

# Basic Information about Wood Waste and C & D

Nearly six million tons of wood waste (e.g., urban wood waste, woody debris from suburban land clearing, and rural forestry residuals) were generated in 2003 according to the EPA. In fact, wood comprises the largest percentage of the residential construction and demolition debris (C&D) waste stream – approximately 40 to 50 percent of residential new construction debris – according to the National Association of Home Builders Research Center.



Prior to 1990, there was limited recycling of wood waste in the United States. Today, EPA estimates there are more than 500 wood processing facilities across the country.

## Markets

Markets for recovered wood vary across the United States according to regional and local supply and demand. The current market, however, is dominated by mulch and fuel applications that pay between \$12 and \$24 per ton for processed wood. Wood waste from construction and demolition activities is attractive as a fuel because of its low moisture content. Processed or chipped wood is also used as a composting bulk agent and as animal bedding. Salvaged or reused wood products are the highest value items but typically require the highest costs for sorting and processing. In addition, recovered wood can be used to manufacturer value-added products such as medium density fiberboard and particleboard; these manufacturers demand high-quality feed stocks, however, which can be difficult to achieve on a consistent basis.

The demolition industry is well established and is increasing its efforts to recover wood waste. In addition, the deconstruction industry continues to grow and salvage an increasing percentage of materials from old buildings. Deconstruction efforts recover and reuse wood for flooring, doors, windows, and other applications. A number of independent lumber mills have retooled their operations to process reclaimed timbers, as well.

Federal and local air and water regulations provide an incentive for wood recovery by discouraging inappropriate burning or discarding of woody debris. A major barrier to increased wood recovery, however, is the lack of grade standards for recovered wood. These standards include grading rules, engineering properties, and a grade stamp. There is also a need for technical performance testing to investigate the structural integrity of recovered wood.

Construction and demolition (C&D) materials consist of the debris generated during the construction, renovation, and demolition of buildings, roads, and bridges. C&D materials often contain bulky, heavy materials that include:

- concrete,
- wood (from buildings),
- asphalt (from roads and roofing shingles),
- gypsum (the main component of drywall),
- metals,
- bricks,
- glass,
- plastics,
- salvaged building components (doors, windows, and plumbing fixtures), and trees, stumps, earth, and rock from clearing sites.

Reducing and recycling C&D materials conserves landfill space, reduces the environmental impact of producing new materials, creates jobs, and can reduce overall building project expenses through avoided purchase/disposal costs.

EPA estimates that 136 million tons of building-related C&D materials was generated in the United States in 1996.

- The majority of this waste comes from building demolition and renovation, and the rest comes from new construction.
- Roughly equal percentages of building-related waste are estimated to come from the residential and commercial building sectors.
- The estimated per capita generation rate for building-related debris in 1996 was 2.8 pounds per person per day.

The composition of C&D materials varies significantly, depending on the type of project from which it is being generated. For example, materials from older buildings is likely to contain plaster and lead piping, while new construction materials may contain significant amounts of drywall, laminates, and plastics. For building materials, EPA estimates the overall percentage of debris in C&D materials falls within the following ranges\*:

Concrete and mixed rubble	40-50%
Wood	20-30%
Drywall	5-15%
Asphalt roofing	1-10%
Metals	1-5%
Bricks	1-5%
Plastics	

**Source:** United States Environmental Protection Agency