

Northwest Wood-Based Biofuels & Co-Products Conference

April 30, 2014

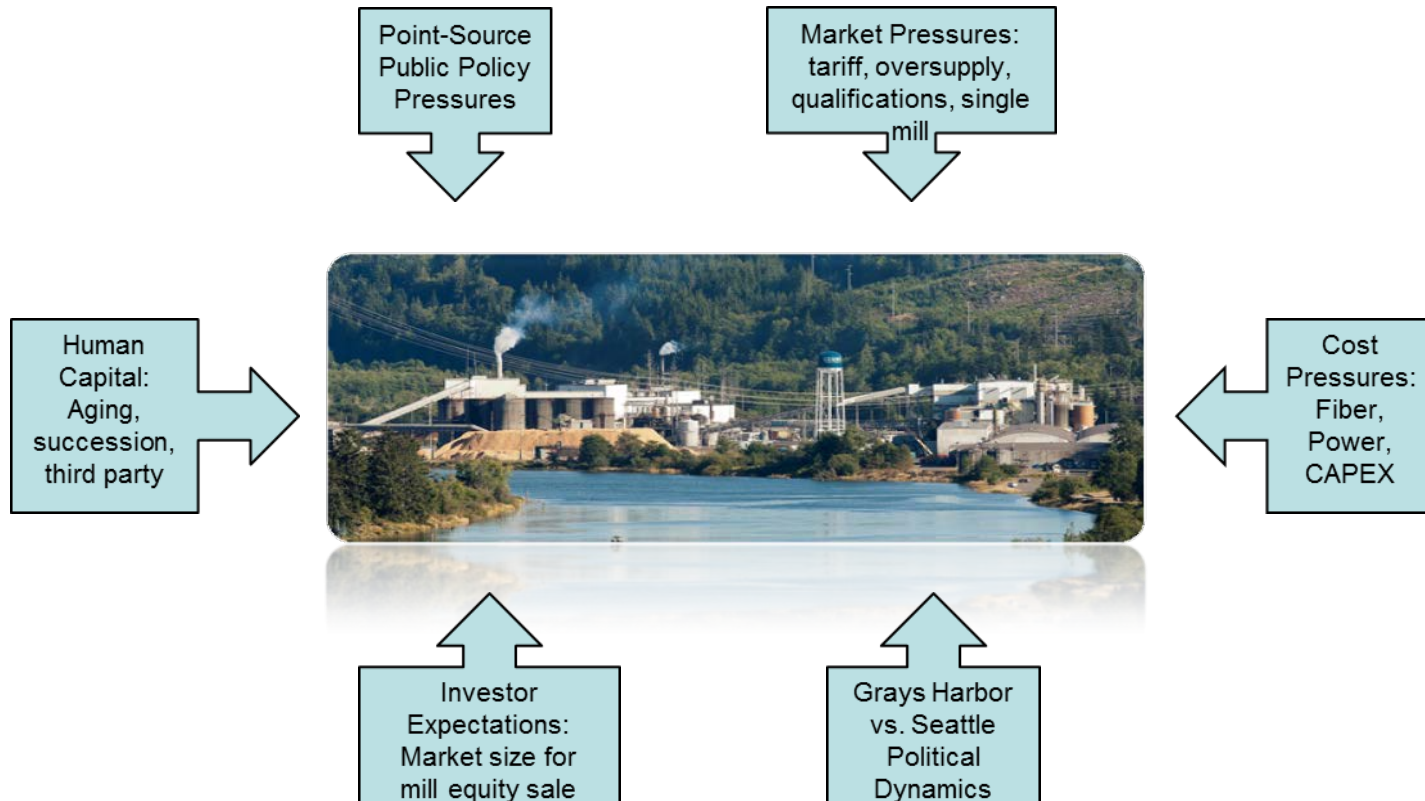


Council for Scientific and Industrial Research puts Cellulosic Bioenergy in its top 10 list of current disruptive technologies. List includes internet news, tablet computing, text messaging, electronic books, papers, and Internet shopping.

Who Is Cosmo Specialty Fibers?

- Former Weyerhaeuser Dissolving Pulp Mill in Cosmopolis, WA
- Shuttered in 2006, Purchased by a PE firm in 2010, Commercial Production of 140,000 tons commenced May 2011
- 200 family-wage jobs, profit sharing, \$150m/year into WA State economy
- Currently produces viscose pulp for Chinese rayon fabric markets
- Aiming at acetate pulp qualifications from major chemical companies
- Usual headwinds: Massive Chinese anti-dumping circus, constantly surprising Dept. of Ecology revelations, the usual federal/state regulatory fairness & certainty, cyclical commodity price collapses...

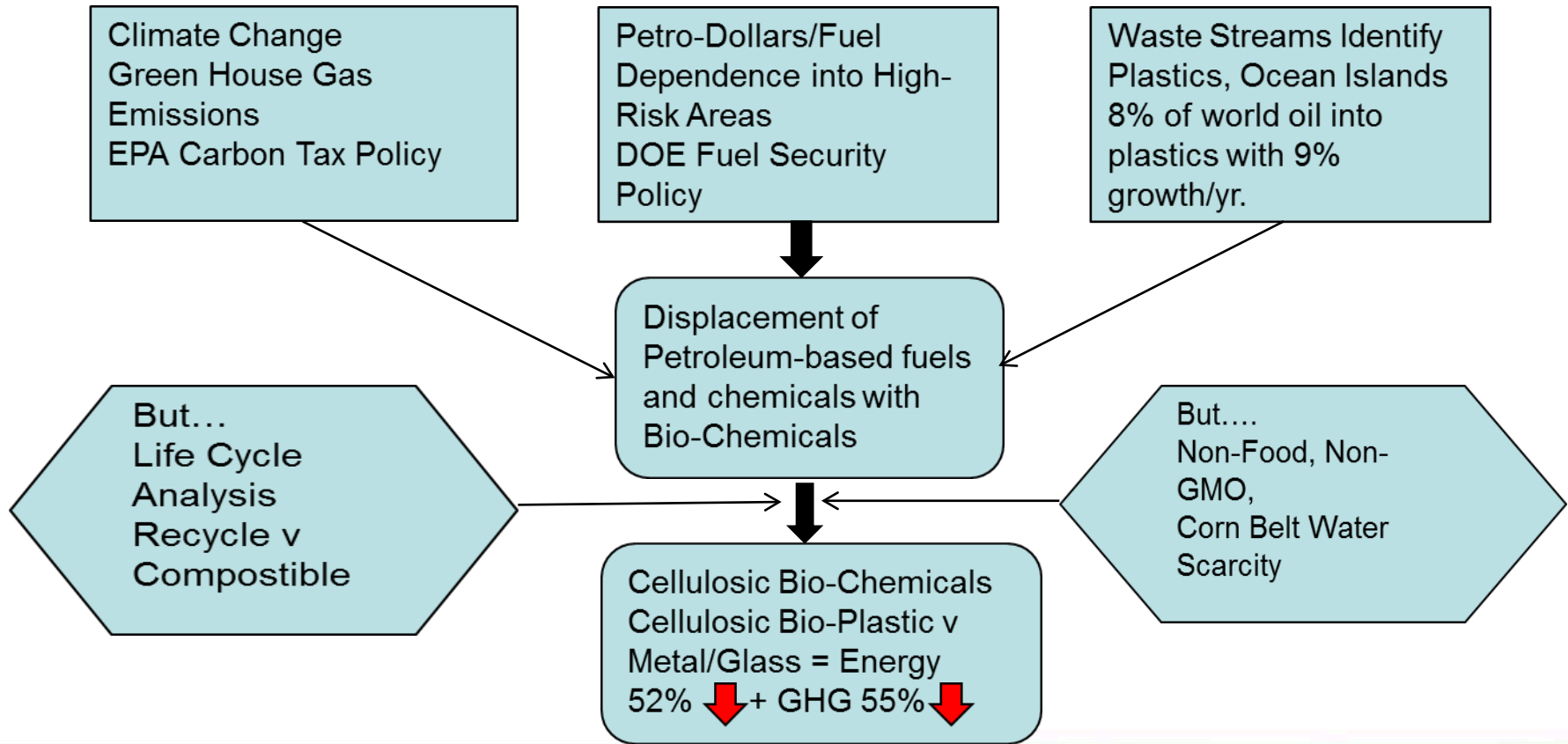
We Are a Fragile Business



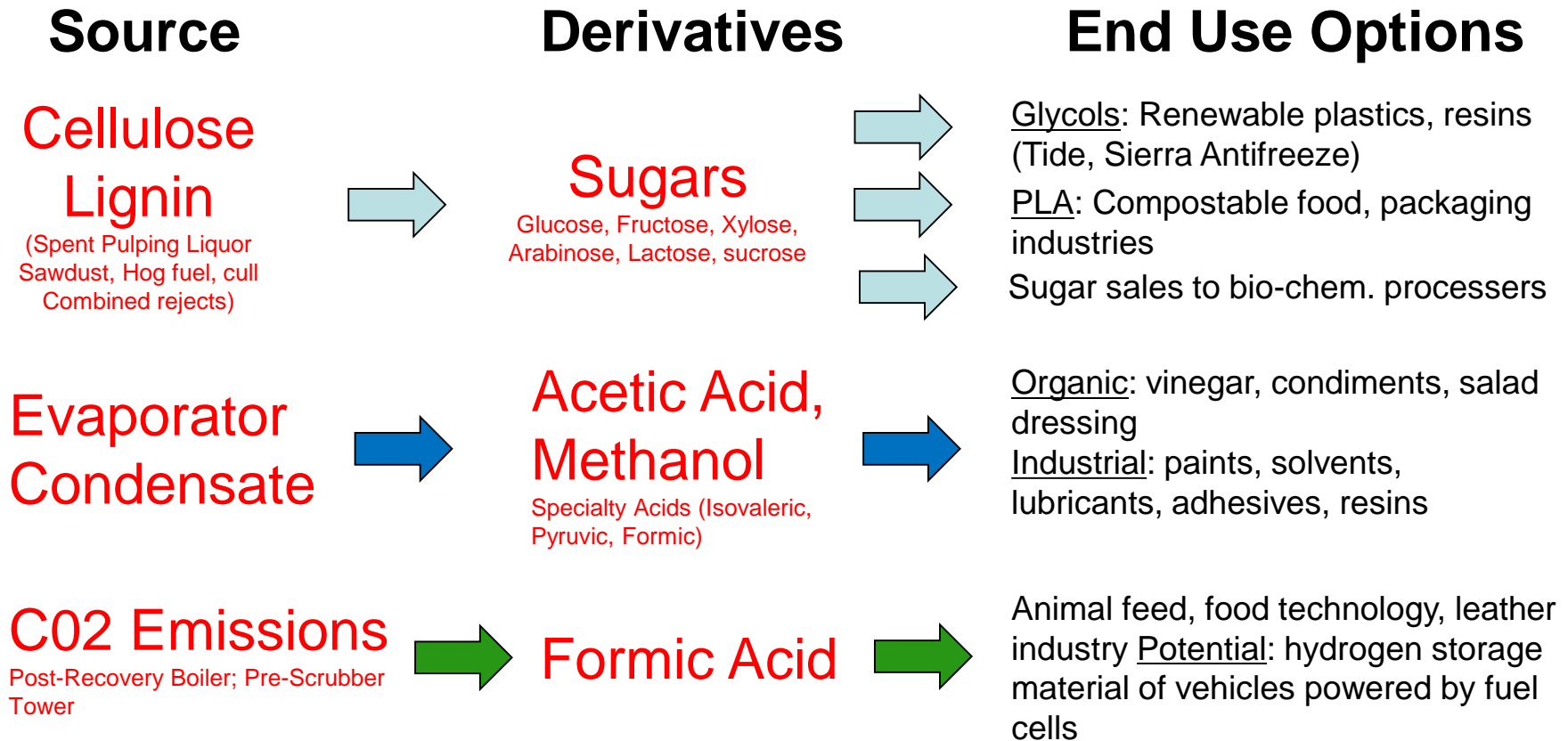
Now What?

- Introduced to the Catchlight Partnership by Weyerhaeuser
- NARA Project – Mike Wolcott, Tom Spink
- “Failing Pulp Mill” Redundancy: Kimberly Clark in Everett, Georgia Pacific in Bellingham
- Nothing New for Progressive Mills: Borregaard, Domsjo, Tembec, Old Town Fuel & Fiber
- Could we enter the bio-products space? Maybe, but subject to:
 - We would not consider anything that would be invasive or deleterious to the core direction of the mill to get to acetate;
 - We would not pioneer any technology. We understood that enzymes and tech used in bio-products are constantly improving in cost and yield, but we could not afford to be an R&D guinea pig.
 - We could not take the position of “build it and they will come”. We had to feed into an established market with a stable price umbrella.

Opportunity Funnel



First: Lab Bench Tests



Second: What do the Markets Say?

Thanks to Peter Moulton and the WA State Department of Commerce

- **Window of Opportunity is Now. Technology, Enzymes, Demand-Pull of Brands & Public Policy: Beams all crossing**
- **Can't push the demand rope. Need stable market and price umbrella, so stay simple.**
- **We can be competitive with Shale Gas & maybe China. Assets in Place, Pretreatment done, Scalable Feedstock Free**
- **Hybrid commodity/value differentiated market: Bio-based, non-food, non-GMO, softwood, PEFC chain-of-custody. Cost of value differential is very low for Cosmo.**
- **No significant regional competition (yet)**
- **Ground Zero for Biomass supply, near ground zero for environmental core values**
- **We would like to but we cannot depend on a "Green Premium", cannot pick the winner of the Petroleum Association vs. EPA, cannot depend on an artificial government policy market**
- **Must not take personally the baked-in attitudes of our pulp mill operations friends**

Third: What is the Cost and Payback

- Help and cooperation from four bio-engineering firms for CAPEX/OPEX estimates
- Ideas to re-configure our existing red liquor processes to reduce operational costs
- Advise on equipment purchase lead times
- Assistance with pilot testing
- Market advice on potential customers and markets
- Confirmation of product pricing and market trends

So, Here's What We Are Doing

“Go” to month 6:

- Acquire the skills sets needed to oversee pilot testing and bring the processes on-line
- Commercial viability pilot tests at sites in Indiana, Ohio, and Washington
- Use pilot results to initiate commercial transactions
- Process engineering to select membranes for ultra filtration and reverse osmosis technology

Months 6 to 9:

- Move CAPEX/OPEX estimates to +/- 10%
- Develop joint venture and investment options for the bio-products beyond sugar
- Order long-lead processing equipment

Month 10 to 12:

- Order balance of equipment, complete installation
- Commence commercial sales

However Risks Abound

- Skill sets not on-site, not core value of company
- No established distribution chain
- Dependent on efficient mill operations for feedstock volumes
- State DOE Permits re-opened
- Bio-Products may be “dirty”
- Economy always trumps ecology
- Specs and qualification period
- Processing costs too high for volumes
- Shale gas
- Synthetic biology. This is already happening with Acetic Acid.
- Fossil fuel extraction, process and distribution channels are very cost-efficient
- China entering alternate fuel space = biomass export pressure (joins logs, lumber, waste paper)

But, If We Are Successful...

- Diversifies and increases company revenue streams. Rough estimates show bio-products passing pulp production revenue quickly
- Unloads treatment ponds by about 1/3
- Reduces bio-pond chemical costs, may reduce water/power costs at certain production levels
- Sugar removal may increase thermal value of red liquor in Recovery Boilers.
- Potential for sales of lignosulfonates purified of sugar.
- May reduce bio-pond sludge, again providing thermal benefit to Recovery Boilers
- Attractive to future mill investors – mill seen as progressive, well positioned in bio-chem and pulp markets
- Positions the mill with environmental public policy makers both in terms of new policy and resolving current issues
- May help give a “Distressed County” a new life

And, If We Are Really Successful...

Early stages of considering partnerships for these big words:

- Lactic/Polylactic Acid
- Ethylene/Propylene Glycols
- Polyethylene Terephthalate

What they really mean to us is supplying the Coke Collaborative, As You Sow, Sustainable Packaging Coalition, WWF-Bioplastic Feedstock Alliance.

What they really mean to our mill investors is a yearly growth rate approaching 20%