

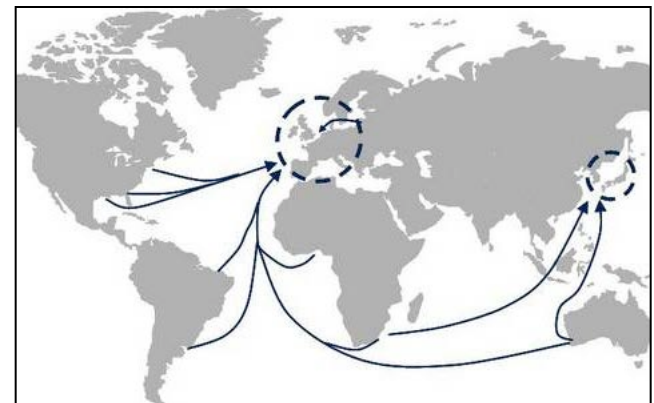
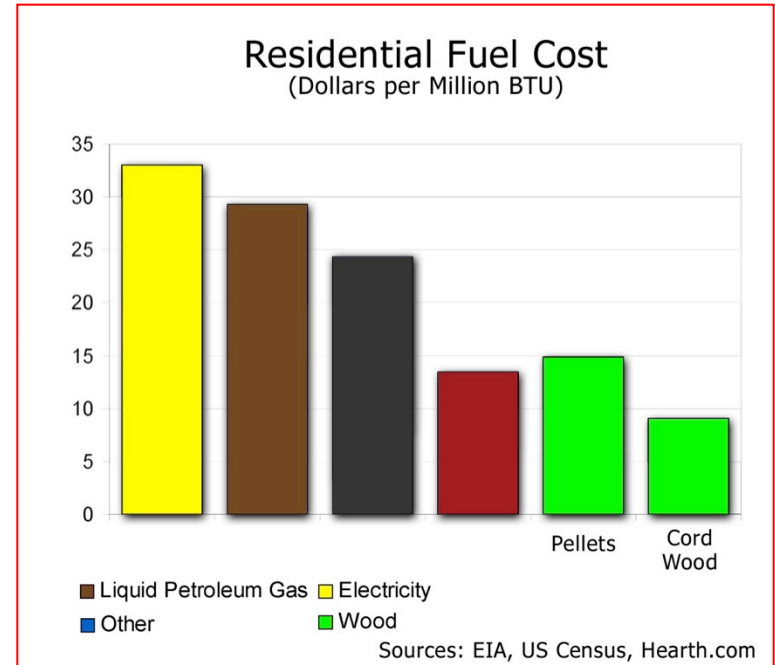
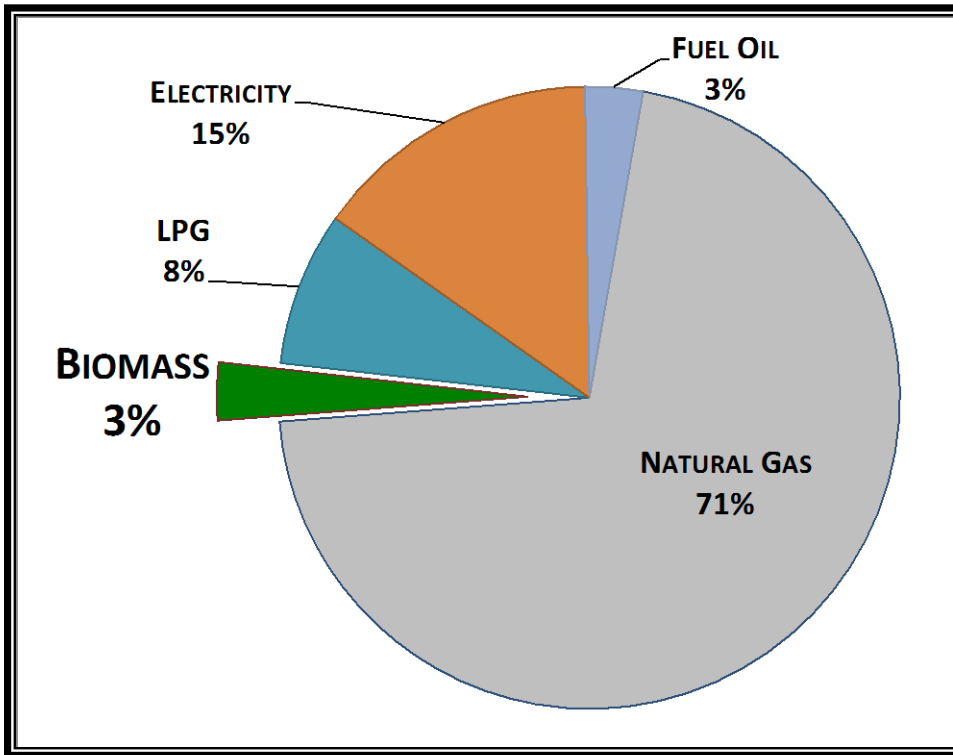
Heating the Midwest with Renewable Biomass

Brian Brashaw

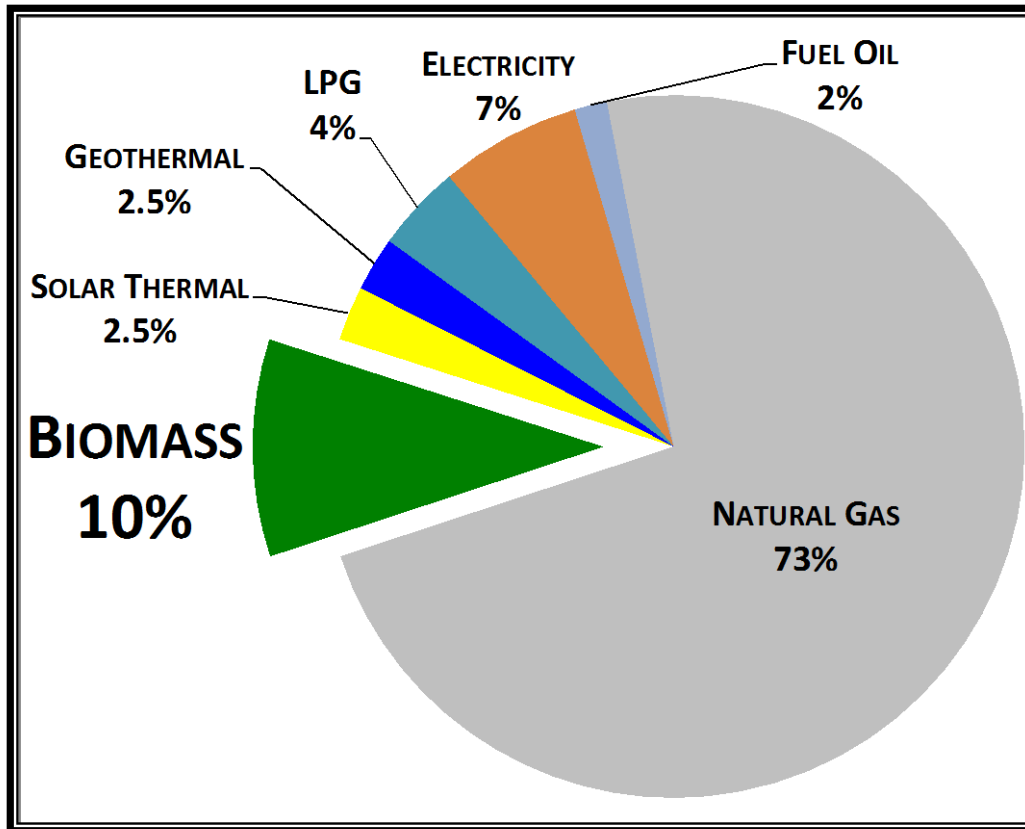
Chair, Heating the Midwest Steering Committee
and Program Director, University of Minnesota
Duluth Natural Resources Research Institute



2012: Midwest Thermal Energy



2025: Midwest Thermal Energy



Heating the Midwest with Renewable Biomass

A Midwest Vision for 2025



Photo Credit: Dennis O'Hara

Key Findings and Outcomes

- Achieve **15% of all thermal** energy from renewables by 2025
- Reduce **1.01 billion gallons** of propane and **278 million gallons** of heating oil
- Reinvest **\$2.2 billion** into the Midwest economy
- Create **13,170 jobs** from the expansion of the thermal biomass industry **and up to 210,000 direct, indirect and induced jobs** from annual energy savings and the effects of no longer exporting heating fuel money from the region
- Supply **17.2 million green tons** of sustainable woody and agricultural biomass for thermal energy and combined heat and power by 2025
- **12,630,950 homes and businesses** are not connected to low-cost natural gas
- Improve air quality, **reduce greenhouse gases**, and enhance forest management
- Vitalize communities through **rural economic opportunities**, new industry and innovation

Achieve 10% of all thermal energy from biomass by 2025

The Vision

We propose that 15% of all thermal energy in the Midwest come from renewable energy sources with 10% derived from sustainably produced biomass by 2025. The remainder of this energy would come from solar thermal and geothermal sources. This shift in our sources for thermal energy will produce extraordinary economic, social and environmental benefits for the Midwest, which currently relies on fossil fuel for 97% of its thermal energy.

Action Areas

- Policy Development
- Consumer Education
 - Commercial/Institutional
 - Homeowner
- Consistent System Performance
- Economic Assessments
- Financing Support

Keep the Momentum Going! Expand Biomass Thermal

- 2014 Conference & Expo
 - April 29 (biomass tours)
 - April 30 – May 1 (conference, expo and thermal heating fair)



**HEATING
THE
MIDWEST**

WITH RENEWABLE BIOMASS

April 30–May 1, 2014, Green Bay, WI

pellets

crops

wood

& more

“Why are we content to provide other nations with renewable energy but so unwilling to use more of it ourselves, creating a few thousand (or significantly more) jobs in the process?”**

~Joseph Seymour, BTEC Executive Director

1. Supply Chain Jobs
2. Increased Disposable Income from Energy Savings
3. No Longer Exporting Money and Jobs through Fossil Fuel Purchase



Committed Organizations



Minnesota
Statewide
Wood Energy
Team



Agricultural Utilization Research Institute



BIOECONOMY
COALITION OF MINNESOTA



**Natural Resources
Research Institute**

UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover



Northeast

BIOMASS THERMAL WORKING GROUP