Wood Biofuels and Bioenergy: Washington Perspectives

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Ensuring Forest Sustainability in Development of Wood biofuels and Bioenergy in the Pacific Coast Region

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Washington – Initial Perspectives and comments

• The process led by the Pinchot Institute needs the U.S. Department of Energy at the table: Includes both ITP & OBP – Outreach to them is needed
• Pay attention to the value of the dollar: Commodities serve as a protection against a weak dollar. The ripple effect is a much stronger drive for liquid biofuels
• Track the reform progress of the Commodity Futures and Trading Commissions
• We need a strong focus on reducing forest fire danger/forest health
• Washington Bioenergy Team – Weekly meetings
• Co-products improve economics
Washington **Must** do its own Biomass Inventory

Washington competed its inventory in 2005

- County Level
- 44 Feedstocks at **sustainable levels**
- With biomass chemical characteristics
- 16.9 dry tons with about half woody biomass
- Approximately 70% above the Billion Ton report
- Website
  
  [http://www.pacificbiomass.org/WABiomassInventory.aspx](http://www.pacificbiomass.org/WABiomassInventory.aspx)
Washington Update of Biomass Inventory

Key change is in forestry
• Looking at 19.6 million dry tons
  • Thank you to Oregon State University
  • Logging slash is coming out of the woods on an increasing basis – Increasing supply
  • Wood waste demands are also increasing
  • Eastern Washington Biomass Accessibility Study, Elaine Oneil, University of Washington
  • “Investment Grade” supply study of Olympic Peninsula (excluding the national forest) by Olympic Natural Resource Center – Triggered by ARRA Stimulus funds
Stimulus Funds: Washington Woody Biomass CHP Wins Big!

4 projects – 114.4 MWc funded for $26.25 million
• Requests: 9 projects, 181.4 MWc
  • Mostly on the Olympic Peninsula and in the Puget Sound region
  • An additional 95 MWc are in the works on the Olympic Peninsula
• Implications:
  • If you own it, you control it – Long term supply
  • Will their be any woody biomass available for biofuels (cellulosic ethanol or drop in fuels)?
Washington & Stand Alone Biopower (No CHP)

An area of state concern
• 2009 Legislature ESSB 6170 Section 2 (e) “Avoid interfering with the current working area for forest biomass collection surrounding an existing fixed location biomass energy production site.” – Dept of Natural Resources enabling legislation
  • We have growing feedstock competition and policy competition
  • We should use our feedstock efficiently (drying and CHP)
  • Are we trading one set of green/rural jobs for another and lesser set?
• Bill Carlson’s analysis is appreciated
Washington Woody Biomass Studies/Research

A number of studies have been done or are underway
• EPA Region 10, WA Dept of Ecology ORCAA study: Air Quality & Climate Implications of Options for Woody Biomass - Life cycle assessment and a range of fates
• Wood to Energy in Washington, Univ. of Washington, 2009
• Dept of Ecology – Beyond Waste Strategy – 8 studies
  • Topics include steam explosion, pyrolysis emissions, biorefinery designs, biochar, high solids digesters, pretreatment & economics
• Biomass Drying and Dewatering for Clean Heat and Power, WSU 2008
Washington & Climate Change

Washington has a very active effort

- Dept of Ecology, WSU Climate Friendly Farming & U of W Program on Climate Change, & member WCI
- Forest Fires: Recognition of huge greenhouse gas emissions with silting of salmon streams
- Selling Carbon Offsets from your Clean Energy Project, WSU 2009 See Northwest Clean Energy Application Center at www.chpcenternw.org
Bioenergy Policy choices

Which policy tectonic plate will win? Do we maximize:

- Biofuel production – 36 BGY? – Get out of middle east
- Biopower production – Renewable electricity standards
- Pellets and torrefaction cubes for Asia and Europe – Kyoto
- Biochar – Carbon negative and healthy soils
- Maximize rural economic development – Which end use yields the most rural jobs, And, who owns?
- Or, are we trading one set of green jobs for another? – The forest products/pulp & paper industry can be helped or hurt
- Sustainability is an overriding key value – Right?
- What about compost and beauty bark?
Washington Woody Biomass – Next Steps

The scramble for the feedstock is on!

- CHP Wheeling to California will increase
- Gasification is coming – Nexterra & university campuses
- Forest Health – The need to re-start the forest products industry in Northeast Washington
- Biochar – “I’ve mined the carbon out of my soil”
- Dept of Natural Resources enabling legislation – 2SSHB 2481
Pacific Region – A six state-based team of AK, HI, ID, MT, OR & WA www.pacificbiomass.org
$Over 100 Million in biennial state funds
Functions as a team since 1983
Taken together: A “Complete Program” – Near, mid and long term research; development; demonstration; deployment; policy analysis & legislation; information; outreach
Strong ties to USDA.
Northwest Clean Energy Application Center

About the Center

• A multi-state effort – AK, ID, MT, OR, & WA
• WSU Extension Energy Program serves as lead
• 100 plus Regional CHP projects totaling over 1,300 MWc
• District energy & waste heat recovery also included
• 94% industrial projects
• Technical assistance information, reports and case studies
• Problem solving & trouble shooting
• Website www.chpcenternw.org
• Support of regional & state CHP initiatives