives to promote low-waste lifestyles.

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<sup>7</sup> Downcycling is the process of converting unwanted items into new materials or products of lesser quality and reduced functionality

<sup>8</sup> This is also an Olympic Park planning condition although we have adopted this target across all our venues

<sup>9</sup> Temporary construction works and facilities (otherwise known as 'overlay') supplemented to venues that are required to run the event (for example, portable buildings, tents, security screening areas, furniture, fences, sports surfaces, banners and flags)

Our 70 per cent reuse, recycling and composting target has previously been published as applying to the 77-day Games period<sup>10</sup> which is where the bulk of operational waste will be generated. We recognise, however, that some venues will operate to different timescales. For instance, some venues will become operational before the International Broadcast Centre/Main Press Centre opens, whereas decommissioning activities at other venues will commence before the Paralympic Village closes. We will therefore report on our targets in a way that is relevant to the venue and its lifecycle.

Where our activities have the potential to generate waste in the periods leading up to the Games, we aim to manage it in a manner that is as consistent with our Zero Waste Games commitment as possible.

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<sup>10</sup> Games period commences from when the International Broadcast Centre/Main Press Centre opens (27 June 2012) through to when the Paralympic Village closes (12 September 2012) – which is 77 days

## Our challenges

The Games are recognised as being the largest peacetime logistical operation in the world. Due to the limited time period in which the Games run, we have to get it right first time. There is limited opportunity to deal with problems.

Waste will be generated at more than 100 venues across the UK before, during and after the Games by different Functional Areas, client groups (such as athletes and team officials, press, broadcasters and spectators), suppliers and delivery partners in often highly pressurised environments. Nearly 90 per cent of operational waste, though, is estimated to be generated on the Olympic Park and at other London venues.<sup>11</sup> The table below provides an overview of venues and the varying degrees of involvement and control that can be exercised:

| London 2012 involvement                            | Venue type                      | Locations   |
|--|---------------------------------|---|
| Direct management of waste                         | Olympic Park                    | Aquatics Centre, Water Polo Arena, Basketball Arena, Copper Box, Olympic Stadium, Velodrome and BMX Track, Eton Manor, Riverbank Arena, International Broadcast Centre/ Main Press Centre, Olympic Hospitality Centre   |
|  | Other London competition venues | Brands Hatch, Earls Court, ExCeL, Greenwich Park, Hampton Court Palace, Horse Guards Parade and The Mall, Hyde Park, Lord's Cricket Ground, Lee Valley White Water Centre, North Greenwich Arena, The Royal Artillery Barracks, Wembley Arena and Wimbledon   |
|  | Other competition venues        | Eton Dorney, Hadleigh Farm, Weymouth and Portland   |
|  | Football venues                 | City of Coventry Stadium, Hampden Park, Millennium Stadium, Old Trafford, St James' Park, Wembley Stadium   |
|  | Villages                        | Grooms' Accommodation, Olympic and Paralympic Village, Rowing and Canoe Sprint Village, Sailing Village   |
|  | Other non-competition venues    | Logistics depots, transport bus/fleet depots, Uniform Distribution and Accreditation Centre   |
| Limited waste management control                   | Serviced/remote locations       | LOCOG offices, Torch Relay operations, arrivals and departures locations, workforce training venues, official sport training venues, park and ride/drop-off zone locations  |
| Inspiration, guidance and influence where possible | 'Open' sites                    | London 2012 Festival and other cultural events, official London 2012 retail shops located in rail stations and malls, Host City and co-Host City operations and activities such as Live Sites, Pre-Games Training Camps, Torch Relay celebration events across the UK, official hotels, Road Event routes, and the immediate locality around venues |

<sup>11</sup> Based on updated modelling estimates undertaken by SITA UK

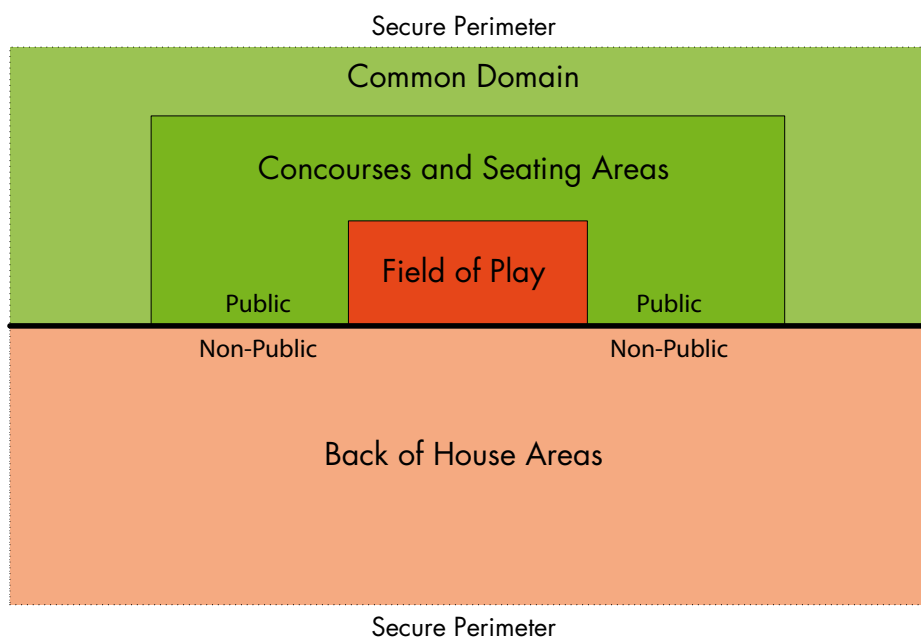
A number of distinct waste generating areas exist in connection with competition venues as follows:

- Grey Space/Last Mile – refers to the area between a designated transport hub and a London 2012 competition venue, or the area immediately surrounding a road race route.
- Common domain – area where spectators are able to circulate: food concessions, retail outlets, information booths, toilet facilities and so on all feature.
- Concourses and seating areas – areas for spectators to proceed to seating areas: concessions, retail outlets, toilet facilities and other services may also exist.
- Hospitality areas – areas for entertaining specific client groups and may be dedicated venues or areas in venues.
- Back of house areas include:
  - Operations compounds – areas for broadcast, logistics, catering, cleaning and waste, and site management.
  - Load zones – transport zones for specified groups including athletes, technical officials, press, broadcast and so on.
  - Administrative areas – where electronic/print media activities, venue operations or other administrative activities are carried out.
  - Medical/doping control areas – where athlete testing is carried out and first aid/medical and veterinary services are provided.
- Field of play – highly restricted areas where competition takes place: these range from competition circles at Sailing to the streets of London for Road Races to a well-defined Hockey pitch.



## Generic competition venue

### Grey Space and the Last Mile



Significant waste generating potential also exists at a number of non-competition venues including:

- Villages – accommodation under LOCOG supervision for athletes and officials and includes catering and merchandising outlets.
- Uniform Distribution and Accreditation Centre – location used to accredit personnel and distribute uniforms.
- Support sites – logistics depots and warehousing locations and transport depots including park and ride locations.
- Training venues – locations used for workforce training or for different teams ahead of the Games.
- Official hotels – designated hotels for the Olympic/ Paralympic Family, accredited press and broadcasters, and so on.

Waste management performance in the UK events sector is inconsistent. While a handful of events and venues have achieved recycling performance of up to 50 per cent, recycling rates are generally much lower (approximately 15 per cent) and a significant amount of material either ends up in landfill or is sent for energy recovery. Reporting on waste management performance and associated learnings within the sector, particularly in the UK, is also rare.

There are a number of unique challenges for London 2012 to overcome in order to achieve good recycling performance and high landfill diversion.

### General barriers and challenges

London, like the rest of the UK, has a waste infrastructure deficit, due to its historic reliance on landfill. Not all of the waste generated in London can be recycled within the capital. This is especially true for mixed plastics and organic waste such as food and food contaminated packaging. While we are aware that recent interventions have been made by the London Waste and Recycling Board, these new facilities will unfortunately not be ready in time for us to use for the Games.

In addition to the lack of infrastructure there are a number of other barriers to achieving high recycling in public places:

- Lack of consistently located bins
- No standard collection system in London or the wider UK
- Bins may not be managed and emptied regularly, causing them to overfill
- Storage requirements often present issues both in terms of space and security
- Contamination, especially from food and drink containers, can limit the amount of material suitable for recycling
- Market barriers relating to the price volatility of materials
- Composition and packaging design is often too complex to facilitate recycling

### Event recycling barriers and challenges

In an event context there are a number of additional unique challenges to overcome in order to achieve good recycling performance and high landfill diversion.

Waste management at events is a high-pace, high-intensity activity where deadlines and quality are of paramount importance. Schedules cannot be altered and spectators expect to enjoy their experience in clean and safe surroundings. Many venues are not equipped with the space or facilities needed to manage waste arising from the event itself – particularly older venues. Likewise, in high density crowds it may not be possible to locate/service bins or to collect litter until after people have dispersed.

Despite legislation being in place, accurate and transparent paper trails of how waste and materials have been managed during and after the event are also not often available. Post-event transfer of knowledge is also very limited within the sector and any that exists has not necessarily been substantially verified.

These challenges are compounded by complexities of the event supply

chain, diverse packaging and inconsistent packaging specifications, inconsistent waste and recycling collection systems in place at events, and venues regionally and nationally having inconsistent messaging and communications. In addition, the decommissioning of temporary structures, overlay and other fittings after events can be rushed and generate significant wastage. Waste stream separation at this stage is rare.

Perhaps the biggest challenge to face us at London 2012 is to predict how people will behave on the day. The different client groups are internationally and demographically diverse and will be a different profile to those who attend other major sporting events or big festivals in the UK. The litter campaigning group Keep Britain Tidy suggests that individuals are generally more likely to drop litter at a venue when they believe people are paid to clear up.<sup>12</sup>

The experience of previous Games and UK experience to date of managing waste at major events indicate that achieving high recycling at London 2012 will be a challenge but is not impossible, assuming that certain critical success factors are addressed.

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12 **People Who Litter**, ENCAMS Research Report published by ENCAMS (now Keep Britain Tidy) in 2007

## Our guiding principles

We are taking account of the following guiding principles in determining the most appropriate approach to delivering our Zero Waste Games Vision.

There are no absolutes. These principles are genuinely guiding and seek to act as a frame of reference for the way in which supporting waste specific actions are developed. They are not a ranking but a series of principles which need to be taken into account to achieve a balanced decision or solution.

|                                   |  |
|-----------------------------------|--|
| <b>Waste hierarchy</b>            | Ranking waste management options in priority order, with landfill being the least desirable. Refer also to the waste prevention decision tree in <b>Annex 2</b> .  |
| <b>Proximity principle</b>        | Seeking to ensure that waste is managed as near as possible to its place of production to minimise the environmental impact and cost of waste transport.   |
| <b>National/regional context</b>  | There is never a truly 'one size fits all' solution to waste management as recycling facilities across the country vary significantly. Venues located across the UK will need to be evaluated in respect to their local context.   |
| <b>Sustainability</b>             | Ensuring that the right decisions are made wherever possible in respect to the broader sustainability agenda. Waste prevention, material reuse and recycling contribute to the delivery of a Low Carbon Games. For example, seeking closed loop approaches where possible (therefore maximising real recycling rather than downcycling). |
| <b>Risk management</b>            | Ensuring that risks to the success of the waste and resource management system implemented for the Games are properly identified and mitigated.  |
| <b>Regulatory compliance</b>      | Ensuring that the waste and resource management system implemented for the Games is fully compliant with waste management legislation.   |
| <b>Operational deliverability</b> | Ensuring that solutions are practical in the context of staging a large-scale international event.   |
| <b>Legacy</b>                     | The overriding principle which is core to all Games preparation work whereby consideration is given to the potential legacy that will be left before, during and beyond the main event.  |

## Our areas of action

Whether it's a corporate or public event we organise, the merchandise that is produced and sold on our behalf, the publications we produce, or the activities of our commercial partners, our Zero Waste Games Vision extends to all waste which may be generated in connection with our activities, not just that arising at our venues during the Olympic Games and Paralympic Games.

To specifically deliver on our targets, action is being taken across 10 critical success factors that have been identified as being crucial to delivery. A number of actions are also being taken in connection with working with suppliers, partners and local authorities to encourage alignment of waste management practices at 'open' sites and to promote low-waste lifestyles.

The 10 critical success factors are as follows:

|   |  |
|---|--|
| <b>Management systems</b>   | To put in place appropriate management systems, including sustainable procurement practices and interventions to control material types likely to arise in connection with event activities, including those entering venue waste streams, which support our strategy objectives.          |
| <b>Resource management tools</b>                                    | The development of appropriate resource management tools and guidance to help key areas of the business minimise waste and, where they cannot, to maximise opportunities for reuse and recycling.  |
| <b>Specific tools and guidance for temporary venues and overlay</b> | Development of appropriate tools and guidance for designers and contractors to support the advance identification of reuse or recycling options for materials/products used for temporary venues and overlay.  |
| <b>Identification of reprocessing options and markets</b>           | Advance identification of reprocessing options and markets for all key materials likely to be collected (including food and other organic materials), including securing sufficient capacity to handle the flow of materials.  |
| <b>Food catering packaging materials</b>                            | Utilisation of food catering packaging systems that maximise the potential for recycling and composting and minimise the potential for contamination and ultimately disposal – preferably involving a single-stream material approach for bottles and other food catering packaging items. |
| <b>Waste receptacles</b>  | Utilisation of a simple to use, consistent and attractive system for waste and recycling collection across all venues.   |
| <b>Icon and colour-based communications</b>                         | Integration into the design of the collection system of a simple icon and colour-based communication scheme to aid visitors in the act of depositing items for recycling.  |
| <b>Integrated communications package</b>                            | Development of a fully integrated communications package that encourages recycling during the Games, and builds awareness of recycling before arrival at the Games – linked to national and regional communication initiatives such as Recycle Now and Recycle for London.                 |
| <b>Workforce engagement</b>   | Development of approach for involving workforce in the delivery of the communication and collection systems during the Games.  |
| <b>Transfer of knowledge</b>  | The 'transfer of knowledge', including through the production of a 'good practice guide' on events waste management and technical debrief event post-Games to venue managers and event organisers.   |

## Critical success factors actions

| Management systems actions |   |   |
|----------------------------|---|---|
| Ways of working            | <p><b>Rationale</b></p> <p>Most organisations generally have a framework in place to influence their way of working and ensure that key interventions are made to deliver their objectives and targets. We were in the unrivalled position of developing a framework from scratch. This enabled us to embed sustainability into the very culture of the organisation from the outset.</p> <p>The Zero Waste goal provides the context in which all decisions about waste and resources can be influenced and, importantly, major decisions about materials inflow, procurement policy and maximising the potential for reuse and recycling of materials and products can all be influenced.</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Management system arrangements independently certified to BS 8901:2009 (the sustainability management system standard for the event sector), which includes evaluation of legal compliance and operational controls of relevance to waste and resource management</li> <li>– Functional Areas, design teams and specifiers challenged to respect the Zero Waste goal in everything they do</li> <li>– Specific supporting strategies and plans prepared by major Functional Areas which includes targeting waste (for example, Technology, Logistics, Catering, Ceremonies, Torch Relays and Venues)</li> <li>– Zero Waste integral to the procurement of priority spend areas to ensure a post-Games route for items is 'locked in' up front wherever possible (for example, hiring or leasing are pursued wherever practicable)</li> <li>– Priority spend areas (for example, overlay, catering) identified to focus efforts</li> <li>– Contractual sourcing policies established through the <b>LOCOG Sustainable Sourcing Code</b>, including: <ul style="list-style-type: none"> <li>– Minimising the use of printed publications</li> <li>– Restricting the use of certain materials</li> <li>– Encouraging recycled content</li> <li>– <b>Packaging guidelines</b></li> <li>– Introduction of take-back clauses</li> <li>– Aligning materials with primary waste streams</li> </ul> </li> <li>– Interventions made to avoid unnecessary packaging from closed supply chain items (for example, furniture, technology assets) and store primary packaging to enable it to be used again to facilitate items for reuse</li> <li>– Major suppliers and contractors are required to develop and operate to Environmental Management Plans and <b>Resource Management Plans</b> (see below)</li> <li>– Contract management tools and guidance developed with supporting training programmes for key suppliers and contractors</li> </ul> |
|                            |   |   |



|                                     |  |   |
|-------------------------------------|--|---|
| <p><b>Readiness and testing</b></p> | <p><b>Rationale</b></p> <p>We clearly have to be sure that our plans can cope with the stresses of reality when the Games open in July 2012.</p> <p>Testing is a critical element of providing assurance that we are equipped to deliver the Games. LOCOG began to host a series of sport test events, desktop scenarios and simulated exercises in the spring of 2011 – we cannot possibly expect to get things right first time. Testing allows us to review not just how things worked operationally but also in respect to the materials used and wastes that were generated (particularly in respect to identifying items which present reuse or recycling difficulties).</p> <p>We define readiness as prepared sites and venues, prepared teams and prepared systems.</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Sustainability objectives developed to support the readiness programme</li> <li>– Site compliance and monitoring activities to identify waste and resource management preventive and corrective actions</li> <li>– Ongoing review of waste and resource management learnings from readiness activities</li> <li>– Progressive introduction and refinement of operational waste and resource management arrangements, such as improved packaging systems, bins and in-venue communications</li> </ul> |
|-------------------------------------|--|---|



Wardrobes assembled and major packaging removed at our Tilbury Logistics warehouse ready for delivery to Olympic and Paralympic Villages, December 2011

## Resource management tools

|   |  |  |
|---|--|--|
| <p><b>Event Resource Management Plan tool</b></p> | <p><b>Rationale</b></p> <p>We identified the potential to go beyond the requirements of statutory Site Waste Management Plans by incorporating resource management. However, in an event context this should not be limited to temporary construction and fit-out activities and should apply to other areas which have the potential to generate significant waste (for example, catering, cleaning).</p> <p>We therefore worked with WRAP to develop and promote the take-up of an online <b>Event Resource Management Plan tool</b> that could be used by event organisers, venues and event suppliers to manage areas of significant waste generation.</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Online <b>Event RMP tool</b> launched in May 2011 following a period of piloting and stakeholder engagement (the tool was also awarded the London 2012 Inspire mark)</li> <li>– Tool has begun to be rolled out to major contractors and suppliers including test events</li> <li>– Training workshops held with key overlay contractors and further sessions planned for other suppliers (for example, caterers and cleaners)</li> <li>– Experiences fed back to WRAP to enable modifications to be made and improve functionality</li> </ul>  |
| <p><b>Other tools</b></p>                         | <p><b>Rationale</b></p> <p>Operational control mechanisms are required to support the delivery of sustainability objectives including waste management.</p> <p>Several tools and guidance notes have been prepared to support contract management and ongoing assurance. These tools supplement the <b>Event RMP tool</b> and capture key information including compliance with materials policies, materials specifications, recycled content, manufacturing locations and post-Games options.</p>  | <p><b>Actions include</b></p> <p>Carbon Management Strategy developed which has identified opportunities for material avoidance and reduction</p> <ul style="list-style-type: none"> <li>– <b>London 2012 Food Vision</b> and associated requirements (for example, minimising food waste) incorporated into caterer contracts</li> <li>– Change control mechanisms introduced to manage requests for additional technology equipment, FF&amp;E and so on</li> <li>– Commodities datasheet template developed for contractors and suppliers involved temporary construction and fit-out including the supply of ‘Look and Feel’ items</li> <li>– Sustainable Sourcing Management Plan template developed for licensees and key suppliers of products (for example, suppliers of FF&amp;E)</li> <li>– Justification templates have been developed where deviations to materials policies (for example, PVC) are proposed and approval from senior management is required</li> </ul> |

## Specific tools and guidance for temporary venues and overlay

### Temporary venues and overlay tools and guidance

#### Rationale

In keeping with our legacy goals we seek to use the best of what is available and work with partners to develop the necessary tools and guidance where they do not exist elsewhere.

Very few tools and guidelines exist of relevance to improving the sustainability of temporary venues and infrastructure and associated furniture, fixtures and equipment (FF&E). Specific materials are required to provide strategic direction to specifiers and design teams.

#### Actions include

- Venues Sustainability Strategy developed with supporting KPIs to measure and monitor progress during the design process
- **Temporary Materials Guidelines** developed for venue design teams in collaboration with a number of stakeholders
- Sustainability Guidance Pack for Suppliers operating at venues developed
- Wherever possible internal layout within permanent buildings is designed with Paralympic operations and legacy use in mind, ensuring minimal transformation and reduced waste
- Standard sizes and configurations are used wherever possible to avoid over-specifying and bespokeing
- Commodities Working Group established to support the delivery of venues specific waste objectives
- ‘Look Book’ developed to provide architects, designers and event producers with a menu of more sustainable materials to select from for ‘Look and Feel’ purposes
- Major contractors required to complete **Resource Management Plans** (which also meet the requirements of Site Waste Management Plans legislation where it applies – see above) where appropriate.

|                                       |   |  |
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| <p><b>Asset disposal strategy</b></p> | <p><b>Rationale</b></p> <p>In staging the Games, LOCOG will take possession of a number of assets. Post-Games these items need to be managed in a cost-effective and timely manner to maximise revenue generation and ensure our legacy commitments are met.</p> <p>Reuse of products and materials contribute to waste prevention by removing items from the waste stream – recycling cannot do this. Furthermore, most items will have an intrinsic financial value to someone if the right questions are asked. In this way the Games can demonstrate how responsible waste management makes financial as well as environmental sense.</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Asset Disposal Strategy developed to provide an overarching framework for how assets should be managed</li> <li>– Challenging revenue target established by senior management to focus efforts at the top of the waste hierarchy</li> <li>– Asset disposal factored into procurement and contract management processes</li> <li>– Ongoing review of assets in or likely to be in LOCOG’s possession to establish post-Games options including revenue generating potential, donation to local communities or via reuse networks, or recycling</li> <li>– Memorabilia licensee appointed to run the sale of memorabilia either created from LOCOG assets or using LOCOG Intellectual Property</li> <li>– Options under review for managing the sale or other redeployment of assets after the Games where the end use cannot be secured pre-Games</li> <li>– Discussions underway regarding potential legacy use of assets with the Olympic Park Legacy Company, Glasgow 2014 Commonwealth Games and the Government</li> </ul> |
|---------------------------------------|---|--|

| Identification of reprocessing options and markets |   |  |
|--|---|--|
| Waste and resource management services             | <p><b>Rationale</b></p> <p>The management of waste and resources at an event such as the Games is absolutely vital to the successful operation of the venues and official facilities. Securing the right delivery partners and a robust infrastructure is a crucial part of delivering the Zero Waste Games Vision.</p>   | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Waste and resource management services organisations ‘Go To Market Strategy’ and associated timeline developed</li> <li>– Strict tender and contract specifications prepared including the presumption against use of landfill, requirement to support reuse objectives, provision for revenue sharing, and requirement for facilities to be approved by LOCOG prior to use</li> <li>– SITA UK appointed as the waste and resource management services provider for the operational Games period</li> <li>– Operational readiness plans developed and in testing</li> <li>– Proposed facilities for recycling and composting waste identified</li> <li>– Reuse coordinator identifying reuse markets for different materials including providing challenge to LOCOG and its suppliers where appropriate (for example, where materials prove difficult to reuse or recycle)</li> <li>– UK markets for reusable items and recyclables are pursued in favour of overseas markets</li> <li>– Provider for waste and resource management services for wastes arising from installation and decommissioning works in process of being tendered</li> </ul> |
|  | <p><b>Rationale</b></p> <p>It is important that the right decisions are made wherever possible in respect to the broader sustainability agenda. Recycling options for converting unwanted items into new materials or products of better quality or a high environmental value should be pursued wherever possible.</p> <p>As a longstanding worldwide partner of the Games, Coca-Cola is proactively supporting us in delivering our Zero Waste and Low Carbon Games Visions. All packaged Coca-Cola products will be served in recyclable PET bottles which will contain up to 25 per cent recycled content (rPET). Coca-Cola, Diet Coke and Coke Zero drinks will be served in plant bottle packaging containing up to 22.5 per cent plant-based material.</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Coca-Cola is working with SITA UK, the Games waste and resource management services provider, to recycle all plastic bottles. They will be reprocessed at Continuum Recycling in North Lincolnshire, a new recycling plant built as a joint venture between Coca-Cola and ECO Plastics</li> <li>– All clear polyethylene terephthalate (PET) bottles collected for recycling in London 2012 venues will be turned back into new bottles within six weeks of being discarded</li> </ul>  |

## Food catering packaging materials

### Packaging and consumables specification

#### Rationale

While many materials are technically recyclable they are not always able to be recycled in practice, given typical collection systems in the UK. Packaging comprised of mixed materials also causes confusion which would be compounded in a highly pressurised environment where consumers are even less likely to deposit each material in the appropriate bin.

We also felt that considerable confusion existed in respect to the standards that should be applied should genuine composting be pursued as part of a Zero Waste strategy.

It was obvious that a clear and unambiguous specification was required for our caterers to maximise the potential for recycling and composting and minimise the risk of contamination and ultimately disposal – to our knowledge no such specification had ever been created before.

#### Actions include

- Establishment of a working group comprising the National Non-Food Crops Centre (NNFCC), WRAP and members of the British Printing Industries Federation (BPIF) Cartons Groups and UK Renewable Packaging Group
- Clear criteria established for single-stream recyclable and compostable materials<sup>13</sup>
- McDonald's, Coca-Cola and Cadbury consulted as part of the process
- Games Catering Packaging and Consumables Specification developed<sup>14</sup> and incorporated into LOCOG catering contracts
- McDonald's have aligned their packaging and consumable items with the specification in close collaboration with LOCOG

<sup>13</sup> Compostable products and packaging are defined in the **LOCOG Sustainable Sourcing Code** (3rd edition)

<sup>14</sup> Games Catering Packaging and Consumables Specification developed in collaboration with WRAP, NNFCC and members of the UK Renewable Packaging Group and BPIF Cartons Group between March and September 2010



|   |   |   |
|---|---|---|
| <b>Packaging and consumables supply framework</b> | <p><b>Rationale</b></p> <p>As we matured our plans and understanding we decided that the best approach would be to tender the supply of consumables and food packaging to Games caterers.</p> <p>The purpose of this exercise was to secure financial and operational efficiencies for the supply of packaging and consumables and supporting caterers in what would have otherwise been significant assurance responsibilities in relation to compostable items.</p> <p>This approach also links closely with the procurement packages for bins and bin liners (see below). These three deals are strongly inter-connected and form a package designed to meet critical LOCOG targets and obligations on waste management.</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Advance engagement with the packaging industry including notification of the opportunity through CompeteFor</li> <li>– Single materials stream criteria agreed for more than 70 Stock Keeping Units (SKUs)</li> <li>– Colour coded 'on-pack' criteria agreed for each SKU (see below)</li> <li>– Review and approvals process developed in collaboration with WRAP to ensure compostable items are fit for purpose and meet the requirements of quality protocols</li> <li>– Master supply agreement for catering packaging and consumables finalised</li> </ul> |
| <b>Alcoholic beverages</b>                        | <p><b>Rationale</b></p> <p>LOCOG appointed Heineken UK as official lager supplier. The company's flagship premium beer, Heineken, will be the branded lager served at the Games and Heineken UK will have exclusive pouring rights for its portfolio of beer and cider brands at all London 2012 venues where alcohol is served.</p> <p>Significant operational constraints exist in respect to how beer could be served to consumers in a robust, safe and efficient manner which does not compromise LOCOG targets and obligations on waste management. Heineken agreed to work on identifying an appropriate solution that can be used beyond the Games to encourage recycling at other events.</p>                          | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Special project team established to develop a PET bottle in time for the Games – which will include 'on-pack' recycling messaging</li> <li>– Proposed PET solution reviewed and approved for compatibility with the recycling stream</li> <li>– In venues where a draught system is available, product will be served in recyclable polypropylene (PP) cups</li> </ul>   |

## Waste receptacles

### Waste streams

#### Rationale

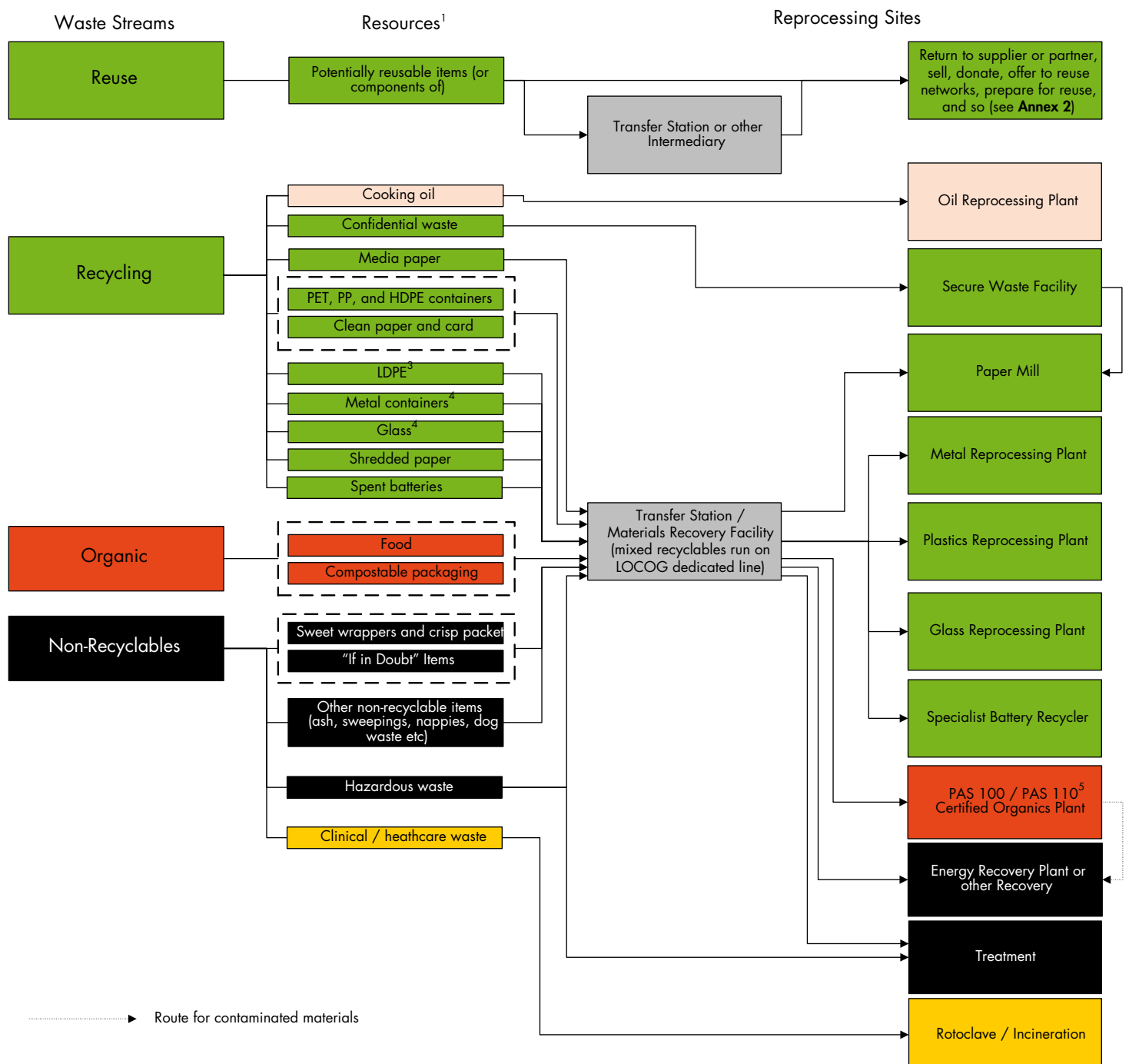
Appropriate separation of waste needs to occur in public (front of house) and operational (back of house) areas. Our scoping work determined that in addition to recyclable items such as paper and drinks bottles, separation of food and food contaminated packaging and consumable items for composting was crucial to delivering Games targets.

Additional opportunities exist for further reuse and recycling streams, as well as the requirement for more specialist streams (for example, electrical items, hazardous materials, clinical waste).

#### Actions include

- Recycling; food and compostable packaging; and non-recyclables agreed as the three primary waste streams
- Colours (green – recycling; orange – food and compostable packaging; and black – non-recyclables) agreed for each primary streams in collaboration with WRAP, Coca-Cola and McDonald's
- Provision made for additional recycling streams (for example, high grade paper in media areas) and specialist streams (for example, electrical items, ammunition and shooting clays, equestrian waste, clinical waste)
- Backhauling of certain waste streams for recycling where appropriate (for example, McDonald's will backhaul used cooking oil, plastic milk bottles, and cardboard for recycling)

## Indicative Olympic and Paralympic Operational Waste Streams



### Notes:

- 1 Other specialist streams will exist at some venues (e.g. spent ammunition and shooting clays, and equestrian related waste such as manure and bedding materials) which will be managed in accordance with 'Zero Waste' principles
- 2 Dedicated bins will be provided to collect paper for recycling in media areas
- 3 Dedicated bins will be provided to collect LDPE for recycling at certain locations FoH and BoH (e.g. discarded used ponchos)
- 4 Metal and glass will be collected BoH and in Hospitality Areas where it occurs for recycling
- 5 Composting is counted as recycling if it meets quality protocols – currently PAS 100 "compost" and PAS 110 "anaerobic digestate"

|  |   |   |
|--|---|---|
| <p><b>Waste and recycling collection</b></p> | <p><b>Rationale</b></p> <p>Venues and events across the UK currently communicate waste and recycling in an inconsistent manner. Systems for waste and recycling collection are also not necessarily simple to use, consistent or attractive.</p> <p>We will operate a consistent three-stream front of house system across all our venues, coupled with public information messages and signage, in order to inform people about and engage them in recycling and waste separation (see below).</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Industry day held with prospective suppliers of receptacles including presentations from Coca-Cola to help inspire innovation</li> <li>– Tenders invited for the supply of front of house and back of house bins as well as supplies of bin liners</li> <li>– Suppliers of bins and bin liners appointed: <ul style="list-style-type: none"> <li>– Front of house bins are accessible and will be coloured to match the three streams</li> <li>– Matching coloured bin liners for all primary stream bin sets to ensure consistent handling of waste streams</li> </ul> </li> <li>– Streaming arrangements including bins and liners actively being trialled and refined as part of readiness and testing programme</li> </ul> |
|--|---|---|



Games time accessible front of house bins trialled at the London Handball Cup (part of the London Prepares series and a test event for London 2012) on the Olympic Park, November 2011.

## Icon and colour-based communications

### Recycle Now signage and guidelines

#### Rationale

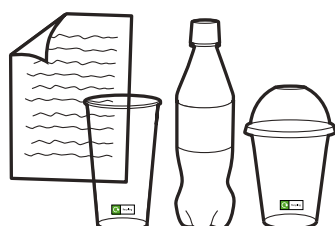
Venues and events across the UK currently communicate waste management arrangements in an inconsistent manner which often leads to confusion and is likely to significantly impact recycling performance.

We believe that simple and consistent communications and messaging is crucial to delivering Games targets. This needs to be integrated into the design of collection systems and packaging to help the various client groups (spectators, athletes, officials, etc) appropriately deposit items into waste and recycling collection receptacles across Games venues.

#### Actions include

- Independent review of different recycling communications initiatives across the UK commissioned<sup>15</sup>
- WRAP developed bespoke Event and Hospitality Recycling Guidelines in partnership with LOCOG<sup>16</sup>
- Bespoke colour-coded icons for the three primary waste streams (recycling; food and compostable packaging; non-recyclables) developed for the bins and packaging
- Majority of packaging and consumable items available from LOCOG catering and at McDonald's locations will have colour coded icons or marks to match the three primary waste streams

### Colour coded icons or marks on packaging to match three primary waste streams at the Games



<sup>15</sup> Review of UK recycling communications initiatives undertaken by Resource Futures on behalf of LOCOG, November 2009

<sup>16</sup> Event and Hospitality Recycling Guidelines developed by WRAP in collaboration with LOCOG between February and June 2011 following a period of consumer testing

## Integrated communications package

### Recycling communications strategy and plans

#### Rationale

LOCOG's recycling targets and efforts need to be at the heart of communications before, during and after the Games. While significant effort has been made to integrate simple recycling messaging into the design of collection systems and packaging, this still needs to be communicated ahead of the Games. In addition, client groups will be permitted to bring small amounts of food for immediate consumption into the venue which may not be compatible with recycling and composting streams.

We believe a fully integrated communications plan is required to build awareness of recycling ahead of the Games and encourage recycling during the Games.

#### Actions include

- Key priority target audiences and external channels identified
- Recycling communications strategy and plan developed in partnership with WRAP
- Key recycling messaging incorporated into Games Maker training manuals (see below) and spectator guides
- Recycling communications plan will be rolled out at the start of 2012 specific to prioritised client groups and venues through various internal and external channels



| Workforce engagement  |   |   |
|-----------------------|---|---|
| Games Maker training  | <p><b>Rationale</b><br/>Staff and volunteers (Games Makers) have a significant role to play to assist in communicating waste and recycling messages within Games venues.</p> <p>We believe appropriate training of Games Makers will form an integral part of an overall communications and education programme for delivering our Zero Waste Games Vision.</p>                     | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Sustainability is embedded into Games Maker training programmes including waste/recycling requirements</li> <li>– Waste/recycling information incorporated into the Games Maker Workbook</li> <li>– Specific waste management training will be provided depending on the role (for example, Event Services and Catering, Cleaning and Waste teams) and venue</li> </ul>  |
|                       | <p><b>Rationale</b><br/>Workforce have an important operational role to play to assist in maximising recycling efforts including dealing with littering, management of bins, helping client groups deposit items in the appropriate bins and reducing contamination potential.</p>  | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Contractors required to provide training to their staff including waste/recycling requirements</li> <li>– Roles and responsibilities of caterers and cleaners determined for the oversight and management of bins, including litter picking and waste compounds (for example, mobile patrols managed by LOCOG will be in place to collect any litter. In addition, McDonald's has committed to provide daily mobile litter patrols to collect any litter around their restaurants on the Olympic Park)</li> <li>– Items discarded in seating areas where bins are not available will be separated into appropriate streams by cleaners</li> <li>– Bins in high footfall areas (for example, food halls) will be overseen by workforce to minimise contamination potential</li> <li>– Primary waste stream bins will be in clusters of three, and all bins will be emptied once they become three-quarters full to avoid them overflowing leading to littering and contamination</li> <li>– Integrity of waste streams will be maintained through to back of house waste compounds</li> </ul> |
| Transfer of knowledge |   |   |
| Knowledge legacy      | <p><b>Rationale</b><br/>While we have attempted to put in place effective arrangements to deliver our Zero Waste Games Vision we do not pretend to have all the answers or that we will get everything right.</p> <p>We are committed to creating a knowledge legacy for sustainability in event management through comprehensive knowledge transfer and transparent reporting.</p> | <p><b>Actions include</b></p> <ul style="list-style-type: none"> <li>– Key sustainability documentation has begun to be made available to all current Organising Committees through the Olympic Games Knowledge Management process</li> <li>– London 2012 Sustainability Reports prepared in accordance with <b>Global Reporting Initiative (GRI) requirements</b> including waste management performance</li> <li>– Learning legacy case studies on waste management will be prepared</li> <li>– We will work with WRAP to develop a good practice guide and hold a technical debrief event for venue managers and event organisers</li> </ul>   |

### Supporting and encouraging best practice for managing waste at 'open' sites

A number of initiatives are underway to support and encourage best practice for managing waste at locations and events associated with the Games but not managed or overseen by LOCOG. These include waste generated in:

- Streets and public realm areas occurring as a direct or indirect result of London 2012 that is the responsibility of local authorities – including Grey Space/Last Mile areas, Road Races, Live Sites, and the Olympic and Paralympic Torch Relays
- Other corporate and public events including London 2012 Festival events, and locations used for hospitality programmes not organised and controlled by LOCOG
- Venues not under the direct management of LOCOG including official hotels, London 2012 shops, arrivals and departure areas, etc

We would like organisations involved in managing waste at these locations to support our overall vision and commit to reducing, recycling and composting as much waste as possible.

We are coordinating most of the Last Mile routes, the exceptions being the central London zone and Road Races which are being coordinated by Transport for London, and the regional Football venues which are coordinated by the relevant local authority. The duty of care on the Last Mile remains with the body which normally manages it, such as waste collection and disposal, but the multi-agency approach to developing plans and contingency plans manages down the collective risk of delivery.

Guidance has been prepared for operational planning teams within all local authorities where there is a London 2012 venue. We have produced guidance for all UK local authorities and have worked with **London Councils** to produce specific guidance and checklists for London boroughs. The guidance also supports those delivering a range of services, including cleaning and waste management. City Operations teams have been established within LOCOG, the Greater London Authority and the Government Olympic Executive to provide oversight and advice to local authorities to ensure that they are ready to deliver essential services during the Games period as well as maximise the opportunities available to their communities to feel part of the 2012 Games.

We have also prepared community planning guides to help communities on the route of the London 2012 Olympic Torch Relays plan their activities. Further information will be provided to the venues hosting the London 2012 Paralympic Torch Relay. We are encouraging all local authorities involved in relays-related activities to make litter pickers and recycling bins available as appropriate. We are also developing plans to manage waste from our Torch Relay operations in accordance with 'Zero Waste' principles.

In addition, drawing on their considerable recycling on the go experience, we have worked with Coca-Cola to develop a **London 2012 Zero Waste Events Protocol**. This sets out five action points to help reduce waste, and to help organisations involved in London 2012 related activities to:

- reduce the amount of event waste created in the first place
- boost average reuse and recycling rates for events in the UK; and
- demonstrate best practice in waste reduction, reuse and recycling

A dedicated website ([www.zerowasteevents.org](http://www.zerowasteevents.org)) has been established to enable users of the protocol to share what they have learnt, their successes and what they have learnt from others.

Our **Sustainability Guidelines for Corporate and Public Events** have recently been updated to include reference to the Zero Waste Events Protocol. Organisers of our corporate and public events should operate in accordance with these guidelines and we also encourage all those putting on events associated with London 2012, including Cultural Olympiad activities and the London 2012 Festival, to do the same. We are also in the process of preparing some supplemental sustainability guidelines and a checklist for our official hotels.



## **Look, wayfinding and signage**

'Look and Feel' is the application of a common brand, design and theme used to physically represent the excitement and togetherness that the Games bring to all host local authorities and venues across the UK. Wayfinding and signage are tools primarily used to assist spectators in their journeys between local transport hubs and Games venues.

The London 2012 Look and Feel is the combination of street dressing, bunting, banners, lighting, new media, digital communication and spectacular visual effects including the designated marks, mascots, pictograms and fonts, which together create a visual identity system.

We have led on creating and developing a single Look for the Games, working with the Government and Greater London Authority (GLA) on its design applications. This means that visitors and residents will see a cohesive look across the UK, whether they are at the airport, in city centres or at one of our venues.

We have looked to reduce waste going to landfill by carefully selecting materials and designing for minimal changeover in transition, while maintaining Look and Feel for both Olympic Games and Paralympic Games.

LOCOG has appointed a single supplier to deliver and source items for Look, Wayfinding and Signage. A London 2012 Look Book has been developed on behalf of the Government and GLA. The Look Book contains a number of options for local authorities to dress their communities, ranging from banners to growing flowers in Games colours.

Local authorities are being strongly encouraged to ensure all Look items are reused or recycled after the Games. The Look Book shop provides details on our sourcing procedures and what each item is made from. SITA UK has agreed to take all London 2012 Look items delivered to their depots and will also arrange a collection service if required.

A reuse and recycling plan is being developed for London 2012, Government and GLA-owned Look items.

## **Promoting low-waste lifestyles and enabling a legacy beyond the Games**

The Games provide an unrivalled platform to engage volunteers, spectators, partners and the general public, and our ambition is to inspire behaviour change and promote sustainable living. We have a huge opportunity to promote a more responsible approach to waste management across the event industry and to influence behaviour change among the general public.

Many of the actions we are taking to deliver on our ambitious targets have the potential to inspire lasting positive change. Supply chain interventions, training and publication of key guidelines and tools we have produced and new standards we have inspired all have this legacy potential.

### **New standards**

LOCOG has been a key inspiration behind the development of a number of sustainability tools and standards aimed specifically at the events sector. The most notable example is BS 8901:2009 'Specification for a sustainability management system for events', which has been an important driver for continual improvement in the industry. Its international successor – ISO 20121 – is at an advanced stage and is anticipated to be published in the summer of 2012.

Other examples where we have either supported or initiated the development of new standards of relevance to waste management include the **Event Resource Management Plan tool** (see above), the **London 2012 Food Vision**, the new **GRI Event Organisers Sector Supplement** (launched in January 2012), and our **Sustainability Guidelines for Corporate and Public Events** and indeed the newly published Zero Waste Events Protocol (see above).

More recently, the Food Legacy programme ([www.foodlegacy.org](http://www.foodlegacy.org)) has been launched. This aims to inspire, inform and provide practical assistance, to help more caterers and food suppliers achieve the ambitions of the **London 2012 Food Vision**.

WRAP is also building on its work with LOCOG by working with others in the industry (event clients, organisers, suppliers, regulators and Government) to develop a roadmap to reduce waste, energy consumption and deliver social benefits across the entire event sector. The roadmap will identify an action plan containing a range of national and international best practice initiatives and will provide the event industry with a visible commitment and the tools to demonstrate that commitment to improving sustainability. The roadmap is being developed through EU Life+ funding of the European Pathway to Zero Waste Programme and is due for completion in summer 2012.

In parallel, WRAP is developing a voluntary agreement for the Hospitality and Food Service Sector on behalf of the UK Government. The agreement will provide a framework to enable businesses and clients in the sector to work towards zero waste to landfill. It will cover the whole of the UK's hospitality and food service profit and cost sector including provision to the event sector and is due to launch in the spring of 2012.

Many of our suppliers will be impacted by the Event Industry Roadmap and it is anticipated that the majority, if not all, of our master caterers will become signatories to the voluntary agreement for the Hospitality and Food Service Sector. Our Zero Waste Games Vision therefore puts our suppliers in an excellent position to be able to respond to these initiatives when they launch.

### **Give-aways**

A give-away culture exists within the event and hospitality sector which we are attempting to challenge. Many give-away items are often not recyclable and can lead to significant littering. However, we are aware that there is a social dimension, too – many people expect items to be given and they often add to the client experience.

We are therefore challenging all areas of the business and commercial partners to rethink their approach to their marketing and promotional efforts.

Give-aways should be viewed as keepsakes. If a keepsake is essential and adds to the customer experience, key considerations should include:

- Ensuring keepsakes are actually useful and reusable, or have desirable souvenir value.
- Providing keepsakes made of recycled and recyclable materials.
- Minimising packaging – is it needed at all?
- Ensuring packaging is made of reusable, recycled or recyclable materials.
- Avoiding date marking items so that they can be used again for future events.

We are also keen to encourage the practice of ‘placemaking’ – the use of icons/backdrops to create an opportunity for people to take photographs and thus create their own memories.

### **London 2012 products and packaging**

Recycled content in London 2012 branded products and packaging continues to be an area of focus. Examples include branded stationery, souvenirs produced using recycled stainless steel and umbrellas produced using recycled polyester.

While specific packaging guidelines for official licensees and catering organisations exist, our current generic **Packaging Guidelines** are in the process of being updated.

We continue to be a licensee of the **On Pack Recycling Label (OPRL)** scheme developed by WRAP and the British Retail Consortium. All official licensees are required to use the icons on London 2012 branded packaging wherever relevant and practicable. Any items bearing the OPRL icon which need to be discarded within our venues are compatible with our front of house waste streams in Games venues.



Recycling messaging on official London 2012 merchandise packaging



## Carrier bags

LOCOG has operated an interim policy on the use of carrier bags for several years now. During 2010 and 2011 all official London 2012 shops provided paper bags to customers if deemed necessary. We do not permit the use of single-use plastic bags. Neither do we permit the use of oxo-degradable plastics (for example, materials which are degradable through the use of additives) or compostable biopolymers, which can find their way into the household waste stream.

During 2011, we conducted extensive research and sought advice from a range of organisations on what our carrier bag policy should be going forward. It is clear that the most important issue related to any carrier bags we provide is reuse. Our focus is therefore to minimise packaging in the first place and to encourage people to reuse the bags that are available.

Early in 2012, the carrier bags<sup>1</sup> available in our London 2012 shops will be made from low density polyethylene (LDPE) which contains a minimum of 80 per cent recycled material. They are capable of being reused many times<sup>2</sup> and can be recycled at the end of their useful life. Carrier bags will be available in two sizes (medium and large) and will only be provided if customers ask for one. We are working with experts in this area to develop messaging that encourages behaviour change through the reuse of our bags and invites the customer to support the sustainability of the Games by not requesting one in the first place.

Paper bags will continue to be available at certain official catering outlets for large orders of food which need to be taken away.

We will take appropriate steps to ensure all our commercial partners are aware of our stance on carrier bags and encourage them to adopt the same position.

- 1 We are legally required to charge for any carrier bags given out in Wales and in the Republic of Ireland (when the Torch Relay goes to Dublin).
- 2 Under factory conditions equivalent bags containing 6kg of weight (comprising 1kg hessian bags filled with polyethylene granules) were pulled up and down a height of 23mm at a rate of 100 jogs per minute for just over three minutes without any holes or tears becoming visible. The bags are also resilient to a 300g plastic cylinder (diameter 100mm) being dropped into an open bag from the top without any holes or tears becoming visible



### Projects which inspire

The London 2012 Inspire programme officially recognises non-commercial projects and events that have been inspired by the Games. Only the most accessible, participative, inspiring and stimulating projects and events will achieve the mark. A commitment to running the project in the most sustainable way is a criterion for any project or event – although a project may also be purely focused on sustainability as well.

A number of projects of relevance to our Zero Waste Games Vision have been awarded the Inspire mark. The BS 8901:2009 events standard and the **Event Resource Management Plan tool** have received the Inspire mark. Other examples include:

| Project                               | Description   |
|---------------------------------------|---|
| <b>Revive</b>                         | An area of Portland was once thriving with a real sense of community, but over the years has become very run down. 'Revive' intends to restore the area to its former glory, making a place local people are proud of and visitors want to return to. New litter bins have been installed, and safer neighbourhood teams have been working with young people to prevent littering and other low-level anti-social behaviour.                              |
| <b>Inspired to Sustainable Living</b> | Aims to reduce levels of waste, increase levels of recycling, and increase sustainable approaches to food and pro-environmental behaviours in East Thames Housing Group social housing residents.   |
| <b>Surf Rewards Weekends</b>          | Encourages local communities to donate textiles and sports equipment for reuse and recycling. In exchange, it provides local schools, community groups, sports clubs and charities with new sports equipment, facilities and coaching.  |
| <b>One Planet 2012 Experience</b>     | Led by BioRegional to inspire recycling and energy saving behaviours among opinion leaders in the London Borough of Sutton and among London 2012 athletes in the Olympic and Paralympic Village during the Games.   |
| <b>Capital Clean-up 2011</b>          | London-wide clean-up campaign targeting litter, waste, graffiti, fly-posting. Behaviour change messaging is a core part of the campaign, encouraging people to dispose of littering and recycle on the go.  |
| <b>Transform</b>                      | Inspired by the regeneration of the Olympic Park, funding has been secured to transform up to 50 poor quality or underused spaces into thriving resources for the community. A comprehensive programme of waste and recycling workshops and activities are being delivered. Support will be provided to people to learn about pro-environmental behaviour change and how waste and recycling initiatives can be implemented in transforming their spaces. |

A dedicated Inspire programme **microsite** exists which provides further information on projects and events.

### **Get Set**

**Get Set** offers a variety of online materials to support young people in getting the most out of the Games in ways that are interesting, relevant and fun. **Get Set +** has eight themes including a 'Sustainability and regeneration' theme. This theme is delivered through EDF Energy's '**The Pod**' which is a free online education programme for teachers offering lesson plans, resource packs and activities that can be used with a small group, a class or a whole school. Waste and recycling is an integral component of the programme and all activities have been accredited by Eco-Schools and will count towards their bronze, silver or green flag awards.

**The Pod** is also working with Eco-Schools England and Keep Britain Tidy to launch its first national waste campaign. Waste Week will run from 12-18 March 2012. It will be an opportunity for the whole school to get involved, thinking about the waste created from the food they eat at school.

## Our partners

London 2012 is the first summer Games to embed sustainability into our planning and delivery. We're aiming to set new standards, creating positive, lasting change for the environment and communities. We cannot deliver our Zero Waste Games Vision alone – all our partners have an important role to play.

### Commercial partners

The Games could not take place without commercial partners. They play a huge role in supporting the Games and promoting sport, way beyond the core provisions of their service or product categories. We are delighted at the way our commercial partners are working with us to help drive the sustainability agenda. Several, such as Coca-Cola, McDonald's, UPS and Heineken, are doing a huge amount of work behind the scenes to help us deliver our Zero Waste Games Vision. Key actions being pursued by these partners have already been outlined above.

Coca-Cola and McDonald's have exclusive branding rights in respect to bins and are working closely with us to ensure their rights and our joint need for appropriate waste and recycling messaging do not conflict. Coca-Cola has also supported us in the procurement of our front of house bins.

### Catering, cleaning and waste delivery partners

Although McDonald's will be the only branded food outlet at Games venues, they will be joined by a vast array of other outlets (from kiosks to food courts and dining rooms) that will provide unbranded food products. Our caterers will continue to develop and operate in accordance with the London 2012 Food Vision and have a significant role to play in delivering our Zero Waste Games Vision.

Our cleaners are responsible for collecting litter and waste from front of house and back of house areas, sorting into appropriate waste streams and transferring to designated back of house areas.

Our waste and resource management services providers are then responsible for the collection of waste from these areas and its transfer off-site to approved facilities which meet our requirements.

Several existing venues also have existing contractual arrangements with catering, cleaning and waste providers. Although there is no obligation for us to use the incumbent service suppliers, our obvious preference is to work with those who already know the venue best and have established operations including staff and equipment in place.

We will expect incumbent suppliers to be able to meet the specifications, both in terms of service standards and sustainability that are set out in this Zero Waste Games Vision. We are working closely with existing suppliers and caterers to ensure that they are able to meet our requirements. Only in the unlikely event that incumbent providers cannot meet our requirements, and their continued operations would therefore be detrimental to the quality of service provided at the Games, will LOCOG consider bringing in alternative suppliers.

### **Suppliers of products and services**

All suppliers of products and services we procure are obliged to exercise their rights with regard to LOCOG's sustainability policies and to provide any relevant products and services in compliance with LOCOG's Sustainable Sourcing Code. Some suppliers have also agreed to comply with additional sustainability requirements. We have outlined a number of supply chain interventions we are taking in earlier sections of this document.

Some suppliers and contractors may also need to make their own arrangements for waste management following our approval.

### **Other partnerships**

We are also working closely with a host of other organisations across the UK to deliver our vision, including Government departments such as Defra, the Greater London Authority, local authorities and the Environment Agencies.

Significant advice and support continues to be provided by WRAP and the National Non-Food Crops Centre. The Association for Organics Recycling (AFOR) are also providing us with valuable support and guidance in respect to composting.

## Our approach to assurance and evaluation

This Zero Waste Games Vision is a starting point. We will continue to develop our plans up to and throughout the Games. It will be a partnership exercise, involving many organisations both big and small, and will involve regular communications and dialogue with stakeholders. Specific waste and resource management operational policies, procedures and plans will be developed relevant to the different levels of control and influence that exist.

Assuring and evaluating the delivery of our vision is both important and necessary. As a major global event which is very much in the public eye it is crucial that we are honest about our delivery.

The process of accounting, auditing and reporting on material sustainability issues is a key part of our programme.

### Reporting progress

The most immediate priorities are outlined in the individual areas of action, and progress towards these will be monitored closely.

We will take the following principles into account when reporting against our Zero Waste Games Vision:

- Accounting for all non-hazardous and hazardous waste that is in our direct control or influence in the period that it occurs – results will be reported in tonnes by method (for example, reuse, recycling, and so on).
- Quantifying, to the extent practicable, avoidance and reuse achievements in tonnes and CO2 equivalent (CO2e) according to the criteria outlined in [Annex 2](#).
- Clearly stating assumptions that are used in instances of poor quality or uncertain data (for example, where we have limited control over how waste is managed at a venue) or where weight or carbon data is not readily available (for example, in instances of reuse).
- Transparently documenting achievements that relate to initiatives undertaken to encourage improvements in waste management outside our direct control or influence.

We will report publicly on our waste performance through London 2012 Sustainability Reports that are prepared immediately before and after the Games. In between we prepare internal quarterly reports to check whether our programmes are on track to deliver against their objectives and targets.

### Assurance

Sustainability assurance for the Games comes from a number of different sources which in combination provide us with a view on how we are doing and whether any improvements are necessary. These sources include internal audits (including site-based compliance/duty of care reviews), third-party supplier audits, and more specialist assessments and verification exercises.

We are also putting in place specific arrangements for certain areas, such as assurance of third-party facilities used for the recycling, composting or recovery of our waste, and appropriate mechanisms to ensure compostable items are fit for purpose in respect to meeting the requirements of quality protocols.

Independent, outcome-based assurance on the sustainability of the London 2012 project, including this vision, will continue to be provided by the **Commission for a Sustainable London 2012**.

### Evaluation

We acknowledged earlier that while we have attempted to put in place effective arrangements to deliver our Zero Waste Games Vision we do not pretend to have all the answers or that we will get everything right.

We are committed to creating a knowledge legacy for sustainability in event management through comprehensive knowledge transfer and transparent reporting. In addition to reporting on our waste and resource management performance through our London 2012 Sustainability Reports we will also prepare a number of learning legacy case studies.

We will also work with partners, including WRAP, to review the effectiveness of our strategy and plans after the Games to capture best practice and share learnings (that is, what worked and what did not) as a legacy that can be used and built on by others.

## **Annex 1**

### **List of engaged stakeholders**

Our thanks go to all of the organisations listed below for their valuable thoughts and comments on all or aspects of our emerging Zero Waste Games Vision.

#### **Waste and Resource Management Technical Advisory Group**

BioRegional Development Group

BP

Cadbury

Chartered Institution of Wastes Management (CIWM)

Coca-Cola

Department for Environment, Food and Rural Affairs (Defra)

EDF Energy

Environment Agency

Greater London Authority

London Borough of Tower Hamlets

London Development Agency

LRL Consultancy Services

McDonald's

National Non-Food Crops Centre (NNFCC)

Olympic Delivery Authority / CLM

Resource Recovery Forum

University of Leeds

University of Northampton

Waste and Resources Action Programme (WRAP)

#### **Stakeholders**

Acer

adidas

AEG/O2

Alexir

Amtcor

Association for Organics Recycling (AFOR)

Atkins

Best Foot Forward

BPIF Cartons Group

BRE

British Retail Consortium

BT

Bywaters



Centre for Remanufacturing and Reuse  
Cleavevent  
Commission for a Sustainable London 2012  
Construction Products Association  
Department for Business, Innovation and Skills (BIS)  
Department for Communities and Local Government (DCLG)  
Dow Chemical  
Earls Court and Olympia Venues  
Eco-Plastics  
ExCeL  
Glasdon  
Glasgow 2014 Ltd  
Government Olympic Executive  
Greenstar  
Havi Global Solutions Europe  
Heineken UK  
Icon  
Industry Council for Packaging and the Environment (INCPEN)  
Innovia Films  
ISG  
Julie's Bicycle  
Keep Britain Tidy  
Kingston University  
Lend Lease  
London Bio Packaging  
London Councils  
London Sustainability Exchange  
London Waste and Recycling Board  
Lord's Cricket Ground/Marylebone Cricket Club  
LSS  
Next  
National Industrial Symbiosis Programme (NISP)  
Novamont  
Old Trafford  
Olympic Park Legacy Company  
Packaging Federation  
Panasonic

Papier-Mettler  
Ramler UK  
Recoup  
Resource Futures  
Russell Partnership  
Samsung  
Servest  
Shanks  
SITA UK  
SKM Enviro  
Sustain: The Alliance for Better Food and Farming  
UK Renewable Packaging Group  
UPS  
Vancouver Organising Committee for the 2010 Olympic and Paralympic Winter Games (VANOC)  
Waste Watch  
Welsh Government  
Wembley Stadium  
Weymouth and Portland National Sailing Academy  
WWF

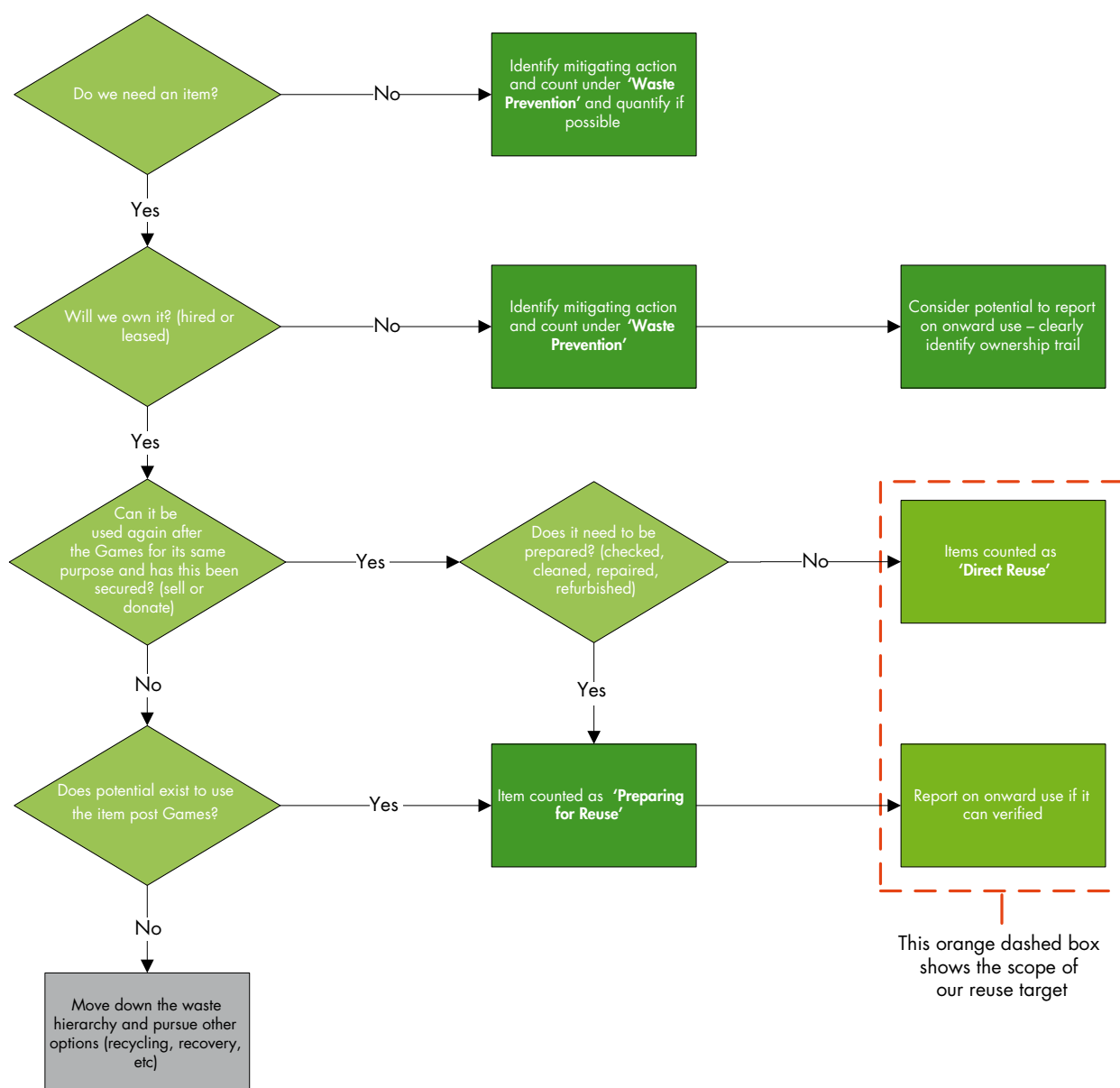
## Annex 2

### Waste prevention decision tree

The revised waste hierarchy gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for reuse, then recycling, then recovery and so on. In terms of our waste prevention story it is actually the top two headings, 'waste prevention' and 'preparing for reuse', which are of interest.

Initiatives we have taken to avoid waste, such as ensuring standard sizes and configurations are used wherever possible to avoid over-specifying and bespokeing, or where we have chosen to hire or lease an item over purchasing, would be considered to be true 'waste prevention'.

'Preparing for reuse' means checking, cleaning or repairing activities, by which products or components of products are prepared so that they can be reused without any other pre-processing. It is distinguished from 'reuse', which means products or components can be used again for the same purpose for which they were conceived. 'Reuse' is therefore counted as 'waste prevention' under the waste hierarchy.



For example, donating an item to charity is 'reuse'. However, if the same item was put out for collection as waste and was subsequently reused, this is 'preparing for reuse'. This subtlety will be lost on many of our stakeholders who fundamentally expect us to take a responsible approach to the redeployment of assets used in connection with the Games.

The decision tree above shows how we will differentiate between the different waste prevention approaches and how we will report against the 'reuse' element of our targets.

We will quantify, to the extent practicable, true 'waste prevention' and 'reuse' achievements in tonnes. Where possible we will also calculate the carbon benefits in CO<sub>2</sub> equivalent (CO<sub>2</sub>e) according to the criteria set out in our **Carbon footprint study – Methodology and reference footprint** and report in accordance with our carbon hierarchy (avoid/eliminate first, then reduce, substitute and compensate residual emissions).

Carbon emissions relating to the different waste prevention initiatives will generally be reported as follows:

- Initiatives such as ensuring standard sizes and configurations are used and hiring items instead of buying them will contribute to net reductions in our gross footprint and may also be separately highlighted as a reduction (assuming a well-evidenced reference case exists); or
- Other items with confirmed reuse will be treated as a compensation measure (that is, we will not claim a net reduction in our gross footprint, but will report the carbon benefits of such initiatives separately).

# Thank you

London 2012 would like to thank its partners for their support

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### London 2012 Olympic Partners



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