

Cook County Demolition Debris Diversion Ordinance

Chicago Metropolitan Agency for
Planning – Energy & Natural
Resources Committee

March 4, 2015



Cook County

- 5 million residents – half suburban, 2% unincorporated
- 130 municipalities
- Half of states economic activity
- 22,000 employees
- 150 government buildings
- 45,000 green jobs in the region
- Reaches millions of taxpayers, patients, court attendees, licensees

GOAL: Reduce Greenhouse Gas emissions by 80% by 2050 from 2010

Energy

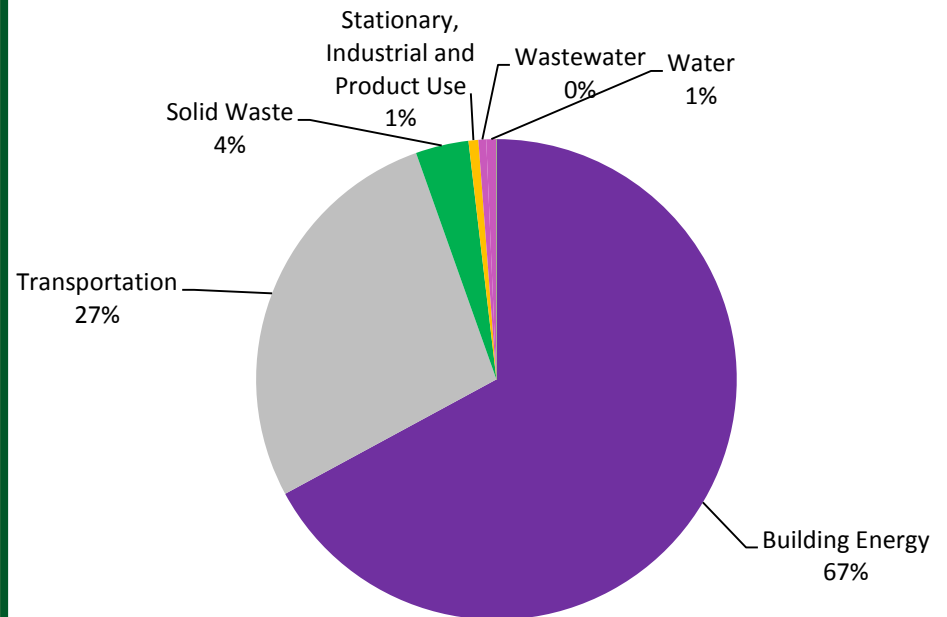
Transportation

Waste

Water

Other

Cook County Community GHG Emissions by Sector Total
Annual Emissions = 72MMTCO₂e





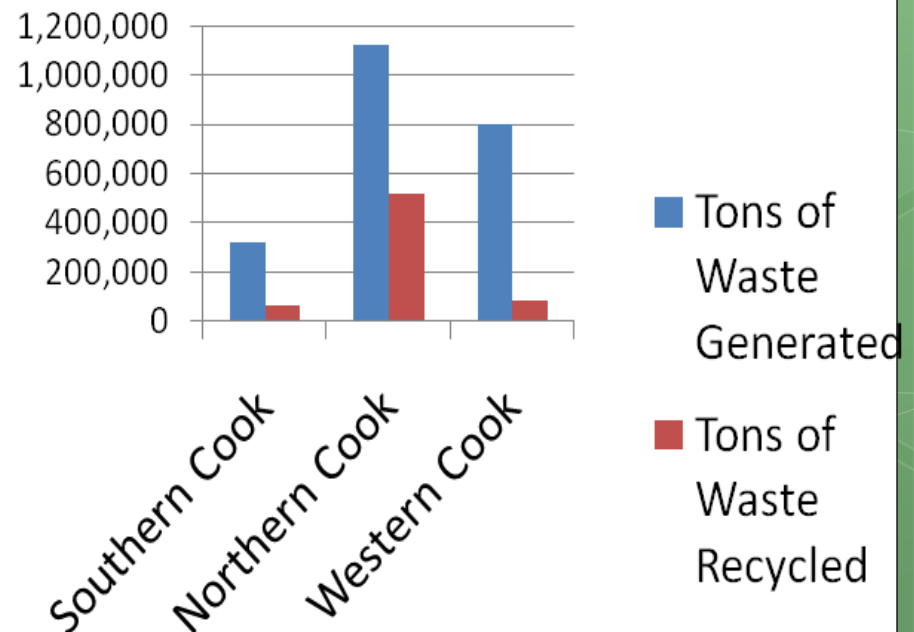
Cook County Department of Environmental Control

... to improve the quality of the environment and protect the public health of the residents of Cook County.

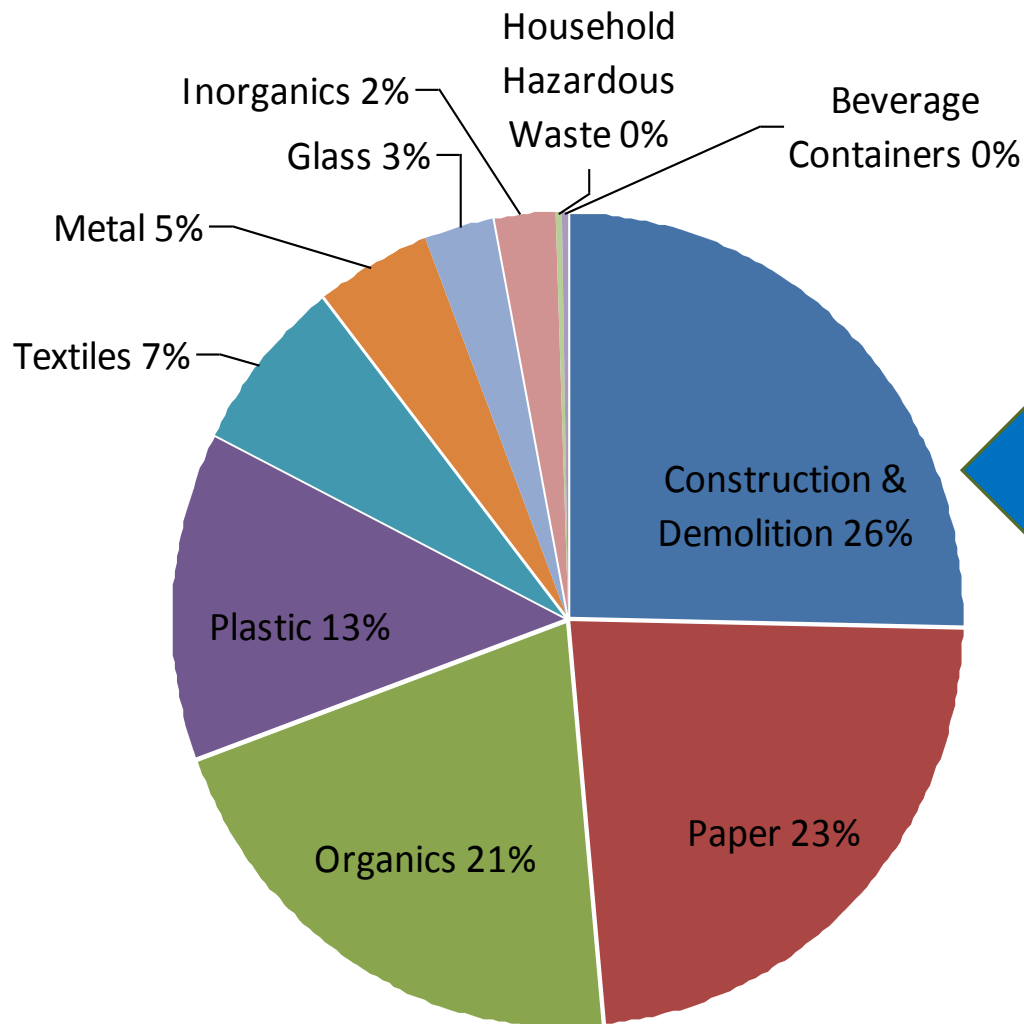
- **Inspects and permits (suburban)** business fuel burning equipment, building demolition, asbestos removal, open burning, gas station vapor recovery, dry cleaners, solid waste facilities.
- **Monitor air quality** across the County for USEPA
- **Solid waste** planning and coordination in suburban Cook
- Enhance **sustainability** of County operations and suburban communities: brownfield redevelopment, energy efficiency/GESP's, solar, etc.

Solid Waste Plan (2012)

- Some Cook County residents **create more than 7 pounds of waste per day**, more than the US average of 4.3 lbs., and **recycle less (29% vs. 33%)**.
- Only one open landfill remained in Cook County.
- Waste generation up.**
- Recycling rates declined in South and West Cook.**



Goals cannot be met without diverting all major waste categories



C&D largest category - Diversion Ordinance

Purposes, Cook County Demolition Debris Diversion (3D) Ordinance

1. Reduce amount of C&D material generated.
2. Prevent improper disposal or dumping of C&D within Cook County (by tracking materials diverted from the waste-stream).
3. Recover material value through reuse/recycling from materials that would have been otherwise discarded.
4. Reduce environmental impacts of new material production

3D Ordinance Standards

Eligible Material: waste materials produced during demolition, deconstruction or alteration of a structure. (Construction not included – we do not issue permits for.)

Requirements

- Residential structures (SF-1 up to 4 units): 70% diversion w/5% reuse
- Commercial/Industrial/Residential (4+ units) structures: 70% diversion
- Diversion Plans/reports required at the start and completion of the project

Penalties and Fines For violation of the 3D ordinance.

Green Halo

USA  Canada 



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Green Halo News

Chicago's Cook County enacts the Midwest's first ordinance to cut down C&D Waste



Tue. Feb 12th, 2013 at 10:05am


Cook County takes a big step toward their goals of zero-waste by enacting the first ever Ordinance that requires Demolition Debris to be reused. The Ordinance requires that at least 70% of C&D Debris must be recycled, and an additional 5% of it must be reused on residential structures. To help make sure this Ordinance is implemented smoothly and to make the process easier for both parties, Cook County will be using Green Halo's online Waste Tracking System to monitor and track C&D Projects and make sure that Recycling Requirements are met.



Read the full article about Cook County's new Ordinance below:


Green Halo & Material Forecasts

 USA
  Canada




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Project Specifications

Project Name Woodfield Motor Sports for Village of Hoffman Estates
Address 75 & 85 East Golf Road Hoffman Estates, IL, Cook County, IL 60602
Name Rick Langos
Phone 847-774-5966
Permit/APN # D1201579
Tract Number
Start Date 12/03/12
End Date 12/07/12
Construction Type Demolition/Deconstruction
Building Type Commercial
Project Value \$48,780
Square Ft. 8,900
Description Demolition of two buildings, grade site to drain, 4" topsoil, seed and straw blanket site.
Tracking # GH811-500-4975
Property ID
Plan Status Submitted For Final

Selected Project Managers

Name	Position	Email	Phone	Cell

Green Halo & Material Stats for Contractors

Project Performance

Estimated Project Diversion Rate

91.78%

Your Estimated Diversion

Salvaged, Recycled, and Disposed

Disposed %: 8.22



Sal/Rec %: 91.78

Estimated	(tons)	(% of project)
Recycled	1,343.39 tons	100
Salvaged	0.00 tons	0
Disposed	0.00 tons	0

Current Project Diversion Rate

97.46%

Actual Recycling Totals

Salvaged, Recycled, and Disposed

Disposed %: 2.54



Sal/Rec %: 97.46

Actual	(tons)	(% of project)
Recycled	1,247.39 tons	97.46
Salvaged	0.00 tons	0.00
Disposed	32.55 tons	2.54

Diversion Requirements

Diversion Rate Required by City

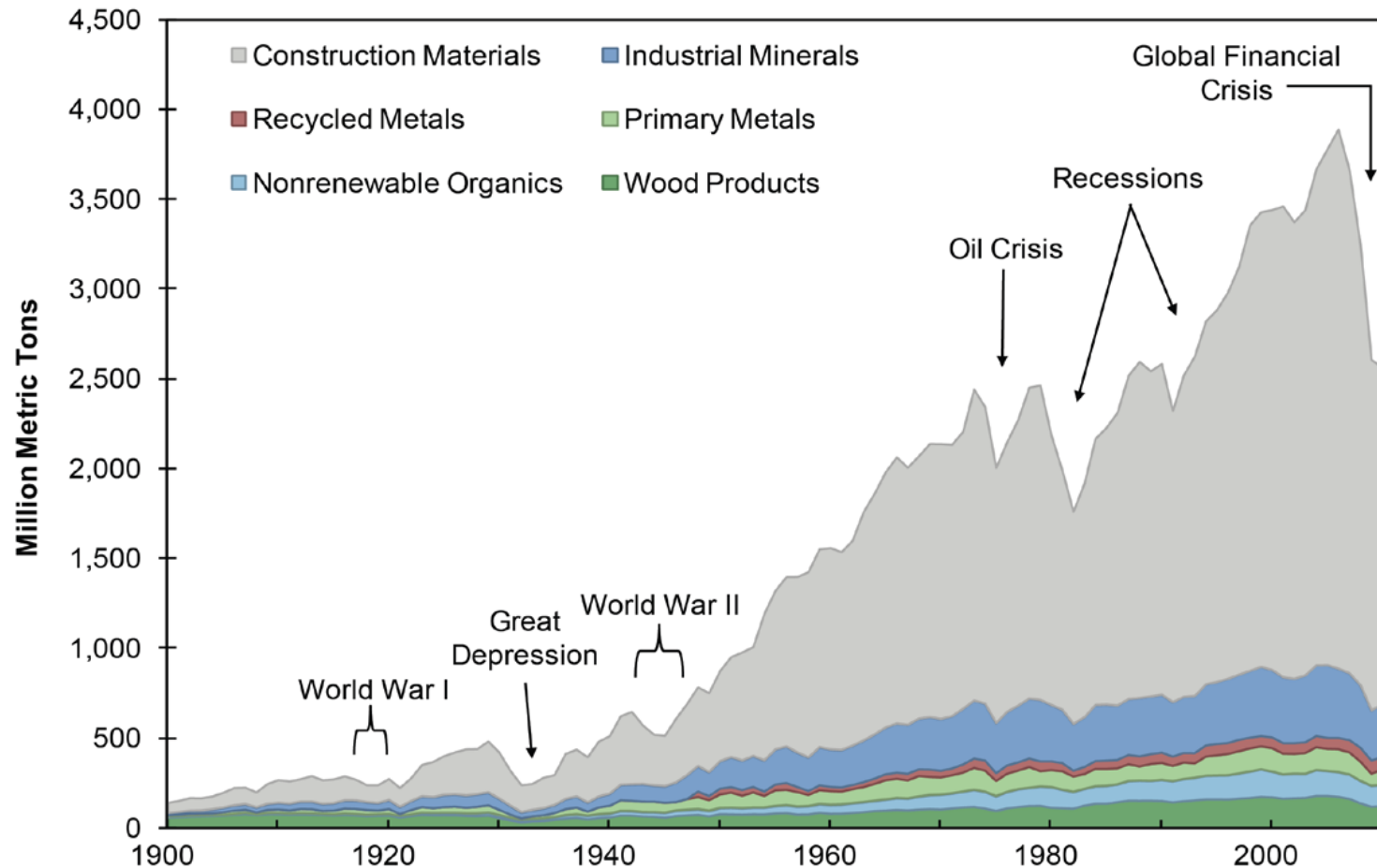
70.00%

Diversion Rate Required for Project/Company

Emerging Secondary Markets for C&D Building Materials

- Appliances
- Bricks
- Cabinets
- Doors
- Flooring
- Hardware
- Heating & Cooling
- Lighting fixtures
- Lumber
- Plumbing fixtures
- Roof tiles
- Sinks
- Trim
- Windows
- Vanities

U.S. Nonfuel Material Consumption, 1900-



Matos, G. (2012) Use of Raw Materials in the United States From 1900 Through 2010. U.S. Geological Survey (USGS). Analyzed by U. Mich. Ctr. For Sustainable Systems



Economic Benefits

- Saves lower cost materials.
- Employment and sector job opportunities (FTE/PTE job creation)
- Collection (deconstruction, salvage, logistics, etc.)
- Sales and warehousing (retailing, consignment, etc.)
- Value-added (furniture, workshops, repairs, etc.)
- Significant tax benefits.



Employment Benefits

Job ratio is 7:1, recycling vs. traditional disposal



Social Benefits

- Vacant properties decrease municipal tax rolls and diminish the value of nearby occupied residences; while raising the local costs associated with maintenance and security/safety.
- Reuse preserves local building stock/material and enhances historical preservation of local architectural detail in communities.



Environmental Benefits

- Reduces dependency on landfill disposal.
- Reduces environmental impacts of making new materials by realizing reuse & repurpose value
- Traditional demolition creates significant noise nuisance, while also creating dust and airborne particulate disturbances even with dust controlling measures.



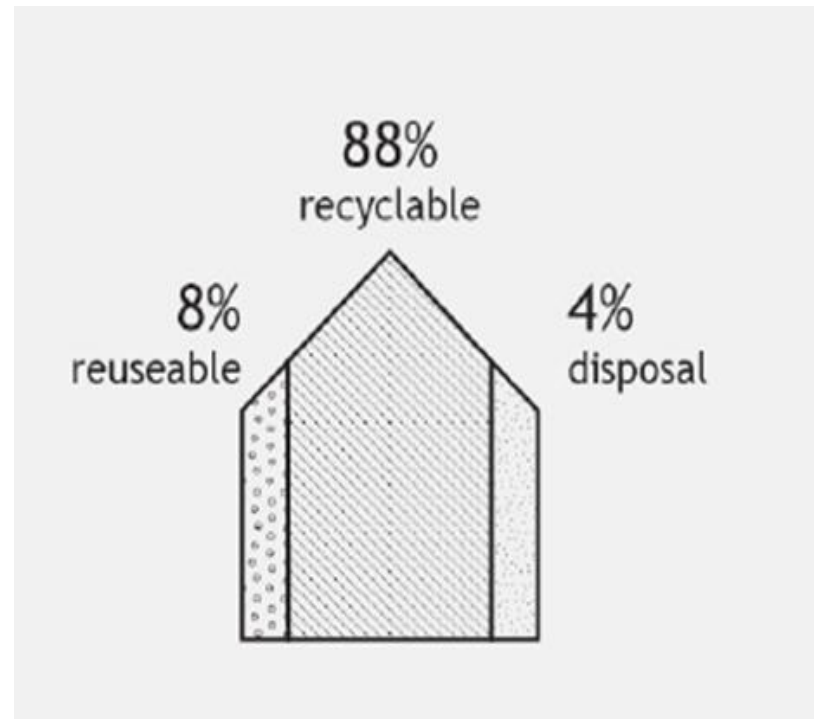
Legislative/Regulatory Strategies Promoting BMR:

- Grants, tax credits, incentives (NY, San Diego, King Co. WA & Scottsdale AZ)
- Waste diversion in gov't demo specifications (Army)
- Model policies, ordinances, recommendations (CA)
- Salvage period allowed before demo (Atherton, CA)
- Diversion deposit program (San Jose, CA)
- Recyclable materials licensing (Orange Co., NC)
- Reuse, recycling & reprocessing in const. plan (Boston)
- LEED or other waste requirements for Gov't buildings (DC, Seattle)
- Require % diversion (Cook Co., Chicago, others – NH has court declared diversion goals)
- Ban on disposal, incineration or transfer for disposal (Boston)

Most Coercive ==> Least Coercive

2012 Cook County/Delta Deconstruction Pilot

- Roughly (8) South Suburban/Evanston homes deconstructed for technician level training and data collection
- 1,250 Average Square Foot
- Routinely exceeded 5% baseline by as much as **20-30%** overage on some projects.



What's the difference between recycling and reuse?

Amount of energy used to process materials

RECYCLE

Melting down
and recasting of
structural steel

Chipping of wood
for mulch

REUSE

Denailing of 2x4's

Recycling vs Re-use of Building Materials

Recycling:

Saves landfill space

Less new raw materials needed

Recovers some of the “embodied energy” used in original manufacture (extraction of materials, manufacturing, transportation)

Reuse:

Benefits of recycling plus:

Greater (95%) savings of original embodied energy; components used in closer to final form.

Less dust/asthma.

Demolition & Deconstruction

Demolition

The process of dismantling or “knocking down” buildings (usually using heavy machinery); materials are afterwards landfilled or partially recycled.

Deconstruction

The process of systematically dismantling a structure in an environmentally, economically and socially responsible manner to maximize recovery of materials for reuse and recycling.

- Traditional demolition uses smaller work crews and heavy equipment with a quicker project turnaround.
- Deconstruction emphasizes use of a trained labor force to manually extract material for reuse & sale.

Outreach and Education

- Workshops
- Mailings
- Meetings
- Copy of 3D ordinance w/all permits



Challenges: Education, language, warehouse space

Greatest Successes

- The amount of material being diverted from the waste stream – over 90%
- Job creation/economic development opportunities
- Other municipalities getting on board



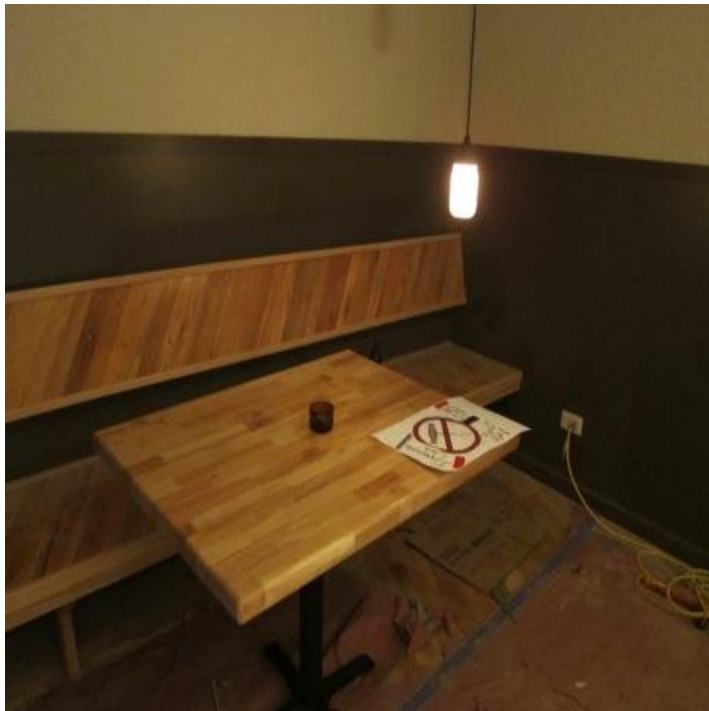
La Sirena Clandestina

RX Materials include the flooring, bar, tabletops, and the host stand









Maria's Packaged Goods and Community Bar



Resources

For more information on Cook County's Zero Waste goals and the Cook County Demolition Debris Diversion Ordinance, please visit our blog:

<http://blog.cookcountyil.gov/sustainability/>. Also:

- Cook County Demolition Debris Ordinance: http://library.municode.com/HTML/13805/level3/PTIG_EOR_CH30EN_ARTXDEDEDI.html
- Cook County Solid Waste Plan: <http://blog.cookcountyil.gov/sustainability/2012-cook-county-solid-waste-management-plan/>

For GreenHalo:

- <https://www.greenhalosystems.com/>

For more on the reuse movement:

- GO Guide to Deconstruction and Reuse, 2nd Edition: http://www.delta-institute.org/sites/default/files/DeconstructionAndReuseGoGuide2ndEd_Web.pdf
- On the Road to Reuse: <http://www2.epa.gov/sites/production/files/2013-09/documents/road-to-reuse-residential-demolition-bid-specification-201309.pdf>
- Market Analysis of Construction and Demolition Material Reuse in the Chicago Region: <http://www.delta-institute.org/sites/default/files/2-DeltaUICMaterialReuseAnalysis.pdf>

Resources

For ReUse warehouse and retail facilities in the Chicago metro area:

- ReBuilding Exchange: <http://rebuildingexchange.org/>
- Evanston ReBuilding Warehouse: <http://evanstonrebuildingwarehouse.org/>
- ReUse Depot: <http://www.reusedepot.org/>
- Habitat for Humanity ReStores (several)

For national organizations with members involved in building material reuse or recycling:

- Building Material Reuse Association: <http://bmra.org/>
- Construction & Demolition Recycling Association: <http://www.cdrecycling.org/>