

# Show me the Money!

## Modeling Biomass Enterprise Economics

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# 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>