2012 VT Wood Chip & Pellet Heating Conference

January 16, 2010
9:00 a.m. to 3:00 p.m.
National Life Group
Montpelier, Vermont
Operator's Track

AGENDA:

10:00 Pellet & Chip Supply Update and Trends in the Market:
   Paul Frederick, VT Dept. of Forests, Parks & Rec.
10:25 Update on Emissions & Proposed EPA Rules:
   John Hinckley, Resource Systems Group, Inc.
10:45 New Technology Developments Panel:
   • Carl Bielenberg, Better World Energy
   • Roger Wallace, Addison Biomass Energy, LLC
   • Karl Bissex, KAB Enterprises, Inc.
12:00 LUNCH!!!!
Wood Chip & Pellet Supply and Trends in the Market

January 16, 2012

Paul Frederick
Wood Utilization Forester
VT Department of Forests, Parks & Rec.
Wood Fuel Markets 2012

Current Users:

• Electric Utilities
  – 2 Plants, 70 MW

• Industrial Heat & Process Steam
  – 12 Plants

• Industrial & Institutional Co-Generation
  – 5 Facilities

• Biomass District Energy & Institutional/ Commercial Heating
  – 58 Facilities (including chip & pellet using schools & multi-family housing)

• Residential Firewood
  – +/- 81,000 VT Households
Wood Fuel Markets 2012

Annual Wood Fuel Use in Vermont: 2010-11
(1,615,587 gt)

Net use increased by +/-108,000 tons from 09-10 and is up from 1,449,000 in 2005.
Schools & Multi-Family Housing: 2010-2011 season

- 43 Schools operated wood chip systems.
- 6 Wood pellet systems.
- Total usage of wood chips: 25,420 green tons. (23,271 in 2009-10 and 7,900 in 2000-01)
- Total usage of pellets: 666 tons
Wood Fuel Markets 2012

Wood Chip & Pellet Suppliers: 2010-11

- 14 wood chip suppliers serving schools (11 in 08-09).
- Of the 14 suppliers…
  - 5 sawmills (1 in MA)
  - 2 brokers/ truckers
  - 6 bole-chip producers
  - 1 landscape mulch producer
- Schools and multi-family housing used 4 different suppliers of bulk pellets.
Wood Fuel Markets 2012

“Local” Bulk Pellet Suppliers:

- Vermont Wood Pellet*
  Clarendon, VT
- Newton Pellet
  Barre, VT
- Pellets Now
  Saint Johnsbury, VT
- VT Renewable Fuels
  Manchester Ctr., VT
- Lyme Green Heat
  Lyme, NH
- Maine Energy Systems
  Bethel, ME
- New England Wood Pellet*
  Jaffrey, NH; Schuyler & Deposit, NY
- Sandri Renewable Energy
  Greenfield, MA
- Clark et Fils Ltee
  Sherbrooke, PQ
Wood Chip & Pellet Supply and Market Trends: 2012 and Beyond
Wood Chip Supply & Price Trends

Breakdown of Chip Volumes by Source: 2010-11

Year

Green Tons Chips

Sawmills
Bole Chips
Brokers
Manufacturers

25,420 tons
Wood Chip Supply & Price Trends

VERMONT SCHOOL ENERGY PRICE HISTORY

Schools paid an average of:

- 2006-07: Wood $44/green ton. #2 oil $2.31/gal.
- 2007-08: Wood $49/green ton. #2 oil $2.94/gal.
- 2008-09: Wood $59/green ton. #2 oil $2.86/gal.
- 2009-10: Wood $56/green ton. #2 oil $2.32/gal. Nat. Gas $1.16/ccf
- 2010-11: Wood $56/green ton. #2 oil $2.76/gal. Nat. Gas $1.08/ccf
Wood Chip Supply & Price Trends 2012

- Regionally, hardwood lumber production remains below capacity.
  - Permanently lost as much as 1/3 of our hardwood lumber production capacity.
  - Surviving mills continue to run at less than capacity (+/-2/3 of 2007)
  - Mill chip production remains lower.

- Paper & pulpwood markets remain volatile due to complex factors.
  - Raw material cost is only 3-5% of cost of paper manufacturing.
  - Locally pulpwood prices have been strong through the fall and early winter.

- Number of logging contractors has declined drastically.

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**Eastern Hardwood Lumber Production**

**Change in U.S. Log Operator Employment**

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Wood Chip Supply & Price Trends

• Oil prices rose sharply the first half of 2011 and have remained high.
• Fall rains and flooding resulted in reduced in-woods production. Improving winter logging conditions are helping to improve log supplies but the season will be short.
• “Lower” log prices are still causing some private landowners to hold their timber.

Increased Operating Cost + Tight Supply = Increased Competition = Increased Cost of Low Grade Wood
Wood Pellet Supply & Price Trends

Bagged, retail wood pellet prices:
• January 2011… range $220-290/ton average $255
• January 2012… range $220-290/ton average $253

Bulk price paid by facilities surveyed 2010-11 season… range $199-240/ton … average $221/ton
Wood Pellet Supply & Price Trends

- NA pellet production is expected to nearly double in next 5 years…
  Deepwater port facilities being built along the East Coast to load pellets for EU markets.
- Producers of super-premium pellets are expanding to meet increased product demand.
- Inexpensive wood residues are in short supply. More expensive round-wood will be the raw material for expansion.
- Bulk sales & delivery are increasing and available… now 10% of sales by VT Wood Pellet (just 2% one year ago).
- Longer term contracts are becoming more common. (1 yr +…?)
Future Market Influences?

NEW DEVELOPMENTS:

• Interstate Weight Limits:
  – Chip vans with overweight permits for State highways can once again use the Interstates.
  – Congress extended the “pilot program” until Dec 31, 2031.
  – Included ALL interstate highways in VT this time...
Future Market Influences?

NEW DEVELOPMENTS:

- Proposed New Wood Fuel Using Facilities:
  - Beaver Wood Energy proposing a power plants with co-located pellet mill in Fair Haven.
  - N. Springfield Sustainable Energy Project proposed for N. Springfield Industrial Park.
    - Combined wood demand of 750,000 gt/yr as proposed.
    - Both proposed facilities have begun the permit process.
  - Laidlaw Berlin Biopower, Berlin NH in construction and will use 750,000 gt/yr... expect to be online 2013.
Future Market Influences?

NEW DEVELOPMENTS:

- Study Committee on Biomass Energy Development (VT Leg)
  - 3yr study committee charged to enhance growth of biomass industry while protecting forest health.
  - Final report due to the Legislature this month...
  - Recommendations in the final draft related to monitoring forests and harvesting, support & incentives for biomass users, measures to protect forest health.
  - Include a recommendation to lift moratorium on school construction aid.
Wood Chip and Pellet Supply & Market Predictions

The Crystal Ball…

• Overall wood chip demand will remain relatively stable for at least the next couple of years.
• Sawmill residues will continue to be in short supply.
• Number of chip suppliers will remain relatively stable. Overall quality will continue to improve.
• Wood chip prices will likely rise due to production cost increases (ie. diesel fuel prices) and competition.
• Given competitive pricing, chip availability is likely to increase.
Wood Chip and Pellet Supply & Market Predictions

The Crystal Ball…

- Global pellet demand will continue to be driven by non-market forces such as renewable energy portfolio requirements in Europe.
- Pellet production in NA will increase with the majority of the new production destined for overseas markets.
- Availability of bulk pellets will continue to improve.
- Increased cost of raw materials will lead to higher cost of production and prices.
For more information or help in finding suppliers please call:

Paul Frederick
VT Dept. of Forests, Parks & Rec.
5 Perry Street; Suite 20
Barre, VT  05641-4265
(802) 479-7436
paul.frederick@state.vt.us