

Wood Fiber Industry

- *From Teepee Burners*
- *To a valuable Resource*



Byproducts to Resource to Valuable Wood Fiber

- *What is Biomass*



Wood Fiber or Biomass

➤ *Mill residuals*



➤ Forest Residuals



➤ Urban Waste and Ag Waste



Mill Chips (Lumber & Veneer)



Chip Fines & Sawdust



Planer Shavings



Bark



➤ *Forest residuals*



Chip Logs



Whole Tree Chips



Delimber Tops



Logging Slash or Limb wood



➤ *Urban Wood Waste*



Pallets



Construction Waste



Land Clearing Debris



Yard Waste



Uses of Mill Residuals

➤ **Mill Chips**

- Pulp & Paper Mills
- Boiler Fuel
- Particle Board furnish
- Pellets

Chip Fines

- Pellets
- Particle Board and MDF Furnish
- Boiler Fuel

Shavings

- Particle Board and MDF Furnish
- Pellets
- Boiler Fuel
- Livestock bedding

➤ **Bark**

- Boiler Fuel
- Landscaping

Uses of Forest Residuals

➤ **Chip Logs**

- Pee Wee Stud logs
- Pulp and Paper furnish
- Boiler Fuel

➤ **Whole Tree Chips**

- Boiler Fuel
- Pulp and Paper

➤ **Delimber Tops**

- Boiler Fuel
- Pee Wee logs

➤ **Limb Wood and Logging Slash**

- Boiler Fuel

Uses of Urban Wood Waste

➤ **Pallets**

- Pulp & Paper Mills
- Boiler Fuel
- Particle Board furnish
- Pellets

➤ **Construction Waste**

- Pellets
- Particle Board and MDF Furnish
- Boiler Fuel

➤ **Land Clearing Debris**

- Boiler Fuel

➤ **Ag Waste**

- Boiler Fuel
- Hardboard Furnish
- Landscape Materials

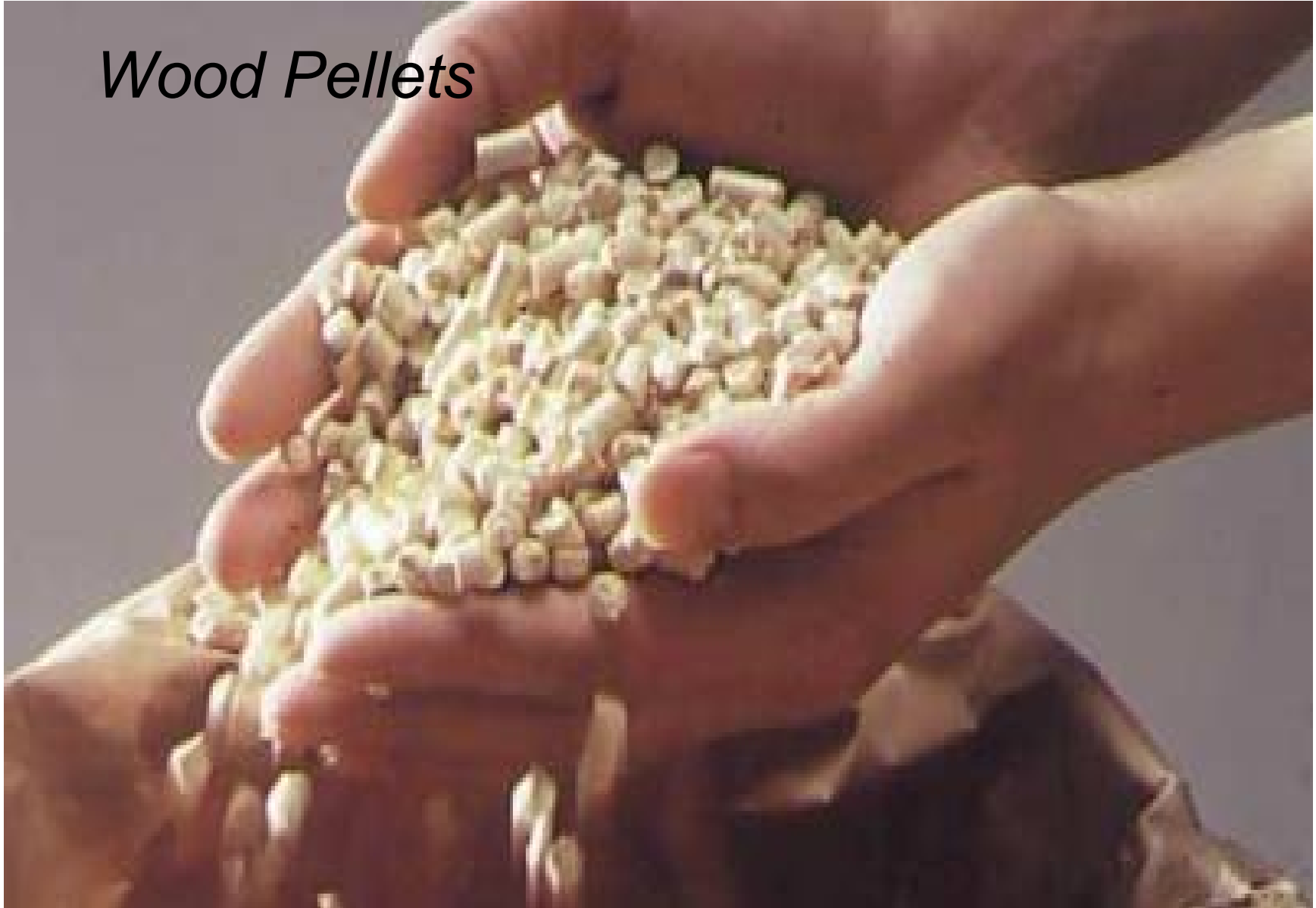
What is the best use for biomass?



Economics of Biomass

<u>Product</u>	<u>Relative Bin Value/BDT</u>
1) Pee Wee Stud Logs	\$120 to \$130/BDT
2) Export Pulp Chips	\$115 to \$125/BDT
3) Domestic Pulp Chips	\$65 to \$85/BDT
4) Particle Board/MDF Furnish	\$40 to \$70/BDT
5) Pellet Furnish	\$50 to \$70/BDT
6) Landscaping Bark	\$45 to \$65/BDT
7) Livestock Bedding	\$40 to \$60/BDT
8) Cogeneration Fuel	\$35 to \$50/BDT

Wood Pellets



Challenges to Biomass

- Extraction or conversion costs
- Multiple end uses for the fiber
- Quality of fiber
- Transportation



What does the future look like

- What does the future look like for biomass utilization?
- What will happen with power contracts and rates?
- What is the future of biofuel generation?
- Tax credits, carbon credits (carbon sequestration) and other incentives available today and in the future.



Conclusion

- Biomass comes from a variety of sources and is used in a variety of applications.
- What was once considered waste is now a valuable commodity.
- Markets dictate highest and best uses, and uses change with the markets.
- Subsidies can affect industries and opportunities in a variety of ways.

