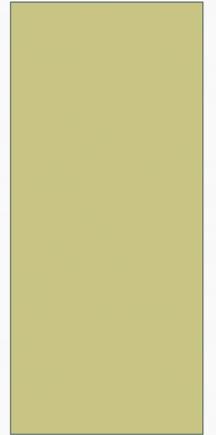


CHANGING HOW AMERICA BUILDS BUILDINGS

STEVE MARSHALL



OVERVIEW

- How did we get here?
- Why does it matter?
- Where are we now?



HOW WE GOT HERE?



WOODY BIOMASS PROGRAM

- 20 years of Forest Service grants
 - Supply focus
 - Open to all biomass uses
- Many small isolated successes & failures
- No change in markets
- 2010 evaluation

2011-REFRAMING

- Wood energy
- Demand focus
- Grant program shift
- Collaboration with other funders



RESULTS OR REFRAMING

- Established momentum for wood energy
- Doubled markets in two years
- 2013 = \$1 billion in project funding



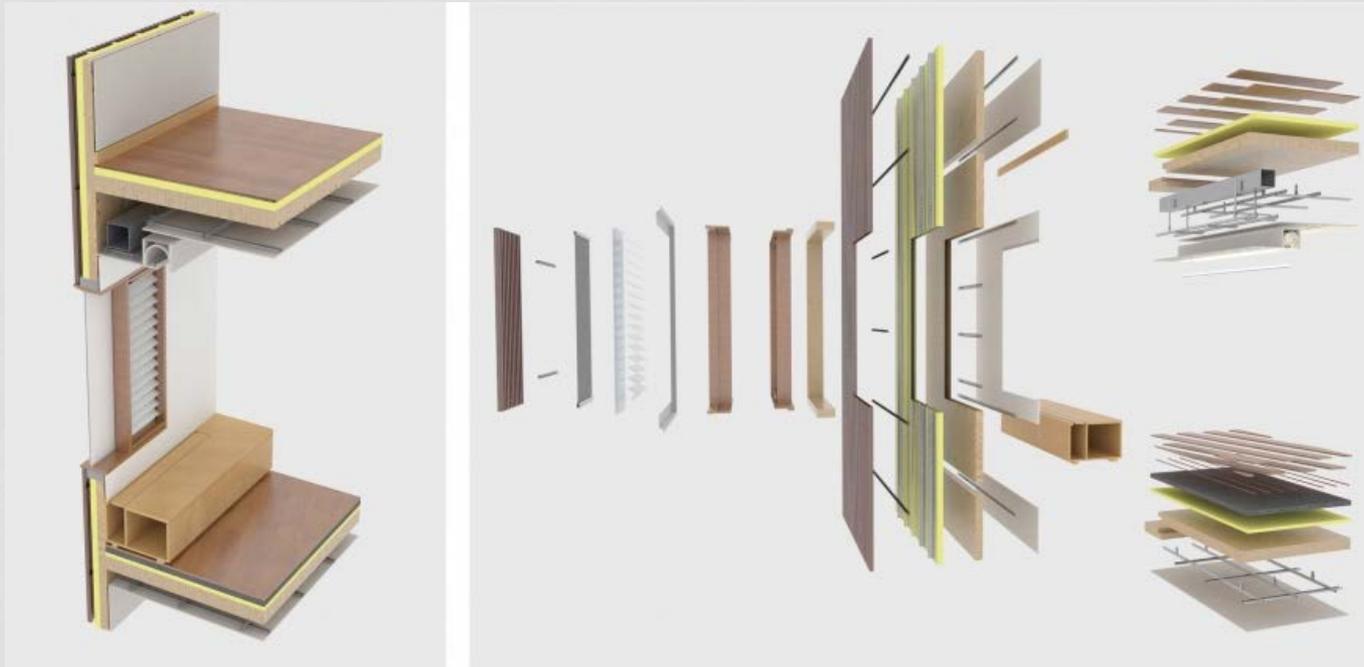
MILESTONES

- 42 hospitals use wood energy
- DOD – power purchase agreement
- Wood energy can compete with natural gas
- 16 state-wide Wood Energy Teams



WHAT'S THIS GOT TO DO WITH BUILDING WITH WOOD?

- We can move markets
- Time is right
- Won't be pretty and easy



WHY DOES THIS MATTER?



SO WHAT?

- Multi-story buildings dominated by concrete & steel
 - Fossil fuel intensive
 - Significant source of carbon emission
- Wood is a renewable alternative
 - Save energy
 - Sequester carbon
 - Some wood technology is carbon negative
 - Crucial as world population & urbanization increase
 - Strong public interest in forest management

WHERE ARE WE NOW?



WE HAVE:

- Revamped grant program
- Scaled up funding/engagement with WoodWorks
- USDA Rural Development
- USDA Tall Wood Building Competition
- White House Summit on building with wood
- Multiple federal agencies
- Increased traction



WHERE ARE THE BIG WINS?

- Increased use of conventional wood technologies
- Introduction of Cross Laminated Timber (CLT)



CLT IS A POTENTIAL GAME CHANGER

- Well established in Europe
- Large niche in mid-level buildings
- Additional niches warrant attention
- Sequesters carbon
- Market driven

