London 2012 Olympics Goes for the Green with its Energy-Efficient, Sustainable, and Recyclable Design

Energy Savers Blog

The London 2012 Olympics will be underway tonight, and the 500-acre Olympic Park constructed for the world competition is home to nine brand new sports facilities. With the enormous task of keeping tens of thousands of spectators cool, lights on, and bathrooms in good working order for the next several weeks, the London 2012 Organizing Committee and the Olympic Delivery Authority set out to build their new facilities with energy efficient, sustainable, and recyclable designs. Here's a rundown on how the London 2012 Olympics is cutting down the watts and water to keep the games clean, green, and energy efficient.

First up is the Velodrome [1], one of the most iconic and sustainable buildings ever built for the Olympic Games. The building contains the indoor cycling track, and it was built to hold 6,000 people and keep them cool this summer with a completely natural ventilation system [2] using outside air. That's right; no air conditioning required. In addition, the Velodrome uses natural lighting during the day [3] to supplement fluorescent lighting, saving a lot of energy. Did we mention it collects rain water for its main water usage with its sloped roof? Savvy indeed.

Next there's the Water Polo Arena [4], the first ever dedicated Water Polo venue to be built for the games. The 5,000 person capacity arena holds a 37-meter pool and a uniquely sloped roof (from 25m down to 6m). But more interestingly, the arena was built sustainably in that it can be (and will be) torn down immediately after the games, and the materials reused for construction. The building is made with Polyvinyl chloride material, or PVC, which is easily recyclable.

Right next to the Water Polo Arena is the brand new Aquatics Center [5]. The wave-inspired interior ceiling of the venue is spectacular to look at. Two temporary wings, with the capacity to hold 17,500 spectators, were built sustainably for the arena so once the games are completed, they can be removed, allowing the facility to be used by the London community.

The Olympic Park's new Basketball Arena [6] is perhaps one of the most interestingly designed sports facilities, as it's one of the largest ever built for temporary use. In terms of design, it's more of a tent or scaffold that's entirely sustainable like the Water Polo Arena. Its steel frame, constructed in only three months, is covered in 20,000 square meters of white, recyclable PVC fabric. All of these materials can be taken down and reused after the Olympic Games.

The Copper Box [7] is likely one of the most efficient buildings in the Olympic Park. It will be used for various exciting court-worthy events (handball or badminton, anyone?). Why is it named the Copper Box? The boxy building has 3,000 square

meters of copper (mostly recycled) on its exterior faces, giving it that nice bronze sheen. In terms of sustainability and energy efficient design, the Copper Box has 88 pipes that bring in natural daylight, saving an annual 40% on lighting costs. Also, much like the Velodrome, the roof collects rainwater on its roof for the use of waste management (toilets), which will also cut water costs by 40% per year.

The London games is poised to leave a legacy as the most energy efficient Olympics to date. With these energy-efficient, sustainable, and recyclable facilities, it is surely going for the green.

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[1] http://www.london2012.com/venue/velodrome/
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