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Recycling City Center

When most people think about recycling, they picture curbside recycling at home or the paper bin in the office copy room. However, recycling stretches far beyond these scenarios. One of the largest waste streams in the country is from the construction and demolition industry. A major construction project can generate thousands of tons of waste, most of which is recyclable. When MGM Resorts International began planning the \$8.5 billion CityCenter in Las Vegas, the largest private construction project in the country, they knew they were going to have a lot of waste to haul out, and preferably not to a landfill.

From the beginning, recycling was a key component of the many environmental efforts undertaken as part of the CityCenter project. However, as plans moved forward, they ran into a recycling problem. While there are a number of recycling companies in Southern Nevada, none of them were capable of handling the staggering amount of construction waste that would be generated by constructing the 18 million square foot, 67 acre campus. To remedy this, MGM Resorts International partnered with Evergreen Recycling of Las Vegas, helping them with capital to build a facility that could accommodate the waste from CityCenter. This partnership helped create and stimulate a viable new C&D waste recycling market in Las Vegas.

Before any construction could begin, there was some demolition to be done. The property where CityCenter now stands was originally occupied by the Boardwalk Hotel. Like many of the older resorts in Las Vegas, the Boardwalk was imploded to make way for something with more glitz and glamour. As with any implosion, there was the problem of disposing the demolition waste. However, rather than going to the landfill, more than 85% of the Boardwalk Hotel was recycled or reused. Fixtures, doors, and hardware were sold for reuse. The carpet was removed and recycled to produce new carpet. Scrap metal was recycled. The concrete, asphalt, and broken tiles from the Boardwalk were crushed and used as structural fill for CityCenter. Even the window curtains found reuse as packing material for shipping bathroom fixtures slated for reuse in other projects.

Ultimately, between the implosion of the Boardwalk Hotel in May 2006 and construction through June 2009, 271,460 tons of wastes were removed from the CityCenter site. Of this, 254,853 tons were diverted from the landfill, resulting in a diversion rate of 94%. See the below table for the diversion breakdown by materials and the associated greenhouse gas reductions (calculated using the EPA's WARM).

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Business Environmental Program
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Recycling City Center (cont'd)

City Center Carbon Reduction by Material (through June 2009)

Materials	Tons Diverted	MTCE Reduction	MTCO2E Reduction
Asphalt	24,315		
Concrete	148,075	317	1,160
Drywall	6,410		
Metal	13,860	19,873	72,735
Paper/Cardboard*	4,544	4,382	16,038
Wood	22,559	15,106	55,288
Wire/Cable	1,201	1,628	5,958
Reuse/Salvage	30,777		
Green Materials	776		
Plastic	2,158	896	3,279
Demo	95		
Other	63		
Carpet	20	39	143
TOTAL	254,853	42,241	154,602

One metric ton of carbon is equivalent to approximately 2.66 metric tons of carbon dioxide.

*Configured as 'Mixed Paper'. Totals would be 3,855 MTCE and 14,109 MTCO2E if configured as 'Corrugated Cardboard'.

CityCenter opened to the public in December of 2009. It includes the ARIA Resort & Casino, a 61-story, 4,004-room gaming resort; luxury non-gaming hotels including Mandarin Oriental Las Vegas and Vdara Hotel & Spa; Veer Towers, the development's only strictly residential buildings; and Crystals, a 500,000-square-foot retail and entertainment district. The property contains approximately 2,400 total residences between Veer Towers, Vdara Hotel & Spa and Mandarin Oriental, Las Vegas. Each of these buildings (six total) was awarded LEED Gold certification by the U.S. Green Building Council.

Since opening, the commitment to recycling has continued at CityCenter. The campus has four recycling docks used to separate the regular flow of recyclables through the properties. These include, but are not limited to, paper, cardboard, plastic, glass, metal, and kitchen grease.

Aside from the bigger picture, construction and demolition (C&D) waste recycling has several benefits for individual businesses. First and foremost, it reduces material expenses and waste disposal costs, helping companies meet the so called "bottom line". Second, businesses exercising sustainable practices have an opportunity to leverage their sustainability in their marketing/advertising to new clients. Lastly, having experience in C&D waste prevention and recycling enables a business to bid on projects that specify green building practices.

If your company generates waste such as asphalt, concrete, wood, drywall, wire/cables, metal, carpet, etc., perhaps C&D waste recycling is a good option for you. For more information, contact the Business Environmental Program or visit our website at www.unrbep.org.