Challenges and benefits of the packaging specifications stipulated by London 2012.
WRAP helps individuals, businesses and local authorities to reduce waste and recycle more, making better use of resources and helping to tackle climate change.
Executive summary

In order to support the waste management goals set by LOCOG for the Olympic and Paralympic Games, a Packaging Guidelines was developed to ensure the optimum packaging was used by suppliers and partners of the Games.

This report reviews the development of the specification, how suppliers to The Games adopted LOCOG's Packaging Guidelines and the lessons learnt. The information gained will be used by WRAP in order to support The Games Legacy, by developing tools and best practice guidance to help improve the performance of the UK events sector and its supply chain in the future.

Many suppliers made significant changes to packaging in order to meet the sustainability requirements. This includes Coca-Cola achieving 100% recyclable packaging across its packaging range, Heineken® producing a PET alcoholic beverage bottle, and McDonald's achieving compostability certification and producing a range of packaging fit for purpose.

Some key achievements and lessons learnt from the Packaging Guidelines at the Games were:

1.1 All Events

1.1.1 Organisers

Planning

- Addressing packaging helps support wider waste management objectives
- Guidance should be developed with early supplier input
- Supplier face-to-face engagement facilitates a good relationship
- Specific communication routes should be designated between event organisers and suppliers
- Where more than one team in the organising committee is required, providing consistency in guidance is vital
- Catering packaging represents a significant waste stream and as such it is important to take packaging into account when planning waste management at events
- It is important to work with the waste contractor(s) to ensure packaging is suitable for the streams and disposal method, such as compostable packaging
- The packaging which will be available and disposed of at an event should be taken into account when planning recycling communications, including on bin signs
- Use sustainability requirements to engage suppliers
- Having a third stream of non-recyclable was vital to ensure packaging remained fit for purpose
• Introducing the composting stream resulted in raising industry awareness of these materials and the development of a specific guidance document

Delivery

• Event time communication routes should be designated between the event organisers and suppliers

1.1.2 Suppliers

Planning

• Having a third stream of non-recyclable was vital to ensure packaging remained fit for purpose
• Specific communication routes should be designated internally for suppliers
• Suppliers should feed into guidance development where appropriate
• Supplier face-to-face engagement facilitates a good relationship
• Suppliers should, where possible, ensure that they are meeting requirements when contracted

Delivery

• Event time communication routes should be designated
• Having a close working relationship with packaging suppliers is an effective way of achieving objectives around packaging

1.2 Small Events Only

1.2.1 Organisers

Planning

• If target setting is not possible, waste contractors should be engaged to identify what materials can be accepted and a guidance note issued to suppliers

1.3 Large Events Only

1.3.1 Organisers

Planning

• Aiming high, for 70% re-use, recycling and composting, ensures maximum benefit was achieved with regard to packaging sustainability
• Guidance should be made bespoke where possible e.g. split chapters by industry
• Guidance documents should be as clear and specific as possible
1.3.2 Suppliers

Planning

- Events of this scale allow for efficiencies and guaranteed markets to develop new packaging; this was supported by using a single compostable packaging supplier for the master caterers.

Delivery

- Using large events like this can help support wider company sustainability goals of suppliers.
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## Glossary

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<th>Abbreviation</th>
<th>Definition</th>
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<tr>
<td>CCE</td>
<td>Coca-Cola Enterprises</td>
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<tr>
<td>GM</td>
<td>Genetically modified</td>
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<td>LOCOG</td>
<td>London Organising Committee of the Olympic and Paralympic Games</td>
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<tr>
<td>NNFCC</td>
<td>National Non-Food Crops Centre</td>
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<td>OPP</td>
<td>Oriented polypropylene</td>
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<tr>
<td>OPRL</td>
<td>On-Pack Recycling Label</td>
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<tr>
<td>OPS</td>
<td>Oriented polystyrene</td>
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<tr>
<td>PET</td>
<td>Polyethylene terephthalate</td>
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<tr>
<td>PLA</td>
<td>Polylactic acid</td>
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<tr>
<td>rPET</td>
<td>Recycled polyethylene terephthalate</td>
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<tr>
<td>WRAP</td>
<td>Waste Resources &amp; Action Programme</td>
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Acknowledgements

The project team, WRAP and LOCOG would like to thank the following London 2012 Olympic and Paralympic Games’ suppliers for their help and support with the study, through the provision of key insights on their use of the packaging for The Games:

- BaxterStorey;
- Coca-Cola Enterprises;
- Havi Global Solutions;
- Heineken®;
- London Bio Packaging; and
- McDonald’s Restaurants Ltd.
2.0 Introduction

2.1 Project Purpose

In support of the London 2012 Olympic and Paralympic Games Legacy WRAP wishes to develop tools and best practice guidance in order to help improve the performance of the UK events sector and its supply chain in the future. The focus of this project was packaging and the key aim was to understand how suppliers to The Games adopted LOCOG’s Packaging Guidelines and gain their views on the value gained, the challenges experienced and the lessons learnt.

The key objectives of the project were to:

- Understand the packaging guidelines stipulated by London 2012
- Capture what companies had to do in order to meet the specifications
- Capture information & data, presenting what worked, what didn’t and why
- Identify the benefits & challenges of adopting the packaging specifications
- Communicate lessons relevant to future UK sporting/cultural/commercial events

2.2 Olympic Context

The 2012 London Olympic and Paralympic Games saw a 70% re-use, recycling and composting target across all venues. Prior to the Games, LOCOG identified ten areas of critical success with regard to sustainability with packaging being one, specifically regarding catering.

An estimated 14 million meals\(^1\) were served during the Games with a peak tonnage of 300 tonnes a day of waste collected at the Olympic Games and 100 tonnes at the Paralympic Games. LOCOG believed that the 70% target could only be achieved by introducing compostable packaging.\(^2\) They also believed that having the compostable packaging stream allowed for the recyclable stream to be of higher quality.

\(\text{... LOCOG did not believe that the 70% recycling target would have been achievable without the role of compostable packaging ...}\)

\(^1\) This covered all food provisions including to spectators, athletes, media, employees, volunteers etc.

\(^2\) Compliance At the time of writing this report the final waste figures for the Games have not been reported and so achievement of this target is at this time not known.
3.0 Packaging Guidelines

3.1 Introduction

Packaging played an important role in the aim to meet the waste management target, since the majority of packaging ends up in the event waste stream. In order to ensure that any packaging used at Games Venues was in-line with the waste management infrastructure used, it was important that suppliers met certain criteria when it came to the use of packaging. Therefore in 2009, LOCOG started to develop a Packaging Guidelines, and completed a draft in 2010 which fed into contracts with caterers. The same Packaging Guidelines covered suppliers and licensees across all venues used during the Games.

3.2 Development Process

LOCOG were the first to produce and enforce Packaging Guidelines for use at events and since no such document previously existed LOCOG created one, engaging key stakeholders including WRAP, NNFCC, BPIF Cartons, Novamont, Amcor, Innovia, McDonald’s and CCE. A draft specification was finalised in 2010. Stakeholder engagement across the supply chain involved discussions to gauge what packaging types would be achievable in line with the waste hierarchy (see below) and waste management infrastructure adopted, as well as on what key materials should and should not be used.

3.3 What Was Required?

The Packaging Guidelines included guidance on how to package products, the design of the packaging, which materials were permitted to be used, the level of recycled content required within those materials, and the requirements for compostable packaging. The guidance included a matrix to help suppliers chose their packaging in line with those which are considered widely recycled in the UK.

3.3.1 Packaging Design

The Packaging Guidelines were developed in line with the waste hierarchy, where re-use and recycling/composting sit higher than disposal and energy recovery:

- Waste Prevention
  - Reuse
  - Recycle/Compost
  - Energy Recovery
  - Disposal

...removing unnecessary layers
...light weighting
...avoiding hazardous materials

...use of most widely recycled materials
...use of compostable packaging where possible

...Ensuring hard-wearing packaging
...Considering re-useable transit packaging

London 2012 Legacy Transfer Report: Packaging
3.3.2 Use of Materials

The Specification required suppliers and licensees to adhere to pre-approved materials in line with LOCOG’s sustainable sourcing code.

Packaging used was required to be either reusable or widely recycled, and where neither was possible, compostable. Certain materials considered difficult to recycle or those considered more hazardous such as PVC were not permitted within the scope of the specification and at least 5% recycled content was required for recyclable packaging (or higher if industry average for that material was higher, for example PET bottles saw a requirement of 25% rPET).

LOCOG provided the following matrix for suppliers to use as a guide to what materials are considered as widely recycled i.e. where the majority of local authorities have facilities for that packaging type in their area.

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3 When referring to compostable material, this meant that it had to be certified to EN13432, The European Standard EN13432 “Requirements for packaging recoverable through composting and biodegradation - Testing scheme and evaluation criteria for the final acceptance of packaging”, defines the characteristics that a material must have, in order to be defined as “compostable”. Packaging products that conform to the ‘compostable’ criteria of the relevant standard are suitable for composting (the tests simulate industrial scale composting conditions) and those that conform to its anaerobic digestion criteria are suitable for that method of organic recovery - http://www.bpf.co.uk/Topics/Standards_for_compostability.aspx
### Materials matrix

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*Refer to the LOCOG list of restricted substances and materials (Appendix C, Sustainable Sourcing Code)

**Key**

- Can be widely recycled
- May be able to be recycled in limited areas
- Not currently able to be recycled

- where around 65 per cent, or more, of local authorities have good access to recycling facilities for that material
- where packaging types are supported by 15–65 per cent of local authorities
- where packaging types are supported by less than 15 per cent of local authority collection coverage
- Not applicable
3.3.3 Labelling Requirements

All packaging was required to be labelled using either the UK’s On-Pack Recycling Label (OPRL) for retail items, or the Games specific on-pack logos for catering packaging.

OPRL was launched by the British Retail Consortium with support from WRAP, the On-Pack Recycling Label scheme aims to deliver a simpler, UK-wide, consistent, recycling message on both retailer private label and brand-owner packaging to help consumers recycle more material, more often. More information about the scheme can be found here: [http://www.onpackrecyclinglabel.org.uk/](http://www.onpackrecyclinglabel.org.uk/)

The Games specific on-pack logo was developed by LOCOG and WRAP as a variant of the label scheme to aid the recycling of items at venues during the Games. They were limited to the three streams used; a black non-recyclable label, a green recycling label or an orange compostable label.

3.3.4 Use of Suppliers

There are a range of organisations that supported and supplied The Games. These include licensees or sponsors such as the John Lewis Partnership, Next, and Hornby, and suppliers such as London Bio Packaging, catering companies, McDonald’s and Coca-Cola Enterprises.

Those that were interviewed for this project were:
- BaxterStorey – one of 13 master caterers at the Games
- Coca-Cola Enterprises – supplier of soft drinks
- Havi Global Solutions – packaging supplier to McDonald’s Restaurants Ltd
- Heineken® – supplier of alcoholic beverages
- London Bio Packaging – packaging supplier to the caterers
- McDonald’s Restaurants Ltd – only branded catering supplier

LOCOG restricted which packaging supplier caterers could use to source their packaging, putting out a public tender for the role of supplying packaging to The Games. The winning bidder was London Bio Packaging. LOCOG restricted this to one supplier in order to ensure the Packaging Guidelines was met, particularly with regards to compostable packaging.
4.0 Response to the Packaging Guidelines

4.1 Packaging Redesign?

In many cases, suppliers were already using similar packaging to that stipulated by the Olympic Games Committee. This may have been aided by LOCOG’s attempt at early engagement with key organisations, ensuring they understood the potential and limits for optimising packaging.

One example of successful engagement was with Coca-Cola Enterprises (CCE), who was involved at the draft phase of the Packaging Guidelines and was able to give feedback on a realistic level of recycled content for plastic PET bottles.

For example, initially 30% recycled content was put forward by LOCOG for PET bottles. However Coca-Cola is leading the way with use of rPET in PET bottles and they themselves are only approaching 25% across their product range, due to the challenge of sourcing enough recycled polymer. Feeding this back to LOCOG allowed for the level to be reduced to a more realistic 25%, which all Coca-Cola bottles sold at The Games adhered to.

Coca-Cola also made some changes to its packaging to comply with the specifications; some additives used by Coca-Cola were not ideal as they lowered the quality of recyclate, particularly the UV glue for the Powerade label and the Oxygen Scavenger layer from the Glaceau Vitaminwater. Coca-Cola made a business decision (encouraged by the Olympics) to invest in removing these layers in order to improve recyclability of the packaging and make it 100% recyclable. This packaging format has been permanently adopted and continues to be used after the Olympics.

Patrick McGuirk, CCE

In the wider market 97% of Coca-Cola packs are recyclable but at the Olympics we achieved 100% recyclability. This is being continued...

Patrick McGuirk, CCE

... Removing the Oxygen Scavenger layer was a very significant investment; however having the guaranteed partner at the Olympics helped us to accelerate the decision to invest...

Patrick McGuirk, CCE
Heineken® is a further successful example of a company who developed its packaging in order to supply The Games.

Bottled Heineken® has traditionally been sold in glass bottles; however, for safety reasons, glass bottles were not allowed at the official London 2012 venues and therefore fully recyclable plastic PET bottle was developed. Heineken® already has a company sustainability plan, ‘Brewing a Better Future’, so developing a recyclable PET bottle complemented their company environmental goals.

Under the contractual obligations from LOCOG, Heineken® designed and produced a PET bottle from scratch using a new designated internal project team. The LOCOG Packaging Guidelines was shared with the team so all were familiar with the requirements.

The bottle was coloured green in line with existing branding and almost looked identical to a glass bottle. The Games specific recycling waste stream logo was on a label on the back of the bottle. Heineken® plan to roll the bottle out globally (although without the Games specific recycling logo) as they received excellent customer feedback and brand/commercial value on the new design.

McDonald’s, the only branded food service outlet at the Games, made some changes to its packaging in order to meet the waste management guidelines set by LOCOG, with the support of its packaging supplier, Havi.

With regard to compostability, the vast majority of packaging supplied by Havi was already compostable (prior to the Games); therefore the only contractual requirement for them was to gain certification to EN13432 for this compostable packaging, which they did, in line with the process specified under the caterers section of this report. McDonald’s and Havi also worked together to make the following developments:

- Addition of Games specific logos on all packaging;
- Oriented Polypropylene (OPP)sleeve on milk of Happy Meals was changed to Oriented Polystyrene (OPS);
- Hot cups and lids were made wholly compostable;
- Cold cups and lids were made wholly compostable; and
- McFlurry cups were made fully compostable.

---

4 No survey has been carried out, based on anecdotal feedback only
In order to comply with the waste streams available, McDonald’s/Havi introduced a compostable plastic, which maintains performance at different temperatures. To aid consumer segregation, many products were streamlined so that most pieces of grouped packaging connected to a single product (e.g. the cup, the straw and the lid), could go into a single waste stream.

For the cold cups and lids, McDonald’s and Havi changed to a sustainable compostable-coating for the cups, and a compostable material for the lid and straw, which allowed all the items to be enter the same waste stream.

The material for the hot cups was changed to include a compostable-coating with a recycled sleeve and a Polylactic Acid (PLA) lid. The use of these materials meant that the whole unit was compostable, and could therefore display the compostable on-pack label.

McFlurry cups were changed to a compostable-coated material and the usual provision of a white plastic lid and spoon was removed. Instead London Bio Packaging supplied compostable spoons and all other cutlery to McDonalds, since all cutleries at the park was sourced through LOCOG. However, these changes negatively impacted on finished product quality since their usual spoon fits on to a spindle, which mixes the McFlurry, but the spoons provided by London Bio packaging / LOCOG were standard bioplastic spoons that meant mixing by hand. This procedure didn’t give the same finished quality as it didn’t mix the sauce and topping in properly.

All other packaging items just needed labelling with the relevant Games specific waste stream logos but remained the same materials as is usually provided in store, as they already met the Packaging Guidelines. Only very small items, such as milk jiggers (individual serving pots) and salt and pepper sachets remained non-recyclable or compostable.

Caterers: London Bio Packaging, the single contractor to supply packaging to the caterers at the Games, already had most of the required packaging types within their existing portfolio. For those few packaging items new to them, to design and create them was relatively straightforward since it follows current working practice when working to meet new client demand. London Bio Packaging supplied 250 different packaging items for the Olympics.

Caterers produced the majority of packaging at the Games, so to be restricted to one packaging supplier was a new challenge for them, as well as to have to label the products by waste stream and to understand the compostable stream, likely to be a new stream for many. Therefore a key area of learning for the caterers and packaging suppliers at the event was around their understanding of compostable packaging. Where some packaging types were claimed to be EN13432 certified, it was in fact only elements of that packaging that was certified. It was therefore required for every piece of packaging supplied, to go through a WRAP review and in some instances through live trials to ensure items were compostable to
EN13432. All compostable packaging at the Games went through the following process in order to ensure compatibility with EN13432.

4.2 Specification Challenges & Usability

On-Pack Recycling Labelling

All companies interviewed, and who supplied products in packaging or packaging items to the Games, including CCE, McDonald’s (Havi), Heineken® and London Bio Packaging had to introduce the OPRL or the Games specific waste stream logos to their packaging. Only CCE will be continuing with their use of the label, since it is in line with their packaging outside of The Games.

A key challenge around the On-Pack Recycling Label was to re-design the product label ensuring sufficient space is allowed for the label, this was also found to be expensive. CCE stated that the label required was reasonably large, and that they therefore prioritise messages, and chose to lose the tidy man symbol5. The position of the label was also important for it to look like a retail label as opposed to a recycling message. It should be noted however that this refers to the national OPRL scheme, rather than the Games specific waste stream logo.

Changes to Packaging

Some suppliers faced issues with existing packaging types such as existing use of plastic grades, particularly within the timescales, since not all grades were accepted for recycling.

By undertaking a number of changes, McDonald’s and Havi met a high level of compliance with the Packaging Guidelines with front of house packaging; however their biggest issue was back of house.

5 http://www.keepbritaintidy.org/
Front of house individual cartons are fairly easy to make changes to, however to change the transit packaging that food suppliers use was a different task altogether as it would involve developing a whole new manufacturing process. This therefore posed a greater challenge, particularly within the timescales. Suppliers were asked to give McDonald’s detail of each element of packaging used for the 110 food products that would be delivered to the restaurants. These were then categorised using the information provided by LOCOG, and a waste stream allocated to each. Through this process, suppliers changed a number of items of packaging.

In preparation for the Games, McDonald’s ensured that all of its compostable packaging was certified to EN13432. The process of certification brought some challenges as although all the relevant packaging was fully compostable, the sheer number of different items meant that the testing and auditing process was very expensive.

London Bio Packaging also found it challenging to get every single permutation of a product (i.e. different size but same material) to be certified to EN13432 separately, which at an event like the Games required hundreds of products for different functions, which was not easy. Many of their products were already EN13432 certified so where they were making new products for the Games, they tried to ensure the material had been certified to EN13432 elsewhere – London Bio Packaging regarded the analysis and testing by WRAP as a benefit to act as a check that all products were appropriately certified.

The lack of industry guidance of compostable packaging was a huge learning for LOCOG and the key suppliers involved in packaging design for the Games, including Havi and London Bio Packaging. The requirement for reviewing every piece of packaging to ensure conformity with EN13432 by WRAP has led to a document being written to help address the issue in the future. In some instances, live trials had to be run to check the packaging, and on many occasions, packaging was found to not conform. This was found to be caused by a general lack of clarity in UK guidance for following and meeting EN13432; a major issue was that a material may have been certified, but the product itself was not. Therefore a major legacy from the Games is the provision of a guidance document, now in development.

LOCOG also found it important to ensure that the correct facilities exist to dispose of compostable packaging – the importance of liaising with the waste contractor when planning to use compostable packaging is imperative.

For LOCOG, one of the main issues with suppliers was the cups having different specifications since they would have liked to see just one specification on hot and cold cups instead of the use of PP, PET and McDonald’s compostable variation; however this would have been even more challenging for suppliers.

Having that support from WRAP and their expertise to independently sign-off products as being compostable was extremely useful and London Bio Packaging believe we would have struggled without this...

Marcus Hill, London Bio Packaging
Provision of Documents

Many documents were provided to suppliers containing various information which some suppliers found difficult to filter to their specific business. Since the Specification itself was not business specific, some thought that made it more difficult to meet, however for others it was the difficulty in deciphering the technical detail of packaging relevant to them that was challenging.

London Bio Packaging suggested that although the Specifications were worthwhile and helpful, the level of detail provided was not sufficient, for example they did not stipulate raw material guidelines. It may be that more engagement to clarify specific requirements, such as source of raw material should be had early on.

Timescales

Timescales was an issue highlighted by most suppliers of the Games, and this was recognised by LOCOG themselves. One of the main challenges faced by suppliers to London 2012 was the issue with timescales provided for changes and adaptations to packaging to be made.

For Heineken®, the whole production process from project plan to delivery of bottles was tight. They were not contracted as an official partner until early in 2011, and had to organise themselves internally before starting with the technical side of things such as the design of the PET bottle, designing the label and so on. There were specific elements along the way that required checking such as:
So the timeframes in developing a product not in place under an existing SKU was difficult particularly with it being a UK specific roll-out.

A timescale issue seen by McDonald’s/Havi was with an LDPE bag used for Happy Meal toys. The lead time for a new Happy Meal toy is over 18 months, including development, testing, manufacture and delivery. Given this lead time, any labelling requirements need to be specified in advance of production so that they can be incorporated into the design and the development schedule. In order to avoid potentially late and costly changes and solutions to labelling (in the case the need to develop bags for the toys), due consideration should be given to any existing long lead times of production.

McDonald’s/Havi found it more challenging to meet the specifications of compostable packaging since McDonald’s has a Europe-wide policy of not using Genetically Modified (GM) materials. Tests were completed on a number of alternatives, including cardboard lids, and non-GM bio-based materials developed by Havi. In the end, in order to meet the compostable specifications, and find a product that complied with health and safety, and quality standards, as well as satisfying the McDonald’s GM policy, a solution was found through the use of a PLA layered lid supplied by Natureworks, which had the facility for offsetting any GM content.

Caterers thought that the timescales for the procurement of packaging could have been improved upon as well, which would have helped ensure products were fit for purpose. It would also have helped with the forecasting and ordering of materials. Forecasting has meant many caterers now have Olympic specific packaging they do not need, however this is an issue likely to result from most large-scale events.

McDonald’s consider that given the long development timescales and significant work and changes needed to international supply chains, the main stakeholder meeting would ideally have been more than 18 months in advance of the Games. Clarification of the details of the packaging requirements (such as the allowance of plastics other than PET and the OPRL details) would
have been preferable several years in advance. At events such as the Games, the earlier such details can be confirmed, the greater level of compliance that can be achieved by all suppliers.

**Engagement**

During the Games, suppliers found it extremely useful to have just one key contact at LOCOG who was readily available to provide guidance and support at any time. However, some feedback, particularly prior to the Games, was not quite as positive when it came to engagement with suppliers.

London Bio Packaging, the caterers and LOCOG themselves all believe that more engagement with the caterers would have benefited the process. It is understood that in some instances, the caterers were emailed with details of important information, and sometimes London Bio Packaging had to inform them of things themselves. London Bio Packaging and LOCOG feel that a workshop or gathering in a room (face-to-face) would have been more engaging.

In addition, prior to the Games, there was varying guidance provided by different teams from within LOCOG as to what was allowed and not allowed; this was because the Catering, Cleaning and Waste team was separate to the Sustainability Team and therefore was not always consistent in giving advice if contacted separately. Having one team and one contact throughout would have been beneficial. Additionally, consistent internal engagement within the catering organisations would have supported the communication of the Specification and the reasoning behind it and there was also potential for improvement here.

Caterers would have liked more time to input into the packaging supplied. They believe that sustainability sacrificed quality on some occasions such as baguette packaging not withstanding moisture, salad lids not closing properly and having flimsy lids, however, with more time to discuss requirements, these products could have been more fit for purpose, therefore more discussions with caterers early on would have been beneficial to ensure requirements were fully understood. London Bio Packaging stated that product selection was agreed by LOCOG in advance meaning caterers ended up using certain products for different uses than they were intended for and different uses from which they were specifically made for. London Bio Packaging was able to help with some additional product for certain caterers but with more time and engagement it could have helped deliver everything that was specific to each caterer’s differing requirements.

London Bio Packaging struggled with orders being added on and quantities fluctuating quite close to the event itself – better purchasing forecasts through early engagement with all parties could have alleviated this issue, however this is considered to be common in most events of this scale.
5.0 Impacts of the Packaging Guidelines

There have been many success stories with regard to the packaging used at The Games and the benefit of LOCOG ‘sticking with their guns’, covering the development of completely new sustainable packaging items, increasing the use of the OPRL, increasing industry knowledge of compostable packaging and removing non-recyclable layers. The Specification can now be used and adapted for other events and significantly contributed to LOCOG’s waste management goals. Whilst there were items used at the Games that did not meet the Specification, such as milk jiggers, food sachets, crisp packets, sweet wrappers, and black trays, these were in the minority, and were only accepted where there are issues such as shelf life to consider with the existing use of laminations for example. This meant the third non-recyclables stream was vital to ensure packaging could remain fit for purpose in the hospitality industry.

For Coca-Cola, the main achievement of the Packaging Guidelines was the push to achieve its own sustainability goal of 25% rPET content in its PET bottles. It also saw improvements in its recyclability of other products such as removing non-recyclable layers from packaging. By doing this it achieved 100% recyclability of its packaging at the Games. It is now also a member of the OPRL and has met its target of 25% rPET content across all of its branded bottled drinks by the end of 2012.

London Bio Packaging saw a benefit from being able to develop new packaging designs, with a guaranteed market in place to receive the packaging. These new designs included:

- Fully lined heat sealable sandwich skillets – compostable;
- “Corner seal” compostable food trays – used to serve a variety of hot foods;
- Compostable sushi boxes with windows;
- Compostable wrap sandwich boxes with windows;
- Knife fork and spoon packs;
- Compostable ‘glassine’ bags; and
- Baguette collars.

The company now has these new templates in place for future clients.
BaxterStorey saw using one packaging supplier across the Games beneficial as it achieved economies of scale to bring prices down. Since all packaging was sourced through LOCOG, prices of sustainable packaging were realistic on a price per item basis and by procuring in bulk meant that the prices were lowered. In addition, the logistics of using one supplier was beneficial since it is easier with regard to security and logistics of delivery when only dealing with one source.

The company’s overall views of the Packaging Guidelines and the process involved with sourcing the packaging was generally positive, and regarded as useful for events of this scale and nature.

McDonald’s and Havi’s achievement in each piece of sales packaging being totally compostable (and certified to EN13432) including the straw, lid and cup, was also a success. McDonald’s will also be keeping its compostable certification. McDonald's and Havi carried out a great deal of research to identify existing packaging materials and development of alternatives has been used to identify opportunities in future waste strategy. Additional benefits included positive feedback from customers that recycling ability was good, and best practice from an operational perspective has given insight into the importance of addressing packaging design in achieving the end goal of zero waste to landfill.

Heineken’s® PET bottle is a positive story from the Games; it is being rolled out globally and received excellent internal company and consumer feedback ‘excellent – looks like glass and is the same shape as a glass bottle’. Heineken® believe that in future it will become a more regular requirement for suppliers to use PET/plastic bottles for drinks since the use of glass is often restricted at events, therefore the Games allowed them to get a head start and have a good test case for Heineken’s® development process. Despite the product being suitable for low grade recycling only, the benefits were worthwhile; the company saw a brand benefit since the bottle stood out in the crowd, which resulted in a huge commercial benefit for Heineken®. Positive feedback at the event and the success of the development process has allowed Heineken® to look at rolling the bottle out globally.

The new PET Heineken® bottle really stood out and resulted in greater brand awareness and as such commercial value.
6.0 **Key Messages**

The key messages relating to the development and implementation of the Packaging Guidelines are presented below in order to support future UK sporting, cultural and commercial events. Whilst the Games were a large-scale event, over which LOCOG had considerable control, many of the learnings presented here are considered to be of relevance to events of various sizes and scale, however where some recommendation are only applicable to specific size events, these have been listed separately.

6.1 **All Events**

6.1.1 **Organisers**

**Planning**

**Addressing packaging helps support wider waste management objectives**
At events of all sizes, addressing packaging design at the planning stage ensures that it is designed in line with waste management infrastructure, therefore helping meet waste management goals.

**Guidance should be developed with early supplier input**
When developing guidance for various suppliers, key suppliers should be engaged early on in the process to ensure guidance is as robust and achievable as possible.

**Supplier face-to-face engagement facilitates a good relationship**
During the planning stage, face-to-face engagement with suppliers offers good practice in gaining their cooperation and support since it allows for issues and queries to be addressed and explanations to be given early on.

**Specific communication routes should be designated between event organisers and suppliers**
In order to ensure effective communication, specific routes should be agreed and disseminated.

**Where more than one team in the organising committee is required, providing consistency in guidance is vital**
Organising committees should ensure that independent teams, if speaking to suppliers during planning stages, provide the same guidance and information as each other to ensure consistency, and reduce confusion.

**Catering packaging represents a significant waste stream and as such it is important to take packaging into account when planning waste management at events**
Since catering is one of the biggest sources of waste at most events, the packaging they use is a big part of this and should be designed to ensure that it is in line with waste management practices.

**It is important to work with the waste contractor(s) to ensure packaging is suitable for the streams and disposal method, such as compostable packaging**
When developing the specific detail of the guidance, it is important to ensure that the waste contractors feed into its development to ensure that guidance meets their treatment requirements.
The packaging which will be available and disposed of at an event should be taken into account when planning recycling communications, including on bin signs
In order to ensure that signage is appropriate for the disposal routes, it is important for the event organisers to be familiar with the packaging that will be used so that communications can be developed accordingly.

Use sustainability requirements to engage suppliers
Present benefits of such as meeting own goals, large events only – having secured markets for product Using sustainability requirements is a good method of engaging suppliers

Having a third stream of non-recyclable was vital to ensure packaging remained fit for purpose
Some packaging items were not able to be recyclable or compostable, therefore allowing for these exceptions to be deposited in a third stream was vital.

Introducing the composting stream resulted in raising industry awareness of these materials and the development of a specific guidance document
Since composting is not currently a widely accepted route in the UK, this was new for many suppliers, particularly with regard to certification to EN13432. The lack of clarity in UK guidance around the subject became clear throughout the process and has therefore resulted in a guidance document being created for future industry use.

Delivery

Event time communication routes should be designated between the event organisers and suppliers
In order to ensure effective communication during the event, specific routes should be agreed and disseminated.

6.1.2 Suppliers

Planning

Having a third stream of non-recyclable was vital to ensure packaging remained fit for purpose
For suppliers, having the flexibility of a third stream when planning the packaging to use allowed them to ensure that they could consider the products as well as the waste management whilst designing their packaging

Specific communication routes should be designated internally for suppliers
Suppliers should ensure they have designated communication routes to the event organisers to ensure all relevant information is sourced. Suppliers should also establish the appropriate processes to disseminate this information to their employees.

Suppliers should feed into guidance development where appropriate
Suppliers, once confirmed as partners, should offer support in any guidance development so that they can ensure it is fit for purpose and achievable, and that they are aware early on of any requirements/work that is to be undertaken to ensure compliance.

Supplier face-to-face engagement facilitates a good relationship
Suppliers should request face-to-face engagement with the event organisers when planning for an event, to ensure they hear relevant information first hand and have the opportunity to feedback on decisions.
Suppliers should, where possible, ensure that they are meeting requirements when contracted
Meeting EN13432 was a requirement for compostable packaging, however the Games saw many suppliers not meeting this standard resulting in independent verification being required. Suppliers should ensure they fully understand what is required and that they are adhering to those requirements prior to commitment.

Delivery

Event time communication routes should be designated
During the event itself, suppliers should ensure they are aware of communication methods with organisers and ensure that they stick to that method. They should also ensure that they have a system of disseminating information to their employees.

Having a close working relationship with packaging suppliers is an effective way of achieving objectives around packaging
Working closely with packaging suppliers ensures they can produce good quality packaging which meets the event organisers’ and their customer’s requirements.

6.2 Small Events Only

6.2.1 Organisers

Planning

If target setting is not possible, waste contractors should be engaged to identify what materials can be accepted and a guidance note issued to suppliers
For smaller events, to produce and present a guidance document may not be possible due to time and budget restraints. An alternative would be to produce a series of instructions and simply email them to suppliers of the event, thus simplifying the process and removing the cost burden.

6.3 Large Events Only

6.3.1 Organisers

Planning

Aiming high, for 70% re-use, recycling and composting, ensures maximum benefit was achieved with regard to packaging sustainability
At an event of this scale, the 70% reuse, recycling and composting target was regarded as ambitious, however this ambition helps push for high levels of reuse, recycling and composting, thus ensuring that everything possible is done to achieve targets.

Guidance should be made bespoke where possible e.g. split chapters by industry
In order to aid readability of guidance, they should be split out and tailored for each business type where possible. Too much information can cause confusion for suppliers.

Guidance documents should be as clear and specific as possible
To ensure that maximum benefit can be seen from guidance documents, they should be clear and legible at all times to ensure various businesses are aware of their specific requirements.
6.3.2 Suppliers

Planning

Events of this scale allow for efficiencies and guaranteed markets to develop new packaging; this was supported by using a single compostable packaging supplier for the master caterers.

Suppliers of large events may be able to use the guaranteed market for the product to aid tool development and new design portfolios.

Delivery

Using large events like this can help support wider company sustainability goals of suppliers.

Suppliers who were contractually required to make changes to their packaging may find that the drive to address packaging actually helps them on their way to achieve their own sustainability goals.

Packaging really helps meet sustainability goals – and therefore to link waste and packaging strategies is vital for success.

Helen McFarlane, McDonalds

We now know we can achieve big things – we can do recyclable, now to move to compostable!

Linda Berkel, Heineken®