

Deconstruction & Reuse: Aligning with Sustainable Materials Management

**If waste really is just “a product of bad design,”
how do we embrace new technologies to return
to the age old wisdom of reusing our materials?**

Presented by: The Building Material Reuse Association
Joe Connell
Executive Director

This work is licensed under the Creative Commons Attribution-ShareAlike 4.0 International License.
To view a copy of this license, visit <http://creativecommons.org/licenses/by-sa/4.0/>.

It all starts with Design

- 🌐 “purpose, planning, or intention that exists or is thought to exist behind an action, fact, or material object.”



So how did we get here?

- 🌐 If Building Material Reuse is as old as buildings themselves, why isn't it the standard now?



We got really good at extracting raw materials



Mass production



And creating an economy of the new



Our present system had some help along the way too - subsidies



And, we use to think the world was a lot bigger...







So how do we utilize new technology?



To re-introduce ancient systems of reuse



4 key elements

-  **Deconstruct present building stock**
-  **Create tighter limits on waste and construction locally and regionally to start.**
-  **Build an interconnected reuse industry**
-  **Design for reuse and deconstruction**

So who is the reuse industry anyway, and how do we encourage them?

- Deconstruction
- Retail retailers
- Reuse Makers
- Up-cyclers and DIY'rs
- Reuse Remanufacturing
- Architects and Designers
- Reuse Remodelers and Builders

And what exactly is Deconstruction?



“The systematic dismantling of a structure in order to preserve the building materials for reuse”.

BMRA

And how do we move this product?

Retail Outlets

thousands
nationwide
and growing fast



Up-cyclers and Re-makers



But is that enough to turn the tide?

No.

We need to move on from reuse being a niche market.

Reuse needs to be incorporated on a large scale into design, systematic approaches to large scale construction, and distribution of materials.

I dream of the day when I can call a local lumber yard and spec a load of reclaimed 2x4!

So what do we need?

- More reuse operators and deconstructors
- More ordinances limiting waste and promoting reuse [not just recycling]
- Systems approaches to distribution of materials
- And we need everyone who cares about sustainability and materials management to include reuse and decon.

Why? – why is our industry so imperative?

- Because a virgin 2x4 is cheaper than a reclaimed 2x4.
- [and a new door sees more of the world than I do.]

1 Billion board feet

The estimated amount of dimensional 2x4 and 2x6 material in present residential US housing.



C&D diversion

Each year more than 17 million tons of recoverable C&D wood materials are landfilled at a cost of more than \$500 million.



“Municipal Solid Waste(MSW) and Construction and Demolition(C&D) Wood Waste Generation and Recovery in the United States” Dovetail Partners

LEED points for wasting?

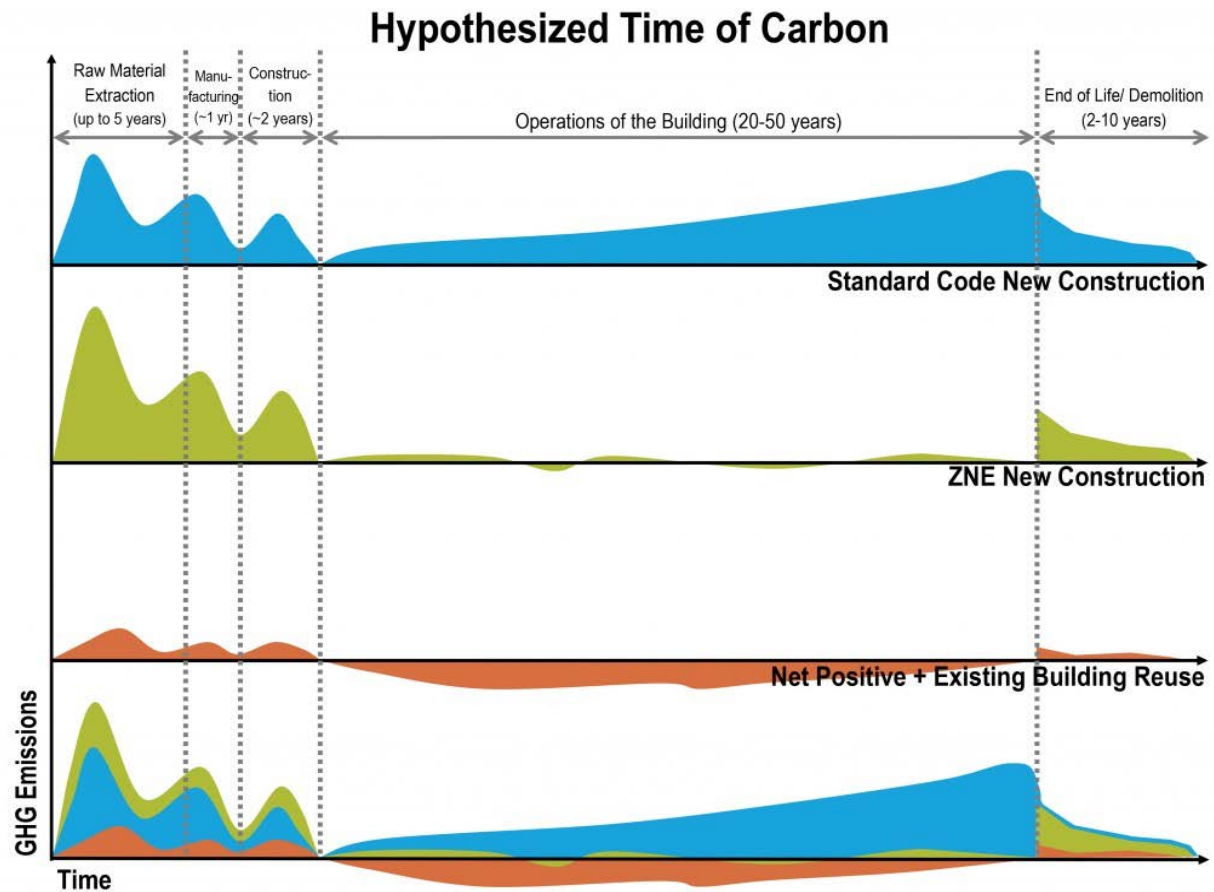
A project can get points for sending lumber in comingled containers to MRF's.

Most of this lumber is turned into mulch or hog fuel

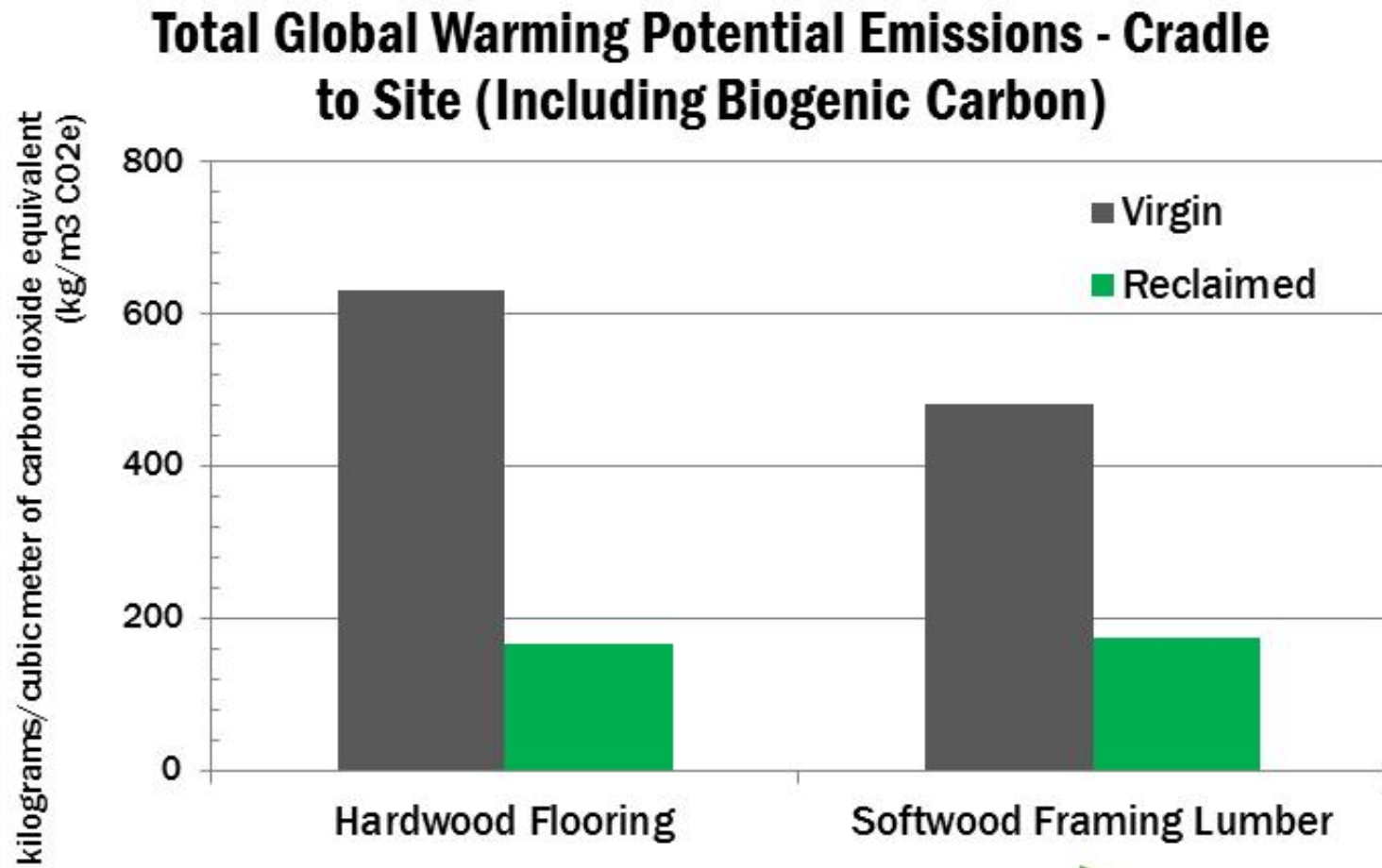
How is this sustainable?



Existing building Reuse saves Embodies Carbon



Environmental Impact of Sourcing Reused Materials



Source: *Life Cycle Energy and Carbon Emissions for New and Recovered Softwood Framing Lumber and Hardwood Flooring*
Bergman, et al



Jobs

The reuse and recycling industry produces 7 jobs per 1000 lbs of MSW.

This compared to less than 1 job per 1,000 lbs of waste landfilled.



- "More Jobs, Less Pollution: Growing the Recycling Economy in the U.S."
- Prepared by the Tellus Institute November, 2011

Additional jobs

Not yet measured are the thousands of jobs in reuse retail operations across the country...



What's up in our Industry?

We are talking about decon with:

- Milwaukee
- Atlanta
- Pittsburg
- Philadelphia
- Vancouver B.C.
- Seattle
- St Louis
- Chicago
- And more...



What we are seeing...

- Infill and gentrification leading to the demo of old homes, ie. Portland, SF
- Urban blight and abandoned neighborhoods. Milwaukee, DC...
- Barns and old factories.
- New construction continuing with outdated practices.

What's exciting

- Cities, counties and states limiting the waste of reusable materials.
- Salvaged materials sought after for commercial reuse.
- Growing DIY market for used building materials.
- Architects and designers paying more attention to reuse.
- Agencies seeing the potential in the reuse industry for jobs and workforce development.

Policy Examples

- Language/law/ordinance that explicitly
 - Requires reuse and deconstruction (e.g. 5% reuse requirement, *Cook County*)
 - Restricts the use of demolition, or the landfilling of materials (e.g. Ban on C&D waste in landfills, *Massachusetts*)
 - Requires reuse and deconstruction (*Portland, Milwaukee, Palo Alto ...*)

On the horizon

- Research on the potential for used dimensional lumber in the mainstream market
- Increase in government agencies interested in code and policy changes.
- Increased awareness of the difference between recycle and reuse.
- More research being done on Embodied carbon, full life cycle analysis of buildings, and designing for Zero waste.
- Folks looking seriously at Design 4
Deconstruction

Industry challenges

- The reuse industry lacks serious investment
- The industry tends to be scattered group of hands on folks that lack an organized sharing of resources, knowledge, and passion to drive our market.
- Our industry is build on word of mouth to grow our businesses.

Summary

I remember seeing Woodsy as a kid. He was quite the lone ranger.

I now see so many amazing people working on changing our world that I am heartened.

Our next generation will once again change the world. Lets give them the best tools we can.

Joe



What's the BMRA up to?

- 2018 Conference in Grand Rapids
- Expanded trainings
- Operations business consulting
- Expanding the network within our industry
- Advocating for change locally and nationally.

Please join us in “working to create a vibrant building materials reuse economy as part of a world without waste”.

Joe Connell
BMRA Executive Director
joe@bmra.org

decon reuse

Reclaim • Redesign • Reimagine

GRAND RAPIDS, MI

September 19–21, 2018

2018

**Join us and learn more about decon
and building material reuse!**