



The National Demolition  
Association Reports:

Demolition Industry Promotes  
C & D Recycling



# The National Demolition Association Reports:

## Demolition Contractors Manage and Dispose of Waste Responsibly

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Presented by

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# Demolition Industry Promotes C&D Recycling

The U.S. Environmental Protection Agency has estimated that the nation generates more than 135 million tons of building-related construction waste and demolition (C&D) debris annually. This represents the second largest component of the nation's waste stream, just behind municipal solid waste. This figure does not include the material generated in transportation-related projects such as highway, airport, and transit construction.

The National Demolition Association, the trade organization for the Demolition Industry in the United States and Canada, estimates that approximately 70% of this material is demolition debris. This distinction is important, as the National Demolition Association believes that demolition debris is relatively benign. It is "what's in a building," no more dangerous to public health and the environment in a debris pile than it was as parts of a structure. The vast majority of the material is inert. All but a miniscule amount of the hazardous materials such as asbestos and other toxic substances have been removed prior to demolition. This is important as it means that the material is potentially recyclable.

The National Demolition Association has identified 14 major constituents of a structure that could be recycled. Realistically, there are currently only three or four that have a current market value. This marketability is highly dependent upon location, competitive materials, and demand.

The National Demolition Association estimates that the Demolition Industry currently recycles approximately forty percent of the waste generated on its project sites. This figure is constantly growing.

The purpose of this policy statement is to promote this continuing increase in recycling. The recommendations presented herein represent the position of the National Demolition Association. The members of the National Demolition Association are committed to increasing the recycling and reuse of the material generated on our jobsites. We believe that this recycling is good for the environment, good for the nation's economy, a positive use of a valuable commodity, and good for the country.

Increasing C&D recycling adds to the industry's revenue stream, further stimulating the nation's economy, promotes good environmental stewardship, lessens the burden on the nation's landfills, and provides useful materials of high quality.

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The National Demolition Association believes that recommendations included in this document will promote and increase the volume of C&D material that is recycled in the United States, thereby assisting the nation in the development of a more sustainable economy.

## **The Federal Government Needs to Develop a *National C&D Recycling Policy***

Construction waste and demolition debris are solid waste and therefore governed under the Commerce Clause of the U.S. Constitution. The U.S. Supreme Court has ruled that C&D debris enjoys the same protections as other elements of the nation's waste stream. Therefore, attempts to limit its movement across state boundaries or institute flow control to limit the importation of debris from one state to another are prohibited.

This is important as it shows the need for a national policy. While the transportation of construction waste and demolition debris over long distances can have a significant impact on its disposal costs and marketability, increasingly C&D material from the nation's large urban centers is being transported to sites further and further from its generation points thereby increasing pollution and costs incurred in this transporting of the material.

In order to control the importation of this material, without the imposition of prohibited flow control, many states have developed their own regulations. Many of these regulations have elements that dramatically impact the cost and practicality of C&D recycling.

Demolition contractors work in an extremely competitive environment. They know the value of every commodity on every job they perform. The profit margins on recycled material can be very low, subject to changing local market conditions. For a demolition company to make the sizable capital investment in equipment, land, time, labor, and all the other cost points to set up a recycling program, it must be a profit-making venture.

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Any barriers established by state governments to limit or control material flow, generate revenue, or over-regulate the recycling process, significantly impact the desirability of recycling. If recycling of C&D material is not economically attractive, the Demolition Industry, which is extremely entrepreneurial, will not invest the time or money in the effort.

Recently, several large states, areas that generate significant amounts of C&D material, have established regulations that make it impractical and economically unattractive to participate in C&D recycling efforts.

### **These institutional barriers include:**

- Excessive fees for permits to operate a C&D recycling facility;
- Over-regulation of procedures used at C&D recycling facilities;
- Attempts to limit areas where C&D material can be collected;
- Overly strict regulations governing the use of mobile C&D recycling plants;
- Limited opportunities in state purchasing procedures for the reuse of C&D recycled material;
- Unrealistic C&D recycling goals tied to regional or statewide mandates.

These are but a few of the barriers currently established by state governments which are having a marked impact on the total volume of C&D material being recycled and the number of contractors entering the recycling marketplace.

In order to successfully implement a viable C&D recycling system in this country, the Federal Government, through its Environmental Protection Agency, must develop a *National C&D Recycling Policy*.

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This Policy would promote the growth of C&D recycling, make the process more economically attractive, and help develop markets for the commodities that are generated. By establishing a National Policy, the Federal Government would be stating that the recycling and reuse of C&D material are a beneficial societal goal, one that is good for our environment, good for our economy, and good for the country.

The European Union, in order to promote the recycling and reuse of C&D debris in Western Europe has established mandates for the amount of material to be recycled and a timeline to eliminate the land disposal of the material throughout its member states.

The elements of this *National C&D Recycling Policy* would include:

- National guidelines dealing with the movement of C&D material;
- Standards for material quality, thereby increasing commodity marketability;
- Reasonable regulations for mobile and stationary recycling facilities;
- Promotion of recycled C&D materials in the marketplace;
- Reasonable permitting fees for facilities with the revenue generated used to promote C&D recycling;
- National inspection standards for C&D recycling facilities.

The National Demolition Association believes that it is essential for the EPA to develop this *National C&D Recycling Policy* if the Demolition Industry is going to be able to continue to increase the volume of material being recycled.

If each of the fifty states develop its own regulations, often establishing barriers to the economic viability of recycling facilities, the progress the industry and the government has made in this important area will wither on the vine. The success of this C&D recycling effort thus far has been highly dependent upon the economic opportunities presented to the individual entrepreneurs who invest the time, money, and labor to establish these programs.

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Over-regulation, whether it is excessive permit fees to enter the marketplace or complex procedures to manage a facility, will limit entry and mean a decrease in the amount of C&D material ultimately being recycled.

The National Demolition Association believes that the EPA must begin the development of a National C&D Recycling Policy to protect the progress made thus far and promote its continued growth.

### ***Any National C&D Recycling Policy Must Expand Markets for the Commodities Generated***

The success of any recycling effort is tied to the marketability of the products that are recycled. The National Demolition Association believes that there are numerous opportunities available to the EPA to promote the recycling and reuse of components generated by the Demolition Industry.

When President Clinton ordered the Federal Government, the largest single buyer of paper in the world, to move towards increased use of recycled paper, the pulp and paper industry responded immediately to develop recycling facilities to meet this new demand. This increased use of recycled paper rippled across the economy as other large entities followed the Federal Government's lead and insisted upon recycled paper in their purchasing.

The National Demolition Association believes that the Federal Government could produce a substantial increase in the recycling and reuse of C&D material by establishing purchasing guidelines and specifications for this material. The guidelines could certainly contain quality assurance components that would allow specifying agencies to feel comfortable with the use of these materials.

It is currently estimated that over 100 million tons of concrete is recycled in the United States. If the EPA, working with the Federal Highway Administration and the state transportation agencies, would develop model specifications for the quality of recycled material, this total recycling number would increase dramatically. The use of recycled concrete and other aggregates from demolition projects as sub base, riprap, or drainage material has been a long established process. Standardization of the specifications for the reuse, on a national level, could produce a boom comparable to President Clinton's paper recycling directive.

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Similarly, establishing criteria for the reuse of wood products generated on demolition sites as a fuel additive for commercial/industrial boilers, for use in the manufacturing of plywood and other pulp products, as berm material from storm water pollution prevention, and as an appropriate landfill cover material could significantly increase the recycling of this component of the demolition waste stream.

While the Demolition Industry currently recycles the bulk of the metal components of the structures it works on, programs that promote the use of products generated by the nation's scrap industry can increase the value of this material and assure its reuse.

Other components of the demolition waste stream are being researched to see if they can be economically recycled. Recent studies on the recycling and reuse of the constituents of asphalt roofing shingles are being evaluated with an eye toward recycling this ubiquitous construction material.

Other materials in the demolition waste stream including carpet, drywall, glass, ceiling tiles, plastics, and other construction products are being studied to see if they too can be recycled or reused in an economically viable manner.

The National Demolition Association believes it is essential for the U.S. EPA to develop a program that analyzes the marketability of the components of the various elements of the nation's demolition waste stream and promotes the reuse of these materials.

## **EPA Can Promote Innovative Technologies to Increase C&D Recycling**

The National Demolition Association believes that the EPA can move the recycling and reuse of C&D material by promoting the development of new technologies and processes.

As the development of successful C&D recycling efforts is market-driven, producing systems or procedures that make the industry more productive will increase recycling activities.

Many Associate Members of the National Demolition Association currently manufacture highly sophisticated C&D recycling systems that process the industry's waste into useable commodities. In the last 25 years, these companies have made significant progress in developing systems that are durable, economical, environmentally friendly, and safe to operate. The quality of the products produced continues to improve.

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The National Demolition Association believes that the EPA should work closely with these firms to assist them with the development of systems that maximize the reuse of the industry's waste stream. Efforts to control fugitive dust, assure quality control, and increase plant mobility are all areas worthy of study. While the development of these systems is market driven, industry-government cooperation can assure that the highest quality, environmentally sound technology is developed.

Similarly, the EPA could analyze other opportunities for the reuse of C&D recycled products such as agricultural use of lime-containing sheetrock, concrete/aggregate reuse in mine reclamation, and C&D wood reuse as a municipal sludge drying agent or as components in pallet manufacturing.

The carpet industry, working in agreement with the EPA, has been trying to develop an economically viable system to collect and recycle carpets removed from demolition job sites. Making the transportation of this material to centralized, economically attractive recycling centers would be an area worth studying by the EPA.

Once the Federal Government develops the proposed *National C&D Recycling Policy*, hundreds of other entrepreneurial opportunities are likely to arise from the business community to meet the demands of this new national effort.

The National Demolition Association believes it is essential that the EPA take a leading role in promoting the development of these new technologies and procedures as part of a national effort to maximize C&D recycling in the United States.

### ***The National C&D Recycling Policy Should Offer Tax Incentives for the Use of Recycled Products***

One way to increase the recycling and reuse of C&D material is to provide tax incentives for the end users of the products generated.

There are a host of examples of how sound tax policy can increase the amount of material being recycled or reused. In many parts of the country, electric generating companies can use wood recycled from demolition projects sites as an additive to their fuel stock. This is also true for some industrial boilers that can use various hardwoods that produce higher Btus and better boiler efficiency.

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Often times, the only impediment to this reuse is the concern the power generators have regarding the air pollution that could be generated by the use of this material. If the EPA promoted providing a tax credit to these end users so that they could upgrade their pollution control systems at a reasonable cost, the plant owners would be more likely to increase their use of recycled wood in their facilities. In addition, this investment in upgraded pollution control systems would decrease overall emissions, the generation of climate-changing greenhouse gases, and improve plant efficiency.

There are numerous electric utilities that would view this opportunity as a logical next step toward energy independence and a means to guarantee a reliable source of feedstock for their operations.

Tax incentives could also be provided to solid waste management entities that implement programs to reuse C&D material as daily cover or as road construction material at their facilities. These firms would save money as they could utilize a “waste” product that they usually dispose of as a substitute for expensive virgin cover material. Overall air emissions would fall as there would be no need to truck this virgin cover material from its generation point to the solid waste facility.

Product end users could be provided with tax incentives to maximize the reuse of C&D recycled material in their processes. If highway contractors used concrete, brick, and other aggregate recycled from demolition job sites, they could be provided with financial incentives. Similarly, companies that used material from the C&D waste stream in their manufacturing process such as plywood, pulp, or pallet making could be given tax breaks for this reuse. There are innumerable opportunities to use fiscal policy as a means to develop markets for recycled products.

## **Model Specifications Develop Markets**

In concert with the specification development organizations such as the American Institute of Architects, the National Institute of Standards, and the National Association of Manufacturers, the EPA could develop model specifications and quality assurance guidelines that would increase the reuse of C&D material. If these organizations and others were able to develop a level of comfort with the sound, safe, and practical reuse of C&D materials, they would promote their reuse in the marketplace.

What these entities need is a government agency to join with them in this effort.

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The development of a *National C&D Recycling Policy* would send a message to all of these organizations that the Federal Government is serious about promoting the increased reuse of the C&D waste stream. They would then make a serious effort to develop specifications and procedures to assure its safe, reliable reuse.

By stating clearly that the Federal Government believes the recycling and reuse of C&D material is a beneficial societal goal, the EPA will push the private sector to look for ways to maximize the economic benefits of such an effort.

The EPA, as part of the National C&D Recycling Program, should begin to work with specification development entities within the government and industry to develop model specifications and quality assurance standards that promote the reuse of C&D material.

## **Matching Federal Recycling Policy with Successful State Programs**

While the current level of C&D recycling in this country is primarily market-driven, there are numerous state and local initiatives that have been very successful in maximizing this recycling. Several state environmental agencies have been developing programs such as commodity brokering systems, efforts to promote reuse of individual components of the waste stream, and encouraging the development of “Green Building” programs.

The National Demolition Association believes that an important element of the development of a *National C&D Recycling Program* should involve a study of these types of programs to evaluate their practical implementation on a national level.

Organizations such as the National Recycling Coalition, the Construction Materials Recycling Association, the National Governors Association and others should be approached about these efforts. Case studies could be funded to determine the efficacy of making them part of any national effort. It would be important to capitalize on existing successful efforts as part of any national strategy. Many of these efforts have already gone through their initial “shakedown” and have learned how to eliminate the barriers that block successful C&D recycling.

The EPA should make a concerted effort to evaluate these programs to determine what works best in the various markets and regions in the United States.

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## Develop Programs that Deal with Regulated Materials in the C&D Waste Stream

One of the major barriers to successful C&D recycling and reuse is the potential presence of regulated material in the end products. Certainly, demolition operations are confronted with a variety of hazardous, toxic, and regulated materials on a regular basis. Asbestos used in insulation, lead-based paint on architectural components, and chemicals discovered in industrial facilities are all examples of common elements in the demolition waste stream. The vast majority of these materials are dealt with before demolition proceeds and are not part of the industry's waste stream.

As previously stated, we believe that demolition debris is relatively inert, free from contaminants and environmentally safe for reuse. The National Demolition Association is not proposing that the EPA promote the acceptance of any hazardous materials in the C&D recycling stream. Rather, we suggest that the EPA evaluate the procedures used to remove these materials with an eye toward assuring the end users of our commodities of the highest quality and safest products.

Lead-based paint on concrete is a good example. Of the more than 100 million tons of concrete currently being recycled in the United States, a very small portion of this material is painted. An even smaller portion of this paint is lead-based. As the reuse of this concrete involves burying it under six inches of fill material or asphalt, its danger to public health or the environment seems infinitesimally small. Lead in the paint is only a small fraction of its total composition and studies have shown that this material does not leech very far. Recent studies conducted for the U.S. Army's Construction Environmental Research Laboratory have shown that this material can be safely recycled with minimal environmental or occupational health risk. This is but one example where EPA could evaluate the true risk of regulated materials in the C&D waste stream and ameliorate any concerns that might exist with end users.

Part of any successful recycling effort involves quality assurance and marketing the safety of the recycled products to the general public. The EPA's analysis of the safety of these C&D recycled products would help to promote their acceptance in the marketplace.

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## C&D Recycling Promotes a Cleaner Environment

Besides the numerous economic benefits of C&D recycling such as increased landfill space, sound reuse of valuable commodities, and good resource stewardship, this effort will produce a number of ancillary environmental benefits.

By promoting the recycling and reuse of C&D materials, the EPA would decrease the amount of emissions from trucks currently used to bring fill material to project sites, thereby decreasing “greenhouse gases” in the ambient air.

Similarly, the more products produced from C&D materials, the less has to be buried in landfills. It increases the useful lives of our dwindling landfill space and also decreases air emissions from trucks being sent to these landfills.

Using C&D materials as fill on construction sites preserves virgin materials for other, more appropriate uses and again limits truck emissions for the transport of this virgin material.

Any time you use materials generated onsite, you decrease your transportation costs and save money on your fuel bill. This cost saving can be passed on to the client and from there, through the entire economy. Monies made by demolition contractors through C&D recycling offset project costs just like salvage and scrap revenue. These savings can be passed on to the client and improve their overall bottomline.

Demolition contractors are great resource managers. Once a *National C&D Recycling Program* is implemented, they will develop more and better ways to increase the amount of material that is being recycled.

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## Recommendations

The nation's C&D recycling efforts continue to grow. If it is to move to the next re-used level, it is essential that a national policy be developed. The National Demolition Association believes that it is essential for the EPA to develop this National Program, coordinate this effort with existing state and local programs, and market this policy to the general public.

The National Demolition Association has been in the forefront of the effort to increase the amount of material recycled and re-used for our job sites. We look forward to working in



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