The Markets for C&D Materials

Common approaches to marketing C&D materials include direct outreach to retailers, end users and developers, contacting brokers, hosting auctions and on-site sales. Groups interested in deconstruction materials include homeowners, architects, developers, artists, historic preservationists and interior designers, among others.

In addition, many communities now have stores that accept and resell donated surplus building materials. Stores, contractors and online materials exchanges are listed in a directory hosted by the Building Materials Reuse Association (www.buildingreuse.org).

Resources

From clear project steps to well-established markets, today is a great time to explore opportunities for innovative materials management projects at brownfields in your community. To explore potential opportunities further, please check out the resources below and contact the EPA Region 4 Brownfield Program.

EPA's Deconstruction Rapid Assessment Tool
www.epa.gov/large-scale-residential-demolition/deconstruction-rapid-assessment-tool
This EPA tool helps organizations prioritize structures for C&D materials recovery and recycling. The assessment process looks at information about a building's condition and salvageable material inventory. It considers factors that may affect the value of the building, such as age, structural integrity, materials and architectural features, and provides guidance regarding potential next steps.

Building Materials Reuse Association (BMRA) | bmra.org
This national nonprofit focuses on advancing and increasing opportunities for the recovery, reuse and recycling of building materials in an environmentally sound and financially sustainable way.

Construction & Demolition Recycling Association (CDRA)
cdrecycling.org | The CDRA promotes the environmentally sound recycling of the more than 500 million tons of recoverable C&D materials generated in the United States annually.

National Demolition Association (NDA)
www.demolitionassociation.com
The NDA emphasizes opportunities for debris recycling, environmental remediation and architectural salvage during demolition projects.

Innovative Materials Management

Maximizing the Value of Brownfield Redevelopment Projects

Reusing brownfields often means finding new ways of doing things – from funding through project planning and redevelopment. Brownfields are innovation opportunities. This brochure explores a powerful tool, innovative materials management, available to communities, local governments and their development partners. Recovering and recycling construction and demolition (C&D) materials at brownfields supports the sustainable reuse of these areas by maximizing the economic and environmental value of the materials.

Structures on brownfields – old warehouses, factories, mills, refineries, offices – are often seen as an impediment to redevelopment and revitalization. Retaining and reusing parts of these structures can give them new life as well as preserve community heritage. They can serve as the symbolic cornerstones of new development projects as well as open space and recreation areas and other community amenities.

This brochure provides key information to help you and other EPA brownfields grantees across the Southeast and the nation get started with your own projects. Please read on to learn more about innovative materials management and how communities in Alabama, Mississippi and Georgia have taken different approaches to overcome redevelopment challenges and achieve remarkable results, cost savings and environmental benefits.

What if that old building in the middle of your revitalization project was a resource rather than a liability? What if that old tower or other unique feature could accent a new development or parks and trails in the community? What if that building might become the centerpiece of a new project?

According to the Construction & Demolition Recycling Association (CDRA), more than 583 million tons of C&D materials are generated annually. Recovering, diverting and recycling these materials would avoid filling in 4,300 acres of landfill every year.

EPA

EPA's Brownfields Program empowers states, communities and other stakeholders in economic redevelopment to work together to prevent, assess, safely clean up and sustainably reuse brownfields. The EPA Region 4 Brownfields Program serves Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and six tribes. The program works with agencies, communities, and other public and nonprofit partners to identify, assess, safely clean up and plan for the revitalization and reuse of brownfields across the southeastern United States.

For more information, please contact:
EPA Region 4 Brownfields Program
(404) 562-8371 | www.epa.gov/node/56563

Benefits of Innovative Materials Management Projects

- **Reduces the amount of waste sent to landfills and incinerators.**
- **Conserves natural resources such as timber, water and minerals.**
- **Conserves energy and reduces greenhouse gas emissions.**

- **Increases economic security by tapping a domestic source of materials.**
- **Prevents pollution by reducing the need to collect new raw materials.**
- **Provides opportunities for workforce and contractor training.**

Innovative Materials Management – Project Steps

C&D recovery approaches range from full deconstruction, in which an entire structure is dismantled, to soft-stripping, where only easy-to-capture materials such as appliances and cabinets or high-value materials such as old-growth lumber, quarried stone and copper are salvaged. Five straightforward steps, outlined below, guide successful C&D recovery projects.

Inventory Materials
Make a detailed inventory of all building materials. Distinguish between materials that should be salvaged, reused, recycled or disposed of. Track the types of materials, their estimated quantities and condition, and any possible contamination by hazardous materials such as asbestos and lead.

Identify Markets
Determine what materials can be conveniently and cost-effectively reused or recycled on site as well as in surrounding areas.

Evaluate Costs and Benefits
Identify any costs associated with reusing and recycling materials from the deconstruction project. Identify the broader benefits as well, such as waste reduction, job creation and environmental protection. The completed project can receive points for green-building certifications by reusing/recycling materials. Compare the benefits with the costs associated with traditional demolition and disposal.

Plan for Storage
Create a plan for the management, storage and separation of deconstruction project materials on site or nearby. Some materials may be comingled with other materials for recycling. Other materials will need to be separated.

Focus on Education and Capacity Building
Tell employees and contractors about new operating procedures. Everyone involved in a deconstruction project needs to understand how to manage building materials efficiently and effectively. A materials management plan is essential.

Kuhn Memorial State Hospital
Vicksburg, Mississippi
The former Kuhn Memorial State Hospital was a community eyesore, vacant for decades. In 2017, the city of Vicksburg received a $400,000 EPA brownfields cleanup grant to remove asbestos from the complex's two main buildings, dig up an underground storage tank (UST), and deconstruct the structures on site. Nearly 3,000 gallons of weathered diesel fuel was recovered from the UST and recycled, saving the city about $5,000 in disposal costs. During the deconstruction of the buildings, nearly 98 percent of all metal was recycled. The city was able to crush about 9,000 tons of concrete and brick to meet Mississippi Department of Transportation specifications for crushed stone aggregate. The recycled C&D material is valued at $126,000 and the city now uses it for its public works projects. Outside of required asbestos disposal, nearly 94 percent of all C&D materials from the former Kuhn Memorial Hospital has been recovered and recycled.

Wehadkee Dye Plant | *Talladega, Alabama*
Innovative local leadership enabled the deconstruction of this former chemical dye plant at no cost to the community. The city initially estimated that demolition of the plant would cost between $50,000 and $100,000. After acquiring the facility, the city advertised it on the GovDeals website. Strong interest resulted in a high sales price – $65,000 – that the city used to fund community projects. The winning bidder deconstructed the building, including environmental hazard abatement, and used clean material to level the property, in return for keeping all recyclable materials.

Kuhn Memorial State Hospital

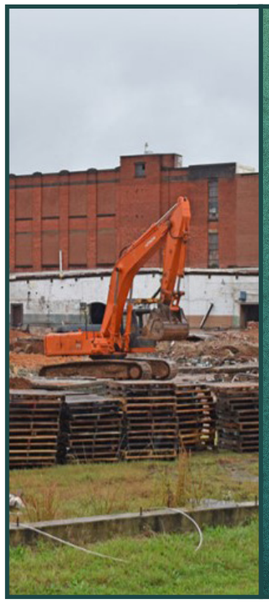
Project Steps at Brownfields

Taking these steps at brownfields also requires creativity, patience and ingenuity. The case studies on these pages highlight how local governments overcame significant obstacles to make innovative materials management projects possible.

For example, the city of Vicksburg faced conflicting bid regulations when contemplating demolition and reuse of hospital building materials. The lowest bid had to be considered for demolition, but the highest bid was required for salvage of city property. Reconciliation of these requirements required a bid ammendment with greater detail on the demolition process and required recycling of bricks, steel and concrete. Ultimately, since the project was still considered a cost to the city (although a much lower cost due to the value of the C&D materials recovered), the "low-bid" process prevailed. In Talladega, Alabama, local officials declared the entire dye plant building as surplus. Once designated as surplus, it could then be sold at auction.

In these cases, as well as at the former mills in Georgia and Alabama highlighted to the right, the localities considered site facilities as valuable assets with recoverable value rather than simply proceeding with higher-cost demolition and disposal.

Mary-Leila Cotton Mill – Mary Leila Lofts
Greensboro, Georgia
An EPA brownfields assessment grant helped this community get started on the restoration of a century-old mill. A $15 million rehabilitation project retained exterior walls, flooring and roof structures and salvaged about half of the mill's hardwood floors. The mill's historic water tower was also retained. The project resulted in 71 affordable, energy-efficient apartments. The Mary Leila Lofts development opened in 2016.



Langdale and Riverdale Mills
Valley, Alabama
A materials inventory for these two former mills identified 109,000 board feet of lumber, 209,000 pounds of metal and 63,000 bricks valued at over $160,000 that can be recovered for reuse and resale, helping to offset deconstruction costs. Redevelopment planning for both properties is currently moving forward. The city of Valley received EPA brownfields assessment and cleanup grants to support these efforts.