

Show me the Money!

Modeling Biomass Enterprise Economics

David Smith

College of Forestry

Oregon State University

David.smith@oregonstate.edu

Forest Biomass

Understand the restraints

- Forest Biomass
 - plentiful but expensive to collect and transport
- Weak hog fuel markets
 - Hard to up-grade field-ground biomass
- Value-added products
 - Convert round wood into salable products
- Margins are thin
 - volume and efficiency are vital



Photo: OSU College of Forestry

Manufacturing Basics

1. Economies of scale
2. Capital investment
3. Material handling challenges
4. Product quality
5. Residuals and yield
6. Mix of products
7. Operating costs

Sounds Complicated

- Yes, but our model simplifies it
- Play around with it and you'll quickly get a grasp of what works and what doesn't
- It gives you a starting point for developing a viable business plan.

Sounds good!

Show me the money!

- Download from our webpage
- [Biomass Enterprise Model](#)
- URL <http://owic.oregonstate.edu/biomass-enterprise-economic-model>
- Save to your computer (9.1MB), then open with Java (ver. 8 or higher)
- Open and use. Its intuitive and you can't mess it up

Check it out

- Chip mill example
- Small and large chip mills
- Volume matters
- Adding complexity
- What about energy?
- Saving results

Disclaimer

- Accuracy of the Estimates
 - Limited by general assumptions of site suitability, owner expertise, and operating schedules.
 - New facility CapEx : within a 30% range of actual
 - Operating economics based on 2016 cost estimates.
 - Input values and logic developed by OSU/COF researchers and validated by Evergreen Engineering, Inc. Eugene OR.
- Accept Model Estimates with Caution!

Review

- The Model shows what might work and what doesn't.
 - It's a starting point
- Access and download to your computer [Biomass Enterprise Model](#)
- Open and start playing around
 - You can't mess it up
- Export scenarios you like
- Supported by Oregon Wood Innovation Center at the College of Forestry, Oregon State University
<http://owic.oregonstate.edu/biomass-enterprise-economic-model>