

Resource Conservation Challenge: Reusing and Recycling Industrial Materials

The main goal of the Resource Conservation Challenge (RCC) is to change the way Americans think about waste—to see the value of a used material as a product or commodity, not as a waste. Thousands of manufacturing processes and utility generators create hundreds of millions of tons of materials that are largely wasted. The RCC aims to not only change our thinking about these materials, but also to “reclaim” them. It relies heavily on voluntary partnerships to promote and encourage the use and recycling of these rich, largely untapped resources. Positive economic rewards and environmental results are moving our partners toward more waste reduction and materials management. By committing ourselves to reduce more waste, to reuse and recycle more materials, to buy more recycled and recyclable products, and to reduce toxic chemicals in products and waste, we conserve energy and preserve natural resources.

Goal: Increase Reuse and Recycling of Industrial Materials

The RCC is focusing first on three industrial materials, which are generated in large volumes and amenable to beneficial use. These are:

- Coal ash
- Foundry sand
- Construction and demolition debris

Beneficial use means reusing or recycling materials in practical applications such as roads, bridges, buildings, or other construction projects. The beneficial use of industrial materials, such as coal ash, foundry sands, and construction and demolition debris, conserves virgin resources and reduces energy use and associated greenhouse gas emissions.



RCC Partnerships Promote Beneficial Use Industrial Materials

We are working with associations and businesses find better ways to reduce, reuse, and recycle industrial materials that might otherwise be disposed of. Examples of RCC initiatives to beneficially reuse industrial materials include the following:

- **Coal Combustion Products Partnership (C²P²).**

This cooperative effort with the coal combustion industry is promoting the beneficial use of coal ash. The partnership is working with all levels of governments and industry to improve markets and promote the safe use of coal ash. For example, the long-term benefits gained by using coal ash in cement are well proven.

- **WasteWise Partnership.**

For more than a decade, WasteWise partners have shared a common goal to reduce and recycle many types of waste, from consumer products to manufacturing processes to industrial byproducts. Businesses, institutions, and governments make up the WasteWise partnership. They are practicing and testing a wide range of ideas such as using organic food waste to feed animals and reusing construction and demolition debris from old buildings to make new buildings. As part of this latter effort, the partnership is establishing the WasteWise Building Challenge, which provides incentives for companies to reuse and recycle more construction and demolition debris.

- **Foundry Sand Partnerships.**

Together with the foundry industry, we've set national goals for the safe reuse of foundry sands. We're focusing on nonhazardous "green sands," which use clay as a binder material and are the molding media most commonly used by foundries. We're also looking for ways to improve markets for these sands. For example, we plan to examine and publicize successful uses of foundry sands in various projects around the country. We also plan an educational campaign about the environmental benefits of foundry sands, which will be aimed at states and targeted industries.

- **Construction and Demolition Debris Partnerships.**

For nearly 10 years, we've been promoting the benefits of reusing and recycling materials from construction and demolition projects. We've worked hand-in-glove with the Construction Materials Recycling Association, the National Demolition Association, the National Association of Home Builders, the General Contractors Association, the U.S. Army Corps of Engineers Construction Engineering Research Laboratory, the Building Materials Reuse Association, and others to conduct important studies, workshops, and pilot projects on the value of construction and demolition debris.

Resource Conservation Challenge

The RCC challenges everyone to accept responsibility and rededicate themselves to conserving resources. Accepting responsibility for improving our environment means changing our habits, processes, and practices. Everyone has a role. Businesses, consumers, and governments work together to make changes resulting in products designed to be more easily reused and recycled. Manufacturers can make products less toxic and more recyclable, and prevent and recycle waste. Individuals and businesses can change their buying and disposal habits, seeking less toxic products and recycling at every opportunity. For more information on the challenge, see <www.epa.gov/rcc> and the *RCC Action Plan* at <www.epa.gov/epaoswer/osw/conservation/action-plan/act-toc.htm>.

Resources

The **Coal Combustion Products Partnership (C²P²)** (www.epa.gov/epaoswer/osw/conservation/c2p2/index.htm) is a cooperative effort among EPA, the American Coal Ash Association, the Utility Solid Waste Activities Group, the U.S. Department of Energy, and the U.S. Federal Highway Administration to help promote the beneficial use of Coal Combustion Products (CCPs) and the environmental benefits that result from their use.

EPA's **Industrial Waste Management Web site** (www.epa.gov/epaoswer/non-hw/industrial/index.htm) provides access to tools and recommendations that can help facility managers make environmentally responsible decisions, while working in partnership with state and tribal regulators and the public. It also serves as an implementation reference tool for regulators to complement existing programs and informs the public about actions they can take to address waste management issues in their community. In addition, it provides an excellent resource tool to augment curriculum in environmental studies and engineering programs at various academic institutions.

Materials and Waste Exchanges (www.epa.gov/epaoswer/non-hw/recycle/jtr/comm/exchange.htm) are markets for buying and selling reusable and recyclable commodities, including industrial waste and construction and demolition debris. This site provides a listing of national, international, state, and regional exchanges.

EPA's **Foundry Sand Web Site** (www.epa.gov/epaoswer/non-hw/recycle/jtr/comm/sand.htm) provides links to organizations and resources related to the beneficial reuse of foundry sand.

EPA's **Construction and Demolition Debris Web site** (www.epa.gov/epaoswer/non-hw/debris-new/index.htm) offers comprehensive information on reuse and recycling of construction and demolition debris.

This issue of the *WasteWise Update*, **WasteWise Update: Building for the Future** (www.epa.gov/epaoswer/non-hw/reduce/wstewise/pubs/wwupda16.pdf), looks primarily at the materials efficiency aspects of green buildings, including the reduction, reuse, and recycling of construction and demolition debris, and the use of recycled, reused, and otherwise "resource-efficient" building products.

The mission of the **University of Florida Powell Center for Construction and Environment** (www.cce.ufl.edu) is to foster the implementation of sustainability principles into the creation of the built environment internationally. The Web site includes descriptions of ongoing projects and resources.

The **National Association of Home Builders (NAHB) Research Center** published a document, *Field Guide for Residential Remodelers* (www.epa.gov/epaoswer/non-hw/debris-new/pubs/remguide.pdf), which provides remodelers with information on cost-effective and voluntary construction waste management. The guide addresses the unique aspects of remodeling, including differences in waste generation and site and work characteristics.



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