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Thermal Biomass

- Many forms of biomass can be used for the most efficient option: heating, including: densified biomass such as pellets or briquettes, wood chips, agricultural residues, fast-growing woody energy crops such as willow and poplar, and grasses such as switch grass or Miscanthus.

Consumer Perception (Strengths)

- Renewable with sustainable forestry practices
- Carbon-neutral over a certain time frame
- A domestic resource
- A substitute for fossil fuels
- A source of economic development and rural job creation

Usability & Distribution (Weakness)

- ‘Not’ On-Demand- Instant Heat
- Think about it (chore)
- logistics have yet to reach critical mass with few customers spread over large geographic areas, thus increasing the unit cost of fuel distribution.

Trend (Opportunities)

- Tree hugger or not, we all have a responsibility to protect our planet. Fortunately, about **7 out 10 Americans agree** with that statement today. The rest still worry that “going green” would cost the economy some serious green and result in major employment cuts.

Cost (Threat)

- Because of relatively small market penetration, biomass heating systems can cost twice the amount of a similarly sized oil or gas systems.

Conclusions

- Strengths – Challengeable
- Weaknesses – Unchangeable
- Threats – Outside of your control
- Opportunities – CAPTURE for PROFITABILITY

Proposition

- To look for established opportunities (Trends) that are in the consumers mind and see if any can be connected to what you do

Customers – Trends on the increase

- Household
- BBQ/Grills, Sauna's, Pools , Beer & Food, Organic lifestyles and Wellness.
- Industrial – Brand Awareness
- Companies looking to develop environmentally friendly brands and stories. (**It's not so much about the product but they way you deliver it to the consumer**)

Consumer

- Today, the [Hearth, Patio and Barbecue Association](#) (HPBA) reports that wood pellet grills are one of the hottest trends in the industry, offering consumers the primal flavor of wood smoke coupled with the turn-of-a-knob convenience of gas. Roughly 300,000 units were sold last year—less than 2 percent of total grill sales—but the popularity of pellet grills is surging.

Industry

- **New Belgium Brewing** in Fort Collins, CO, maker of Fat Tire Amber Ale. Cofounded in 1991 by its CEO, former social worker Kim Jordan, who was inspired by a bike trip through Belgium, it's the third-largest craft beer maker in the U.S. Among its environmentally-friendly practices: **It monitors and records all of its energy use, waste production and emissions and recycles, reuses or composts more than 75% of the waste it produces in manufacturing.** It also makes bikes and a Prius available to employees to run local errands. One hundred percent employee owned, the company has more than 480 employees and upwards of \$180 million in revenues.

Mixed Bag - Thoughts

- Blue Apron – Delivery system
- Pure Michigan ‘Heat campaign’
- Packaging – Consumer Attributes, Convenience
- Food & Beverage Processing companies – Bells (Beer cooked with wood)
- Chipotle (Real smoked food)
- Domino’s Pizza – Wood Pellet fired ovens
- Apple, Microsoft - Heating companies that have strong Mission
- Value Added Items – Wood Pellet Candles, Cat Litter,
- Export