



eNewsLink



Linkup

A NEWSLETTER TO EXPAND MARKETS FOR RECYCLED MATERIALS

Winter 2007



Machine designed by Recovery 1 to crush gypsum for recycling.

Paving the way: A new use for recycled gypsum

What is [LinkUp's](#) New Year's resolution? Recycle more gypsum. A local recycling company has developed a new way to process gypsum wallboard waste.

Gypsum is a mineral mined primarily for use in wallboard, which accounts for approximately 25 percent of the weight of total construction waste for new homes⁽¹⁾. Landfill disposal of gypsum wastes a valuable resource, and takes up valuable landfill space. For these reasons it's important to increase gypsum recycling.

In 2005, 6,000 tons of gypsum waste generated in King County (excluding Seattle) were taken to [New West Gypsum](#) in Fife and [Recovery 1, Inc.](#) in Tacoma where it was processed for use in new wallboard. Until now, wallboard has been the primary market for recycled gypsum and recovery capacity has been limited by the percentage of recycled gypsum that can be use in wallboard manufacturing. Recovery 1 is now focusing on another market that will increase gypsum recycling capacity for King and Pierce counties.

This January, Recovery 1 began producing recycled gypsum that can be used in Portland cement, which will be made into concrete. Recovery 1 has developed this new market for gypsum in King and Pierce counties, and has built gypsum processing machinery specifically for this purpose.

"This is a new use of recycled gypsum – not just to the Puget Sound area, but to a lot of places in the country. I'm not aware of any other place doing it," said Terry Gillis, general manager at Recovery 1.

Unlike recycling gypsum for wallboard, gypsum that is to be used for cement must be in a pure form with no contaminants. To make it possible to recycle gypsum for use in cement, Recovery 1 designed new machines to crush the gypsum without tearing the paper in the wallboard so that the gypsum can be separated.

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Material highlights

LinkUp blog

Be sure to check out the new [LinkUp blog](#). The blog includes categories for each of [LinkUp's](#) focus materials. Share your thoughts, post articles and links, or just learn more about what is happening with recycling in King County.

Shingle use standard

Individual states across the country are working to develop their own standards for the use of recycled tear-off shingles in hot mix asphalt. For guidance they are looking to a provisional standard adopted by the [The Association of American State Highway and Transportation Officials](#).

Container glass fast fact

More than one ton of raw materials are saved for every ton of glass that is recycled, including 1,300 pounds of sand, 410 pounds of soda ash, 380 pounds of limestone and 160 pounds of feldspar. – [Glass Packaging Institute](#)

News you can use

Recycling in the world of

Gillis anticipates shipping 2,500 tons of finished gypsum product each month, which will be used for cement. According to Gillis, Recovery 1 won't stop at cement. They are already planning the next phase of recycling: processing the paper separated from gypsum for use in ceiling tiles.

(1)"Construction Waste Estimate for a 2,000 Square-foot Home." Construction Materials Recycler. April 7, 2000.

King County focus



In 2007, LinkUp will focus its efforts on asphalt shingles, container glass, urban wood and gypsum wallboard.

Select materials focus of new LinkUp program

This month marks the launch of the new [LinkUp](#) program for 2007, which revolves around four priority materials: container glass, gypsum wallboard, asphalt shingles and urban wood. These materials were chosen based on needs in the marketplace and King County's overall waste recycling goals and priorities.

"There is great potential to increase the reuse and recycling of each of the chosen materials," said [LinkUp](#) program manager Kris Beatty. "Finding and developing new markets for these materials will not only help King County achieve its zero waste of resources goal, but will also help keep these materials out of the landfill, reducing the negative impact on our environment."

As part of the new program, [LinkUp's](#) Web site has been redesigned to feature a page dedicated to each of the priority materials. On these pages you will find information on potential markets, resources and links to current projects. [LinkUp](#) has also created a blog that is dedicated to discussions around each of the materials.

Here is a brief look at each of this year's priority materials:

Container glass — Each year, approximately 40,000 tons of container glass are generated in King County (outside Seattle), and only slightly more than half of it is recycled⁽²⁾. Although glass is one of most common materials for recycling, a number of barriers exist to improving current markets for recycled glass and for finding new markets for this abundant material. In addition to use in new bottles and containers, recycled glass is often bought for industrial use, especially in construction applications.

Asphalt shingles — An estimated 17,000 tons of asphalt shingle

asphalt

The [2007 World of Asphalt](#) show and conference will take place March 20-27 in Atlanta. The conference includes exhibitors and education courses. One of the planned topics is the growing use of recycled shingles in asphalt. The course will educate those in the industry on how to get the material, proper handling procedures and process techniques.

Built Green

Learn more about the business of sustainability at the [Built Green Conference and Expo](#) on Mar. 13 in Everett. The event will feature insight from those involved in sustainable business, workshops, as well as exhibitors of green products and services. The Built Green Hammer awards will also recognize outstanding builders and projects.

WSRA annual conference

The Washington State Recycling Association will host its annual [Recycling Conference and Trade Show](#) May 6-9 in Vancouver, WA. This year's theme is "Reshaping Recycling: Views from the Rim"; topics will include green building practices, sustainable markets, and developing viable recycling programs in rural areas.

waste is generated by construction and demolition activities in King County (outside Seattle) each year. Less than 1,000 tons of these materials are currently recycled⁽³⁾. Potential markets for recycled asphalt shingles include hot mix asphalt, aggregate road base and cold patch.

Gypsum wallboard — Construction and demolition activities in King County (outside Seattle) generate an estimated 31,000 tons of gypsum wallboard waste per year. Only about 6,000 tons of this supply is currently recycled⁽⁴⁾. It is estimated that 12 percent of gypsum wallboard becomes scrap during installation⁽⁵⁾. Most of this material waste is generated from new construction, followed by demolition, manufacturing and renovation. Recycled gypsum can be used in new wallboard, as an additive in concrete and as a soil amendment.

Urban wood — Each year in King County (excluding Seattle), 94,000 tons of recyclable urban wood is thrown away⁽⁶⁾. Recyclable urban wood includes pallets, crates, finished and unfinished furniture, manufacturing scrap and more. Currently the primary use for recycled urban wood is hog fuel. Hog fuel is wood ground in a machine called a hogger, that is burned in industrial boilers to generate energy. Eighty-two percent of all recyclable wood is sold to this market⁽⁷⁾. King County will be working to investigate other emerging markets for recycled urban wood, such as landscape chips, pulp feedstock and finger-jointed lumber.

(2) Cascadia Consulting, Market Assessment for Recyclable Materials in King County, 2006, pp 40.

This number was calculated based on 2002 waste composition data applied to King County's 2005 waste disposal forecasts. www.metrokc.gov/dnpr/swd/about/documents/MarketsReportFINAL.pdf

(3) Cascadia Consulting, Market Assessment of Construction and Demolition Waste Materials, 2004, pp 30. Estimate based on interviews Cascadia Consulting Group completed with local haulers, processors, and recyclers. www.metrokc.gov/dnpr/swd/about/documents/C-D_Markets_report-final.pdf

(4) Cascadia Consulting Group, Market Assessment for Recyclable Materials in King County, 2006, pp 50. This number was calculated based on 2002 waste composition data applied to King County's 2005 waste disposal forecasts and interviews Cascadia Consulting Group completed with local haulers, processors, and recyclers. www.metrokc.gov/dnpr/swd/about/documents/MarketsReportFINAL.pdf

(5) Cascadia Consulting Group, Market Assessment of Construction and Demolition Waste Materials, 2004, pp 40. www.metrokc.gov/dnpr/swd/about/documents/C-D_Markets_report-final.pdf

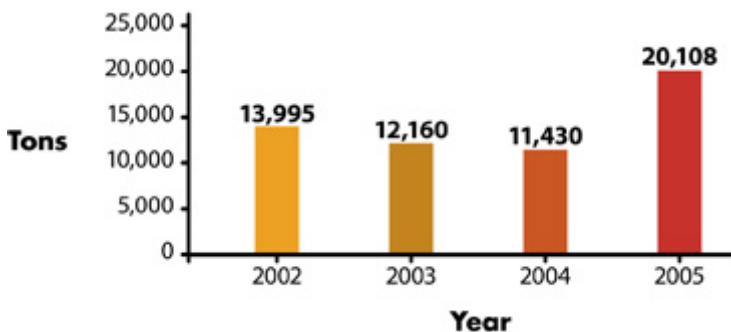
(6) Cascadia Consulting Group, Market Assessment for Recyclable Materials in King County, 2006, pp 104. This number was calculated based on 2002 waste composition data applied to King County's 2005 waste disposal forecasts and interviews Cascadia Consulting Group completed with local haulers, processors, and recyclers.

www.metrokc.gov/dnpr/swd/about/documents/MarketsReportFINAL.pdf

(7) Cascadia Consulting Group, Market Assessment of Construction and Demolition Waste Materials, 2004, pp 25. www.metrokc.gov/dnpr/swd/about/documents/C-D_Markets_report-final.pdf

Fast facts

Gypsum recycled in King County⁽⁸⁾



The amount of gypsum recycled in King County has varied from

year to year. By making gypsum wallboard one of its priority materials for 2007, [LinkUp](#) hopes to increase the amount of gypsum recycled each year.

(8) Gretchen Newman, Solid Waste & Financial Assistance Program at the Washington State Department of Ecology

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