



# Building a Sustainable Biomass Supply Chain

## Strategic Approaches to an International Bioenergy Industry

DOE's Biomass 2011 Conference  
National Harbor, Maryland  
July 26, 2011

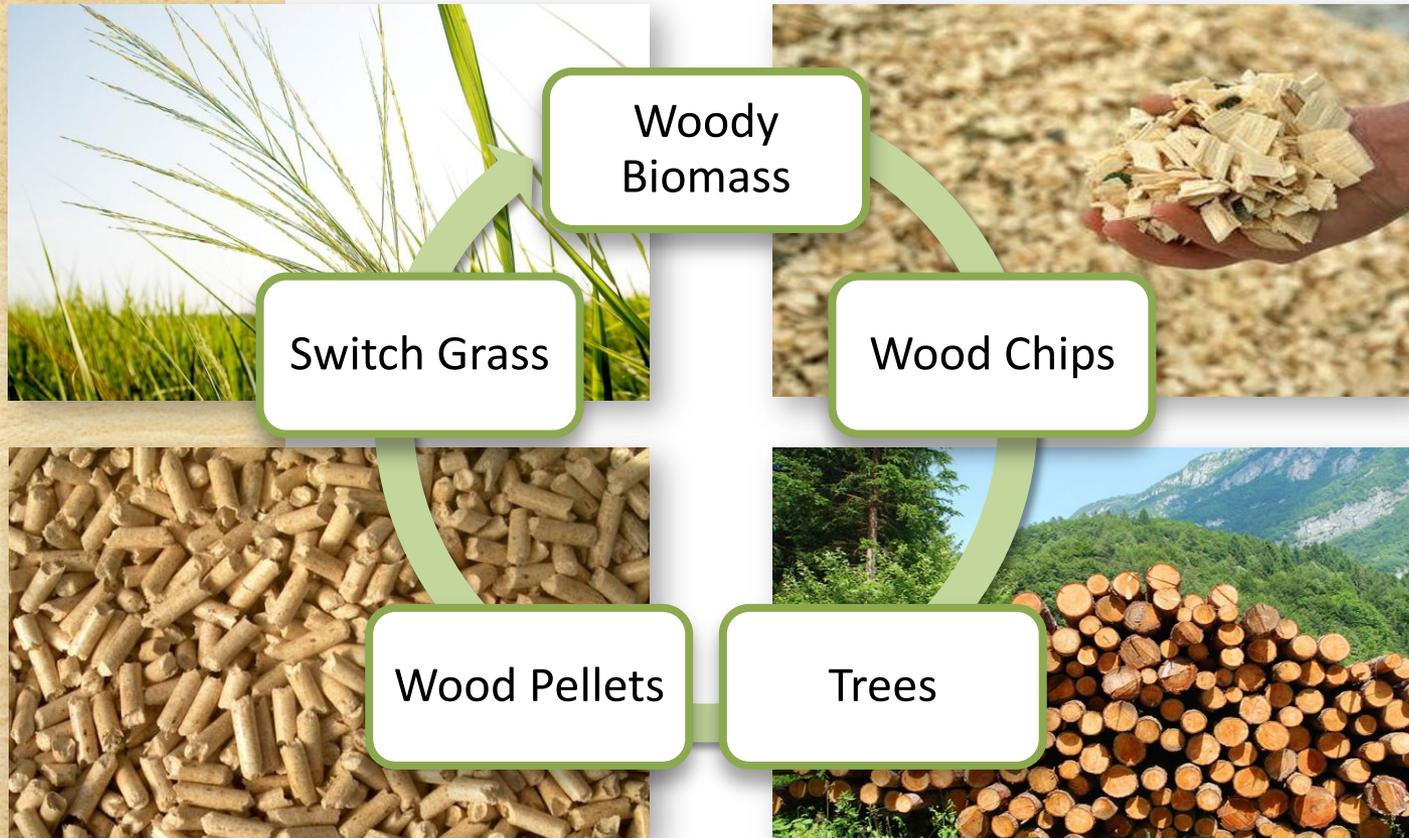


American  
**Biomass Trade**  
Cooperative

Craig Evans, Executive Director



United States: 1.3 billion tons of available biomass per year\*



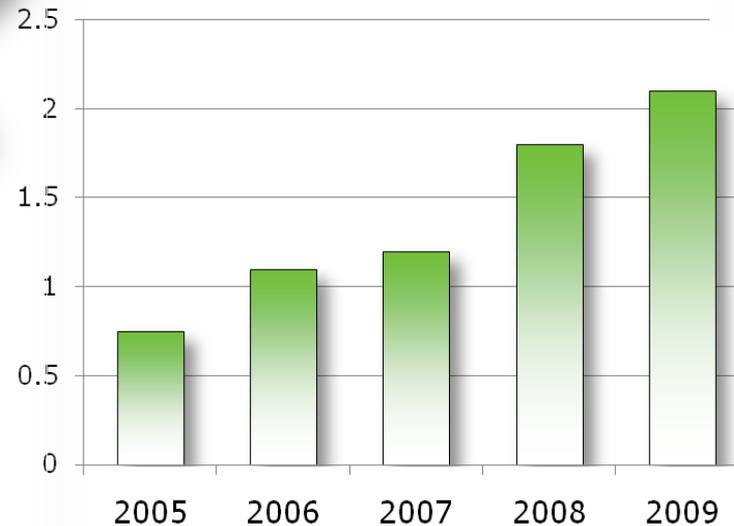
\*2005 USDA Billion Ton Study



# USA pellet production



U.S Production of Wood Pellets\*



**Wood-pellet production in the United States in 2008 amounted to 1.8 million tons**

**This increased to 3.2 million tons in 2010, of which**  
**-- 2.8 million tons were consumed domestically, and**  
**-- 1.4 million tons exported to Europe**

USA Timberlands

\*June 2010 article in Biomass Magazine



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# European pellet demand

**2008 consumption =**  
✓ **8 million tons**

**2010 consumption =**  
✓ **10.1 million tons**

## **PROJECTED DEMAND BY 2020:**

✓ **at least**  
**20 million tons**  
**(1 million ton/year**  
**increase)**

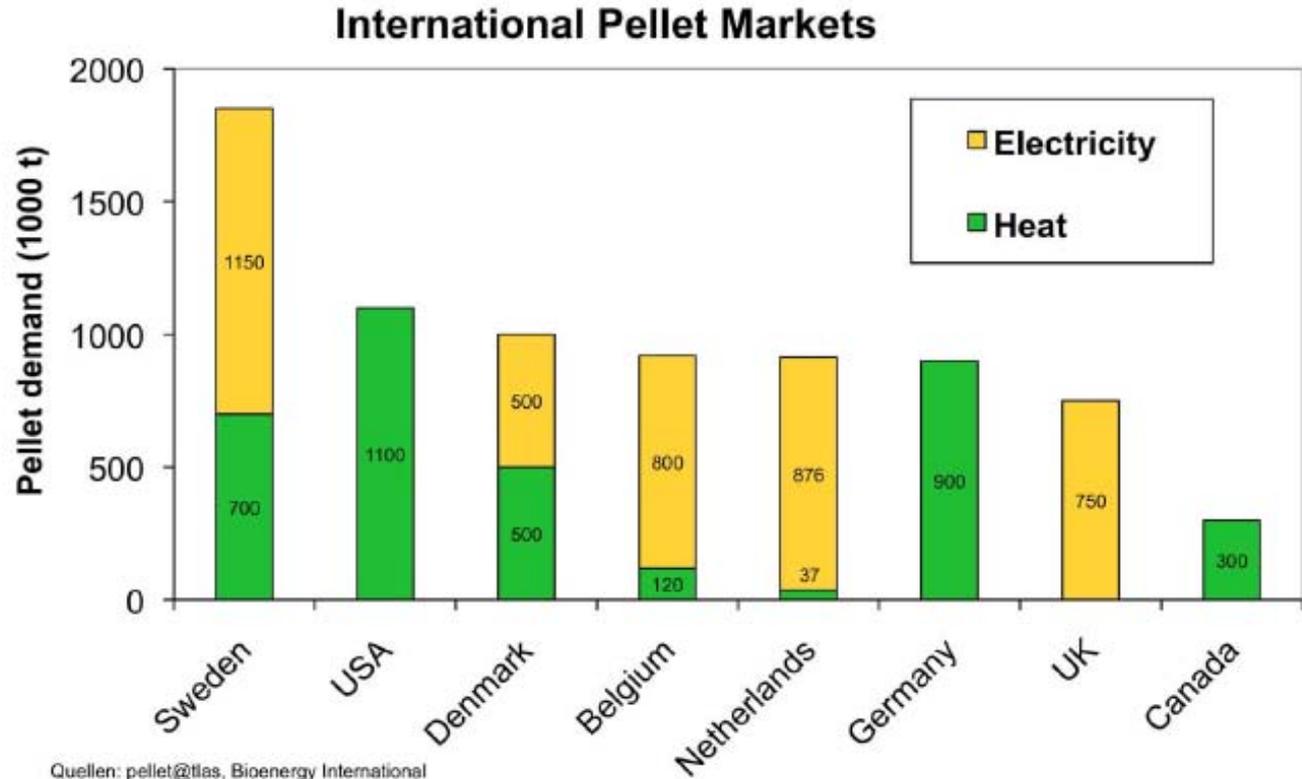
✓ **up to**  
**50 million tons\***  
**(4 million ton/year**  
**increase)**



\* June 2010 article, Biomass Magazine



# European pellet demand



**The greatest demand for pellets from North America currently comes from Belgium, The Netherlands and the United Kingdom**

Source: Christian Rakos, proPellets Austria





# European pellet demand

Estimated potential demand for wood pellets from co-firing with coal for electricity generation, based on facilities currently planned and under construction 2009 – 2015\*

Member state	biomass demand (PJ/yr)		RES-E production (TWh/yr)	
	under construction	planned	under construction	planned
<b>Belgium</b>	<b>1.0</b>		<b>0.1</b>	
<b>Finland</b>	<b>0.3</b>		<b>0.04</b>	
<b>Germany</b>	<b>35.2</b>	<b>77.6</b>	<b>4.4</b>	<b>9.7</b>
<b>Italy</b>	<b>13.6</b>	<b>2.2</b>	<b>1.3</b>	<b>0.3</b>
<b>Netherlands</b>	<b>8.7</b>	<b>12.8</b>	<b>1.1</b>	<b>1.1</b>
<b>Poland</b>	<b>5.0</b>	<b>1.1</b>	<b>0.6</b>	<b>1.8</b>
<b>Spain</b>		<b>0.1</b>		<b>0.0</b>
<b>United Kingdom</b>		<b>29.9</b>		<b>3.7</b>
<b>TOTAL</b>	<b>63.8</b>	<b>123.7</b>	<b>7.54</b>	<b>16.62</b>

**Producing 1 PJ of energy requires approx. 50,750 tons of pellets/yr.**

\* Hansson, J., Berndes, G., Johnsson, F., Kjärstad, J. (2009). *Co-firing biomass with coal for electricity generation – An assessment of the potential in EU27.*



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## USDA Foreign Agriculture Service Market Access Program (MAP) grant



- ABTc is promoting trade as an official cooperator with the U.S. Department of Agriculture
- USDA is providing funding to ABTc under its Market Access Program
- With MAP funding, ABTc has conducted a review of market opportunities in Europe and the United Kingdom
- ABTc also has identified the constraints and obstacles that must be overcome for U.S. producers to successfully serve this market and maximize opportunities for sales
- 2012 funding will allow ABTc to assess market opportunities in Asia and carry out activities to overcome identified constraints and facilitate trade to Europe

# The Opportunity for U.S. Producers



- Europe does not have sufficient supply to meet its growing demand
- Asia also is a growing market, particularly with the phase-out of nuclear power in Japan
- Canada is exporting at 80% capacity
- The U.S. has sufficient supplies of waste wood to meet both domestic and overseas demand, and can easily increase capacity to meet demand in Europe and Asia
- By meeting overseas demand, the U.S. can put the necessary infrastructure and systems in place to supply future domestic needs and move toward a green energy future



## USA domestic market hurdles

- No clear definition for biomass
- No domestic policy initiatives
- Biomass is a relatively new industry in the USA
- Majority of the attention and funding in the USA is placed on biofuels, not biomass power
- High barrier to entry to overseas markets due to a lack of U.S. standards and uniform trading contracts



## International market hurdles

- USA is the number 2 producer of wood pellets in the world, but has a small presence on the international stage
  - Canada is producing at an 85% capacity rate and exporting 80% of its product
  - The USA is producing at 63% capacity rate and only exporting 20% of its product
- Individual growers need to cooperate in order to compete on the international stage
- Up until now, no USA organization focusing on the export market to connect producers and help in setting standards to meet buyer requirements



## Logistical hurdles

- Shipments in 30,000 ton quantities are more than most independent producers can produce at one time
- The lack of consistent standards prevents shipments from being co-mingled
- Producers must make several transports of goods
- Inventory must be stored until the capacity is filled
- Foreign exchange and shipping costs fluctuate, making pricing tricky
- USA producers have an inconsistent track record for on time deliver and compliance
- Lack of reliability frustrates investing and contracting with USA suppliers



# European Market Constraints

- Limited number of countries currently use wood pellets as CO2 reduction tool – Belgium, The Netherlands and the United Kingdom
- There is unclear/unstable EU legislation on co-firing targets for other countries
- Wood pellets used in large power production plants currently are required to be of high quality, with low ash, low moisture and precise metal contents
- It is presently difficult for U.S. producers to meet this need with consistency, since they work individually rather than collectively



# European Market Constraints

- Price levels of pellets are volatile due to:
  - (1) strong control of market by a small number of buyers
  - (2) the fact that wood pellets are a seasonal product with fluctuating supply and demand over the year, and
  - (3) differing buyer intentions, who sometimes buy for speculative reasons and sometimes buy to comply with regulations
- Fluctuating foreign exchange rates increase risk, since production costs are incurred in dollars and purchases are in Euros



# European Market Constraints

- Shipping costs fluctuate over time and many buyers insist pellets be shipped FOB to a European port, not U.S. port of embarkation
- European wood pellet buyers require credit guarantees from U.S. wood pellet suppliers to ensure against the risk of default in the case of losses or damage
- There are no uniform trading contracts. Buyers use individually tailored supply contracts that must be negotiated separately. This makes market entry difficult, leads to ineffective and inefficient trading, allows for market domination by large players, and makes it difficult to establish consistent prices, conditions and terms

# ABTc's cooperative solution



- Overcome constraints and hurdles to expand market for U.S. growers/producers
- Serve both as an international marketing service and a logistical arm for growers and producers
- Work with growers, producers and shippers to build a secure supply capacity
- Promote sustainable best practices – a European requirement

# ABTc's cooperative solution



- Oversee biomass certification
- Assure buyers that products bearing the **"USA Biomass"** mark meet all certification and sustainability standards
- Market the U.S. as a reliable source for industrial wood pellets
- Simplify supply and logistics coordination
- Connect international buyers with U.S. growers/producers

# ABTc's cooperative solution



- Secure discount shipping rates and improved port access
- Pool the cooperative's production and pair with international importers
- Work with European buyers, U.S. producers and appropriate government agencies to develop standard, uniform trading contracts
- Advocate for needed government policy reforms



## ABTc's mission

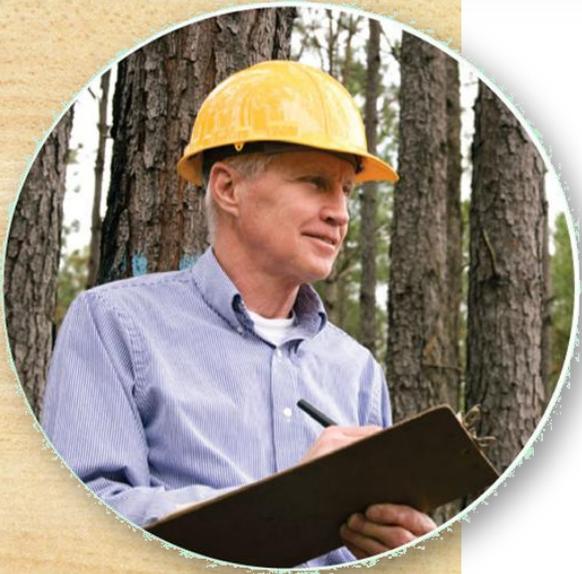
**ABTc's mission is to grow the USA biomass industry and expand trade opportunities through collective marketing and advocacy initiatives.** ABTc serves the growers and producers of the USA biomass industry, providing a collective voice for economic, environmental, and public policy advancement.



# ABTc's certification of sustainability



The mark that assures the purchaser that each product complies with international sustainability, phytosanitation, manufacturing and carbon credit standards\*



\* Using the European Pellet Council's ENplusA-1, ENplusA-2 and EN-B pellet qualities, based on the specifications of the European standard EN 14961-2.





# Pellet Mill Development



USDA Business & Industry (B&I) Loan Guarantees of up to \$25 million (or \$40 million for rural cooperatives) may be used to help with pellet mill construction



U.S. and European investment groups have funds available for pellet mill development and construction and are looking for projects in the U.S.



# Pellet Mill Development

For more information on opportunities for pellet mill development, please contact:



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American  
**Biomass Trade**  
Cooperative

Building a  
Sustainable  
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Chain

Aufbau einer Versorgungskette  
für nachhaltige Biomasse

Bouwen aan Duurzame  
Biomassa Goederenstromen

Construire une Chaîne  
d'Approvisionnement  
de Biomasse Durable



For more information about the  
American Biomass Trade Cooperative  
and its growing network and services,  
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