

SUCCEEDING WITH FOREST MANAGEMENT & DOMESTIC ENERGY PRODUCTION

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June 9, 2009



White Mountain Stewardship Contract

It is working!!

- ▣ Negative Operating Conditions
 - Lowest lumber & wood products prices in over 35 years
 - Highest fuel prices ever
 - Worst International Economy
- ▣ But it is working
 - Restoration of thousands of acres annually with very large small diameter component
 - Net cost decrease with no fuel or labor price escalation

Results

- New sawmills
- New biomass power plant
- New wood treatment facility

□ Current situation

- The sawmills are shut down
- The treatment facility is operating at a minimum
- The power plant with subsidies through the federal PTC and other tax benefits and State REC can not pay the cost of restoration
- How can the contract continue to function???

Thermal Energy

- ❑ Thermal energy is economical
- ❑ Biomass thermal fuels are virtually the only market that continues and can support the cost of the contract
- ❑ Even more biomass fuels could be produced if there were more encouragement of the markets

▣ THERMAL ENERGY

1/3 of the US energy consumption

The only non-subsidized renewable energy

Is carrying the success of the largest stewardship contract in the US.

It is the most efficient and economical solution for our forests, our energy demands and our Global warming challenges.

Highest and Best Use

- ▣ **Products**
- ▣ **Energy**

Energy Highest and Best Use

- ▣ What are the “optimum” utilization paths for biomass?
- ▣ How do we achieve the most *benefit per ton = \$ payment per ton*
 - ▣ Useable Energy generated
 - ▣ Fossil Fuel displaced
 - ▣ GHG reduction
 - ▣ Jobs
 - ▣ \$ remaining in Community
 - ▣ Biomass resource management improvement

Biomass Energy Efficiency

- Thermal Energy: up to 90%
- Electricity (stand alone): 15% - 39%
- CHP: 20% - 80%
- Fuels (BtL, Ethanol, SNG): 35% - (>) 60%
(maybe in future higher, especially for SNG)

One ton of dry wood contains 5.0 MWhr of energy

▣ **Electrical Generation**

- Produces 1.25 MWhr
- Displaces 63 therms of Natural Gas

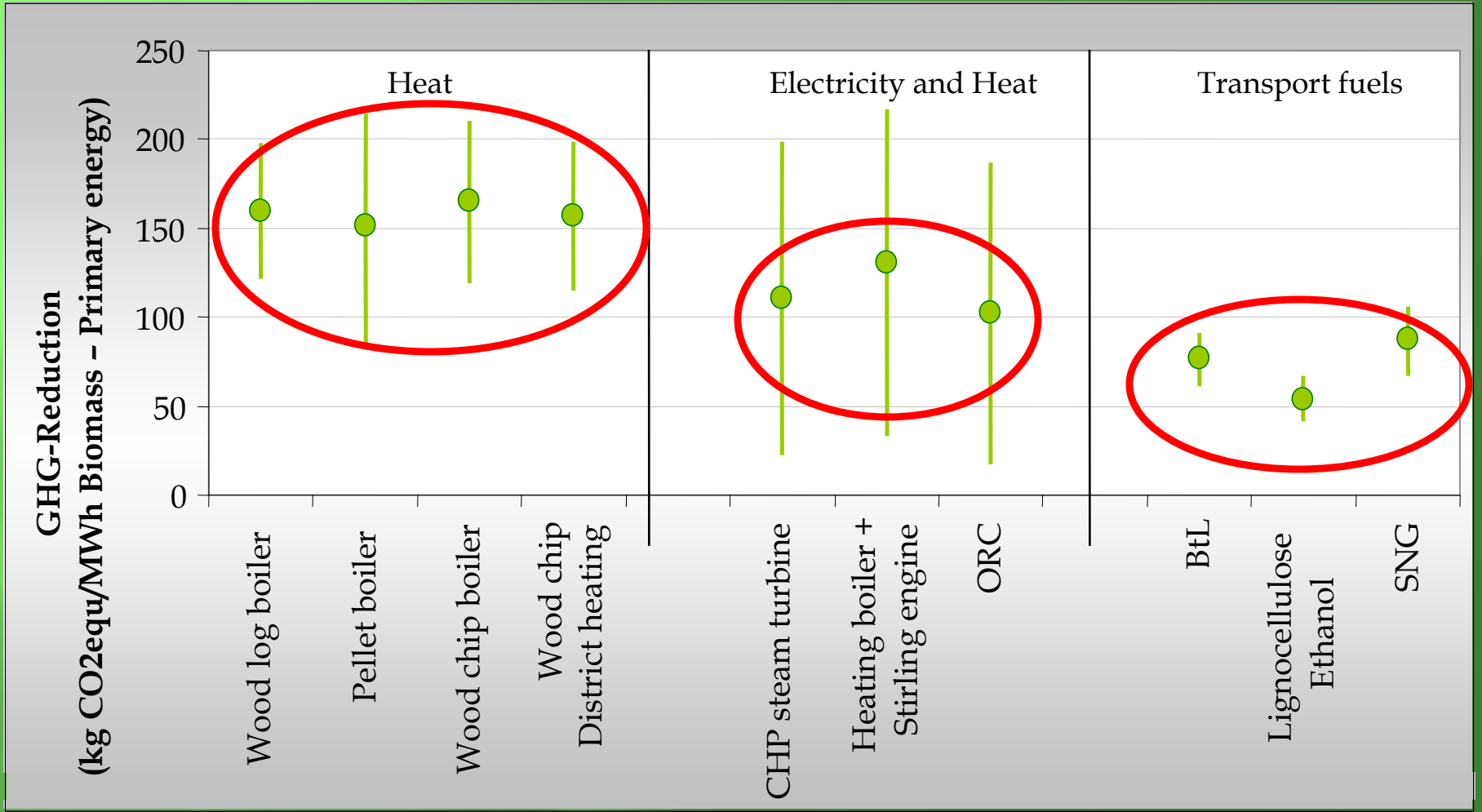
▣ **Thermal Energy**

- Produces 4.50 MWhr of usable energy
- Displaces 157 therms of Natural Gas

Biomass to produce 100 MWhr

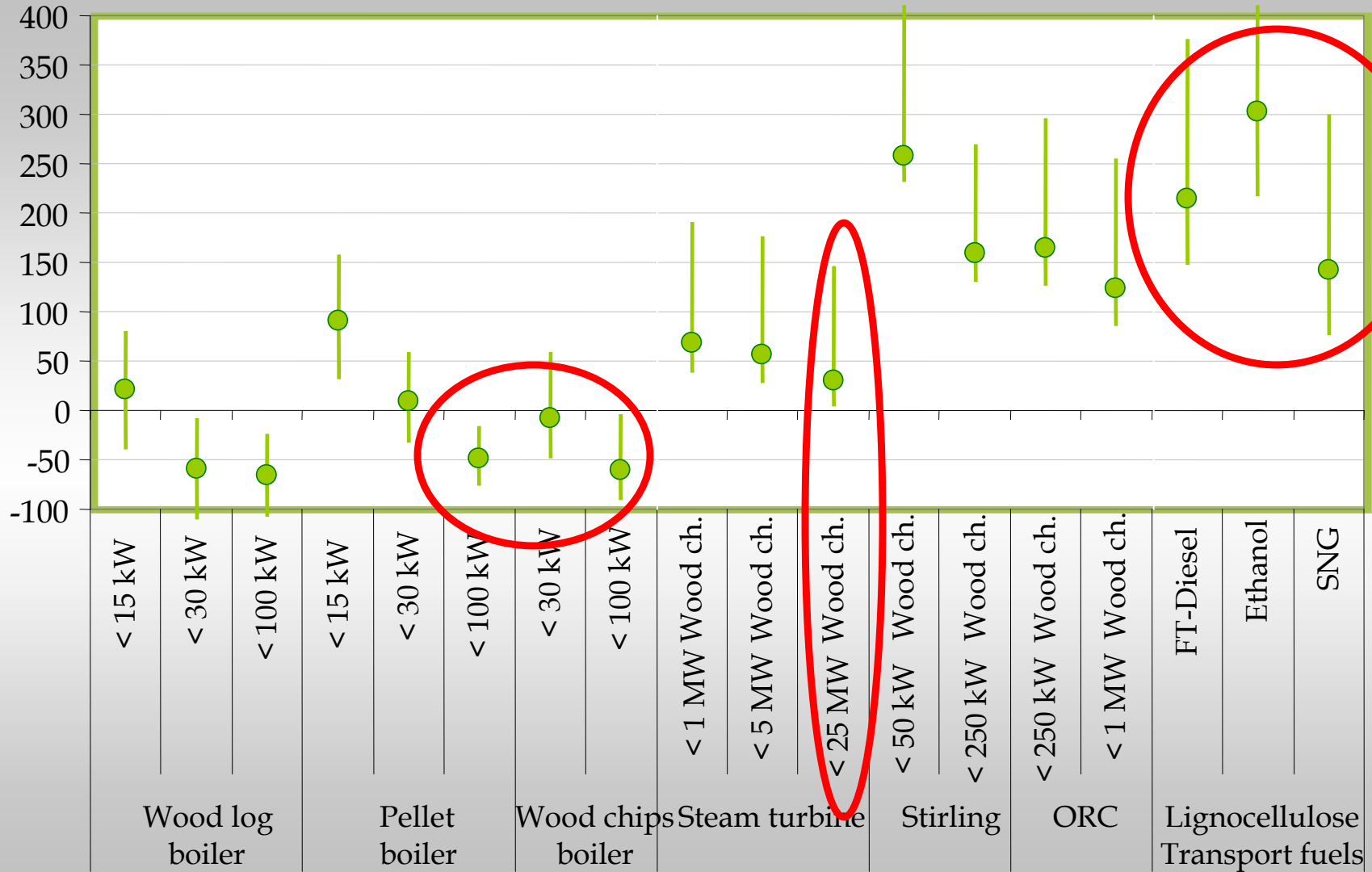
- ▣ Stand Alone Electrical 80 tons
- ▣ Transportation Fuels 50 tons
- ▣ Thermal 25 tons
- ▣ Which is the Highest and Best Use?
- ▣ Which can pay more for the resource?

GHG reduction



Costs of GHG-reduction

Cost of GHG-reduction
(€/kg CO₂equ)



Forest Biomass to Energy

- ▣ Highest and Best Use
- ▣ Local Use
- ▣ Thermal energy
- ▣ Thermal Based CHP



Advocating the best solutions for Biomass

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