

US EPA ARCHIVE DOCUMENT

# Reducing Waste for Building Owners


Whether you are planning a small scale renovation of your home or business, wish to build a new structure, or plan to conduct a full-scale demolition, you can foster waste reduction.

If you plan to do the work yourself, a careful evaluation of materials and a willingness to identify and salvage reusable materials can make a significant difference in the waste generated by your project. If you will be working with an architect or contractor, your influence can make a difference in their attitude toward minimizing waste.

## Choosing an Architect

If your construction or remodel will require the services of an architect, choose one that is knowledgeable and enthusiastic about resource conservation. Waste prevention on a project is less likely without the advocacy of the project architect and designers. A committed architect will find ways to incorporate waste prevention into the building design. Their cooperation also ensures that strategies designed to reduce waste are properly implemented during the building phase of new construction. There are a number of ways of working together to define goals for reducing waste:

- x Ask prospective architects to provide information about prior experience in implementing waste prevention strategies.
- x Choose durable materials. Waste can be prevented and money saved over the life of a structure by designing buildings that are energy efficient and last longer.
- x Consider long range goals for the structure and work with the architect to create a design that is adaptable for future needs. Savings gained through durability cannot be realized if a building is demolished before the end of its projected life.
- x Work with the architect to identify creative uses for the reuse of existing structures (full or partial) and salvaged materials.
- x Communicate your willingness to purchase salvaged or recycled content building materials. Also, reuse as many materials as possible from your demolition or renovation project.
- x Request that designs include space for storage and separation of materials awaiting reuse, recycling, or composting.



## Bright Ideas

*Ultimately, it is the owner who bears responsibility for the waste generated during the construction, renovation, demolition or operation of a building. Be sure you play an active role in a waste reduction plan.*

## Additional Information

The C&D Waste Reduction and Recycling series consists of 9 fact sheets, each focusing on a different aspect of waste management. Factsheets in this series include:

- What's in a Building: Composition Analysis of C&D Debris
- Onsite Source Reduction: Cutting the Scrap
- Setting up a Jobsite Recycling Program
- Deconstruction: New Opportunities for Salvage
- Calculating Effectiveness: The Waste Management Plan
- Reducing Waste for Building Owners
- Waste Recycling Through Commingled Recovery: the Summerland Heights Residential Development
- Deconstruction on Commercial Renovation Projects: the Victoria Street Presbyterian Sanctuary
- Source Reduction in Residential Remodeling: the Las Alturas Adobe

### Other resources:

<i>Environmental Resource Guide</i> , American Institute of Architects	(800) 365-2724
<i>Environmental Building News</i> and <i>GreenSpec Product Directory</i>	(802) 257-7300
<i>Environmental Design &amp; Construction Magazine</i>	(847) 291-5224
<i>Deconstruction</i> (video), Materials for the Future Foundation	(415) 561-6530
<i>Builder's Field Guide</i> , National Association of Home Builders	(202) 822-0200
<i>WasteSpec: Model Green Building Specifications</i> , Triangle J Council of Governments	(919) 549-0551
<i>Sustainable Building Technical Manual</i> , U.S. Green Building Council	(202) 828-7422

Visit these web sites for downloadable publications, listserv information, and links to other green building sites:

<a href="http://www.ciwmb.ca.gov">www.ciwmb.ca.gov</a>	<a href="http://www.tjcg.dst.nc.us/cdwaste.htm">www.tjcg.dst.nc.us/cdwaste.htm</a>	<a href="http://www.EDCmag.com">www.EDCmag.com</a>
<a href="http://www.epa.gov/greenbuilding">www.epa.gov/greenbuilding</a>	<a href="http://www.buildinggreen.com">www.buildinggreen.com</a>	<a href="http://www.materials4future.org">www.materials4future.org</a>
<a href="http://www.aia.org">www.aia.org</a>	<a href="http://www.oikos.org">www.oikos.org</a>	<a href="http://www.usgbc.org">www.usgbc.org</a>

The C&D Waste Reduction and Recycling Series is a joint project of the Santa Barbara County Solid Waste and Utilities Division, The Community Environmental Council, and The Sustainability Project.

For more information please contact the U.S EPA, Region 9 Office of Pollution Prevention and Solid Waste at (415) 972-3282.

Funded by a grant from the United States Environmental Protection Agency, Region 9.



## The Project Team

Waste prevention is not limited to the project architect. A wide range of building professionals are in a position to implement strategies for waste prevention:

### Architects/Engineers

- x Design for optimal resource use and energy efficiency
- x Specify reused, recycled content, and environmentally preferable building materials
- x Design for durability and adaptability, with a focus on life cycle costs

### General Contractor

- x Develop a waste management plan and set specific attainment goals
- x Work with construction crew to implement jobsite recycling
- x Work with materials suppliers to reduce packaging waste and identify recycled content, environmentally preferable, and locally sourced products.

### Demolition Contractor

- x Utilize deconstruction and salvage where feasible
- x Make sure that remaining demolition debris is taken to a recycling facility

### Construction Subcontractors

- x Take responsibility for on-site waste management
- x Plan accordingly for purchases, deliveries, and storage of materials

## Alternatives to Demolition

**Deconstruction** is the systematic removal of materials from structures in order to maximize the resources that are still present. Instead of reducing your building to a pile of rubble, deconstruction can yield useful items and valuable building materials, including lumber, fixtures, hardware, and appliances.

Deconstruction can be applied on a number of levels. In some instances an entire structure can be partially dismantled and moved to another site where it is reassembled. This is not uncommon with structures that have historic appeal. There may be elements of your building that you would like to salvage to use in your rebuild. Finally, if there are components or materials that you have no use for, consider that someone else might want them. Local outlets are available for used and salvaged building materials. There are nonprofit organizations that accept used building material, and donations are tax deductible (contact the Santa Barbara County Solid Waste and Utilities Division for a listing of outlets).

Although there may be additional costs associated with deconstruction, such as increased labor hours, under favorable conditions the cost of deconstruction is competitive with demolition, while also reducing disposal costs. Also, environmental benefits are not reflected in direct cost comparisons. The use of deconstruction will result in less disturbance to the surrounding landscaping, decreased nuisance dust, and conserved landfill space. As activities become more common the economics are certain to improve.



## Glossary of Green Building Terms

**Adaptable buildings:** Buildings that can be easily remarketed, retrofitted, or reconfigured to better meet the changing needs of occupants, maintenance crews, and the larger community.

**Build to suit:** Construction of land improvements and buildings to a tenant's or buyer's specifications.

**Composting:** A waste management option involving the controlled biological decomposition of organic materials into a stable product that can be applied to the land without adversely affecting the environment.

**Deconstruction:** The reverse of construction. The careful and systematic dismantling of a structure to maximize the recovery of valuable building resources.

**Engineered lumber:** Strong, stable wood product that is

created with adhesives, heat and pressure from the fiber of young, abundant, fast growing trees.

**Green development:** A development approach that goes beyond conventional development practice by integrating environmental responsiveness, resource efficiency, and sensitivity to existing culture and community.

**Green wash (also faux green):** To falsely claim a product is environmentally sound.

**Life cycle:** The stages of a product, beginning with raw materials acquisition, continuing with manufacture, construction, and use, and concluding with a variety of recovery, recycling, or waste management options.

**Locally sourced materials:** Materials obtained from within a defined radius around a project site, in order to support the local economy and reduce transportation costs and energy.

**Nonrenewable resources:** Natural resources that are consumed faster

than can be produced. Thus they are limited resources that could eventually be depleted.

**Plastic lumber:** A lumber product made from recycled plastics or a composite of wood fiber and plastic. Water, chemical, and pest resistant, suggested for decking and light construction; not suitable for structural framing.

**Postconsumer recycled content:** Materials used in manufacture have been purchased once already and have been used by consumers, falling within the strictest definition of "recycled." Products with a high percentage of postconsumer recycled content are very resource efficient.

**Post industrial recycled content:** Indicates that manufacturing waste has been cycled back into the production process. These products do not represent the significant resource savings that post consumer products do, but are far preferable to those that use virgin materials.

**Reclaimed lumber:** Wood that has been removed from defunct structures or logs that have sunk in rivers during transport. Has all

the advantages—hard, stable, free of knots—of old growth timbers, without the need for continued logging of already depleted forests.

**Recycled material:** Material that would otherwise be destined for disposal but is diverted from the waste stream, reintroduced as a feedstock, and processed into marketed products.

**Renewable resources:** Resources that are created or produced at least as fast as they are consumed, so that nothing is depleted.

**Source reduction:** Minimizing waste at the source of generation; preventing waste before it is generated.

**Tipping fees:** Fees charged for dumping trash at a landfill, transfer station, or recycling facility.