



OLD TOWN FUEL & FIBER

Technology Leader in Woody Biomass Cellulosic Sugars

Dick Arnold, President & CEO

Biomass 2012 | July 10, 2012



Old Town Fuel & Fiber



- 100+ year history of pulp manufacturing
- Innovative pulp process
- Leader in technology of cellulosic sugars and bioproducts
- Pilot facility for cellulosic biofuels and bioproducts

Lynn Tilton, CEO Patriarch Partners

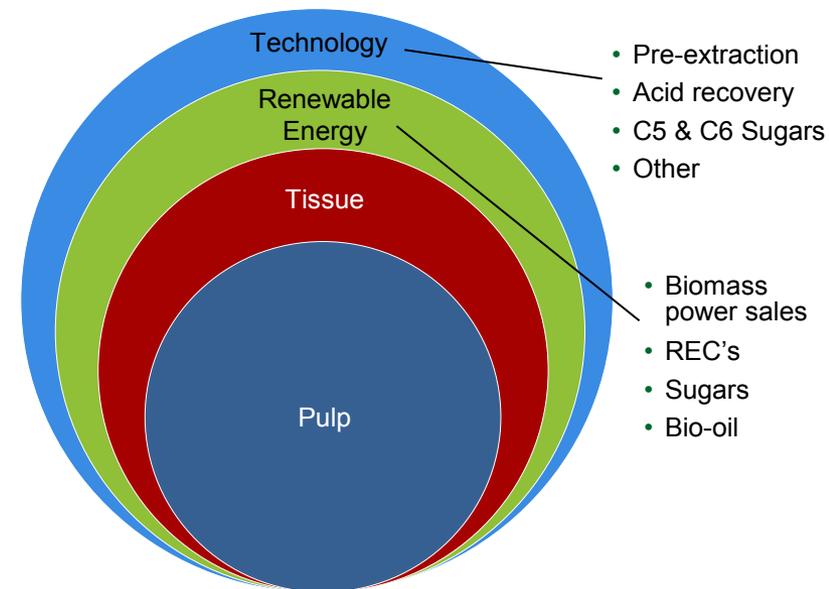
- Purchased Old Town Fuel & Fiber 2008
- Commitment to producing energy and biofuels as byproducts of the core pulp manufacturing process
- Optimizing manufacturing processes
- Restoring American manufacturing, employment and economic opportunity



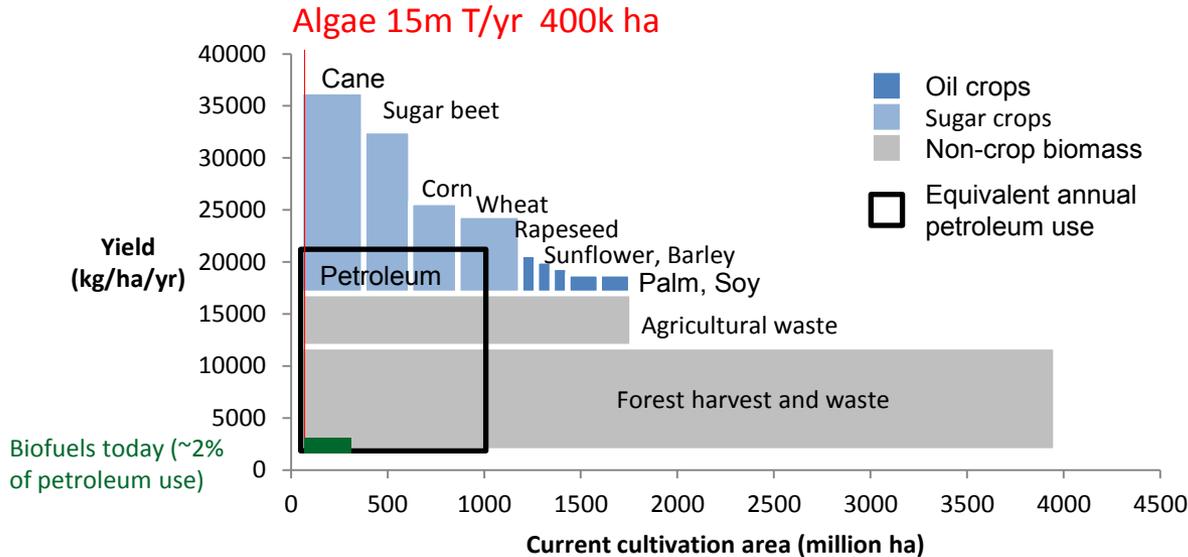
Old Town Fuel & Fiber Direction

- 150 + years combined pulp, paper & biotechnology experience
 - John Harrington, Patriarch Managing Director
 - Dick Arnold, President/CEO
 - Brian McAlary, VP Sales & Marketing
 - Austin Durant, Contracts Specialist
 - Jim St. Pierre, Biorefinery Project Manager
 - Darrell Waite, Biorefinery Process Manager
- Operational and turn around expertise
- Technology innovation & forward integration
- Innovation
 - Product and business development
 - Process development
- Renewable energy platform development

Three-year Growth Paradigm



Biofuels use just a small amount of available biomass today, but if they expand, feedstock will become a local and global constraint

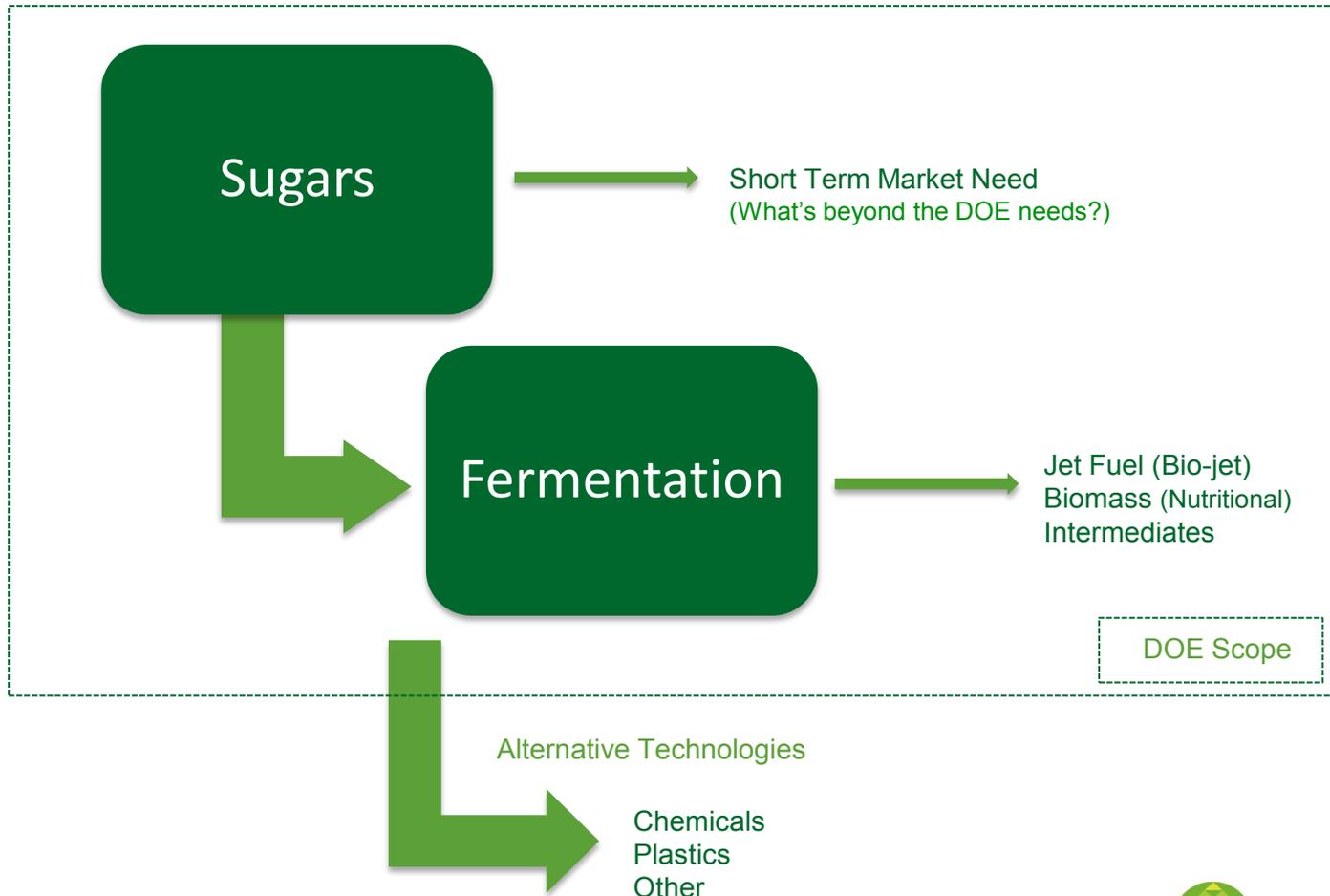


- Biomass yield depends highly on local sun, soil, and water
 - Losers: Purpose-grown energy crops and algae bioreactors
 - Winners: Agricultural and forest waste
 - Wildcards: low-capex and offshore algae
- **Conclusion: biomass cultivation technologies/opportunities are highly local**

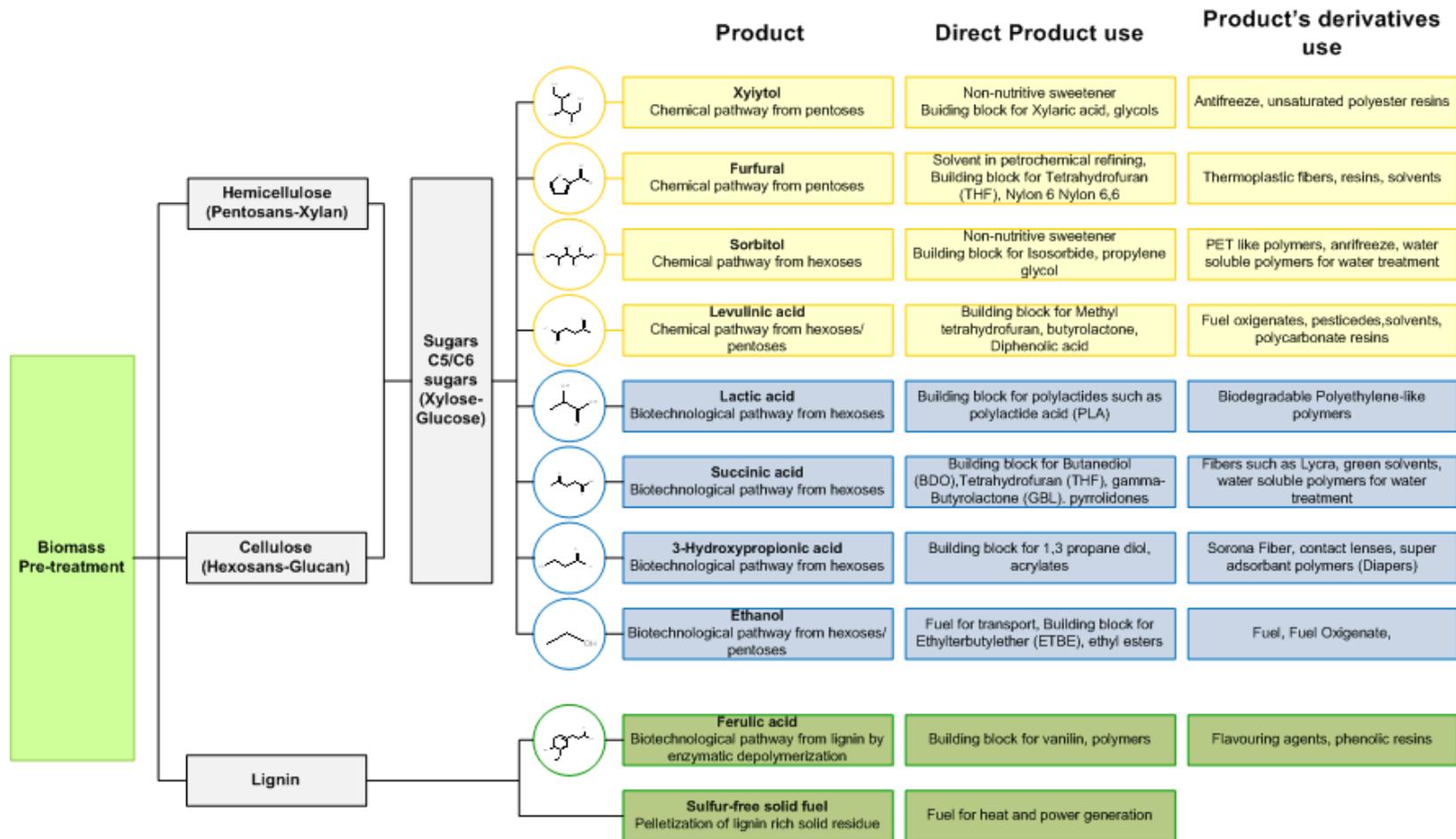


Technology Sizes Up to Market

Marketing Approach: 2012 - 2013



Industries for Biofuel



Old Town Pilot Plant





OTFF Woody Biomass Deconstruction and Cellulosic Sugar Clarification

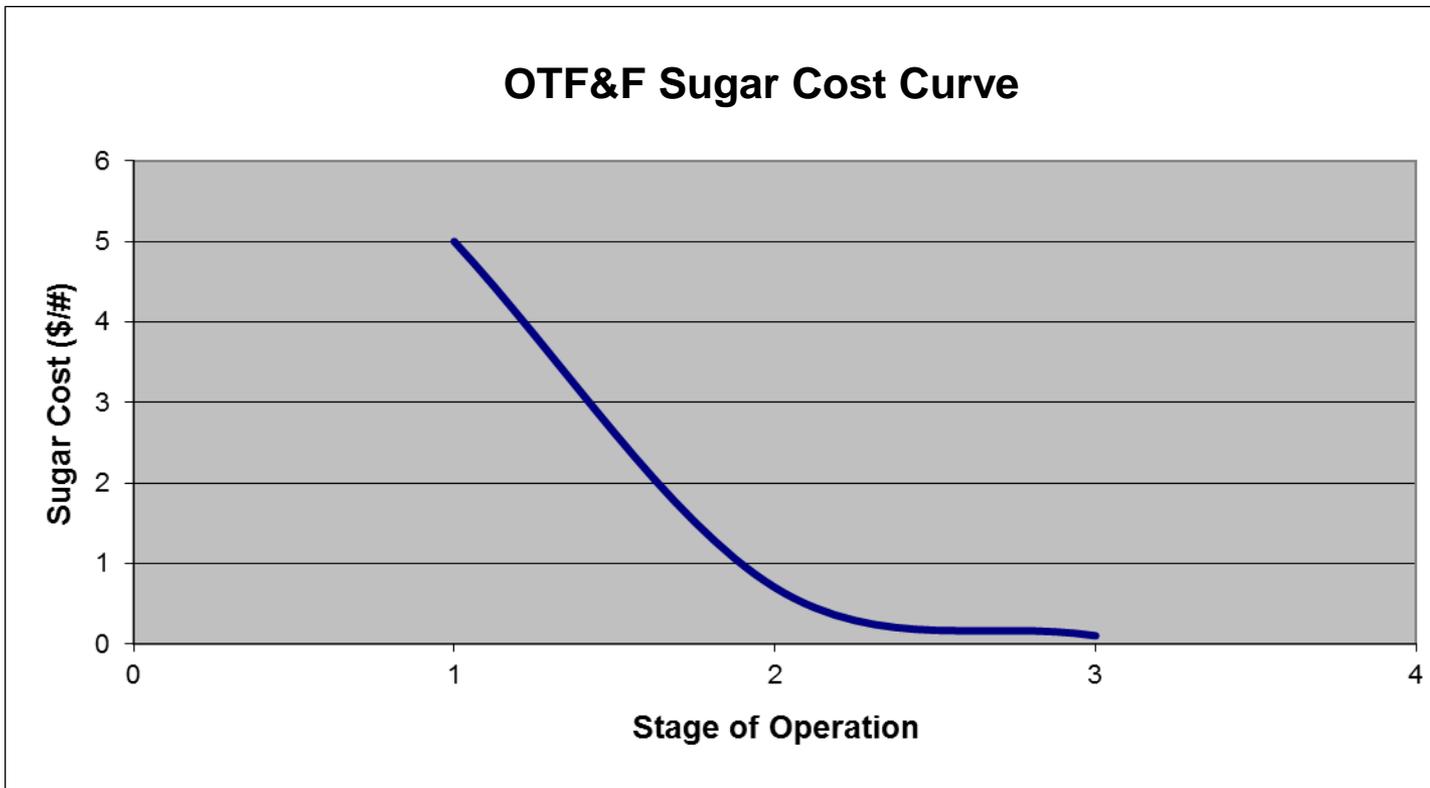
OTFF Woody Biomass Deconstruction and Cellulosic Sugar Clarification



BLUE = Woody Biomass Deconstruction
 GREEN = Cellulosic Sugar Clarification



OTF&F Sugar Cost Curve



Phased Approach for Sugar Production



Old Town Fuel & Fiber Validation

- Hemicelluloses from wood chips
- Conversion of lignocellulosic extract to biofuels and other chemicals
- Valuable replacement for costly and less eco-friendly energy and transportation fuels.



- National Renewable Energy Lab validation of OTFF extract and sugars
- Other technology companies have demonstrated performance of OTFF sugar in their sugar conversion platforms.

OTFF Technology

Strengths

- Sustainable, non food feedstock.
- Pathway to low cost cellulosic sugar.
- Clean, monomeric, fermentable sugar.
- Successfully demonstrated performance on several fermentation platforms.
- Traceable from wood to sugar.
- Co-location with post sugar processing process.

Opportunities

- First to market for woody biomass cellulosic sugar.
- Provide support to currently marginal sugar fermentation platforms.
- Promoter customization.
- Forward integration opportunity based on existing infrastructure.
- Bolt on technology with existing pulp mills.

Weaknesses

- New technology requiring demonstration before commercialization.
- The technology has not been proven at, or greater than, demonstration scale.
- Dependent on externally developed sugar conversion technologies.

Threats

- Small to non-existent market for woody biomass cellulosic sugar.
- Capital intensive process.
- Lack of an economically feasible sugar conversion process.

Old Town Fuel & Fiber Sustainability

- Sustainability & Green Initiatives provide strong future growth
- Proximity to raw materials
- Second generation feed stock ~ renewable resource
- Established infrastructure supported by an ongoing business
- Pulp from northern mixed hardwoods
- Chain of custody certification
- Strategic partnerships



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www.sfiprogram.org

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