Biomass Supply Agreements
From a Purchaser’s Perspective

Kevin Tuers
Seneca Sustainable Energy
Eugene, Oregon
Who we are  Seneca Family of Companies

- Seneca Sawmill Company
  - 4 Sawmills producing lumber
- Seneca Jones Timber Company
  - Supplying Sawmills with timber
- Seneca Sustainable Energy
  - Using Sawmill residuals and woods biomass for Energy
18.8 MW renewable energy facility (wood biomass)
Cogen – generating power and thermal energy from a single fuel source (wood biomass)
Steam – existing dry kilns
Steam – power generation
  100% of output to the grid
Provide annual energy needs for 13,000 homes
Seneca Sustainable Energy

Why:

- Logical extension of our business
- Help decrease reliance on fossil fuels
- Renewable energy is supported by both the State and Federal Governments
- Renewable Portfolio Standards (RPS)
  - Oregon – 25% by 2025
- Firm source of renewable power
  - Non-firm – solar & wind
- Discontinue use of natural gas (fossil fuel) at our existing dry kilns
  - Provide the capability to dry larger percentage of our lumber in the future
- Full tree utilization at one site……..
- Ability to supply 100% of our raw material needs internally
1" Whole Log Chipper
3.5" Hew Saw
7" Stud Mill
12" Dimension Mill

Biomass - Cogen -

100% Total Tree Utilization

Seneca Sawmill Company
Seneca Jones Timber Company
Seneca Sustainable Energy
Logistics for purchasing 700,000 Bone Dry Ton’s (BDT’s) Annually

- Fuel Storage
- Fuel Handling
- Fuel Supply
- Fuel Purchase Price
- Fuel Specifications
Fuel Storage

Outdoor?
Maximum Storage
100K-200K BDT's

Indoor?
Limited Storage
15K-20K BDT’s
How much can you hold?
3-4 Months?

For how long?
Spontaneous Combustion?
Degradation of fuel?
Fuel Handling
2,000 BDT's daily = 130 loads = 5.4 trucks/hour = 1 Truck every 11 Minutes

- Multiple Truck Dumps?
  - Average Dump Time 20 Minutes.

- Multiple Conveyors?

- Multiple Scales for weigh in/out?

- Fuel Specifications
  - Sizing/ Resizing of material
Fuel Supply

- Availability?
- Seasonal? Rock/Dirt Roads?
- Contractors?
  - How Many do you need?
- Transportation?
  - How Far can you transport?
  - How Much can you transport?
Weather?
Fuel Purchase Price

- How Much Can you pay?
- Green Ton/BDT?
- Load Testing?
- Tiered Pricing?

- Seasonal Pricing?
- Supply Agreements?
  - Length? 1 Year?
Fuel Specifications

- Quality
- Dirt? Rock?
- Moisture?
- Transporting Water?
Biomass Pricing as paid $ per BDT
Sampling Every load for Moisture?

Fuel Variables:

- MC%
- Quality
- Consistency
- Payment

• Dry % = BDT
Residuals?
Thank You