



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**

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**Peter Goldmark** - Commissioner of Public Lands

# **Biomass and Biofuels**

## **Washington Department of Natural Resources' Biomass Initiative**

2011 Washington/Oregon SAF Conference

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[www.dnr.wa.gov](http://www.dnr.wa.gov)

# Background

- 2008 Peter Goldmark elected Commissioner of Public Lands
- Campaign issues included using forest biomass for biofuel to improve energy security, address forest health, and promote rural economic development
- 2005 WSU/Ecology study speculated all Washington's biomass sources could supply 1/2 of state's energy needs



# Benefits of Forest Biomass for Energy

- Stimulates emerging technology
- Contributes to meeting state and federal renewable portfolio standards
- New tools for forest management:
  - "waste" disposal; hazardous fuel reduction; forest health; silviculture cost recovery and landowner revenue
- Rural green jobs
- Displaces greenhouse gas emissions from fossil fuels



# Technologies

- Heat - pellets
- Stand-alone power
- Combined heat and power (CHP)
- Gassification
- Liquid Fuels
  - Hydrolysis
  - Pyrolysis



# 2009 Legislation

## Biomass pilot projects:

- Atlas Pellets - Omak
- Parametrix Fast Pyrolysis – Bingen
- Borgford Bioenergy Slow Pyrolysis – Stevens County
- Nippon Pulp & Paper Mill CHP – Port Angeles



# 2010 Legislation

Address stated concerns:

- Long-term biomass sale contracts from state forest lands
- Sustainable forest biomass supply study – UW/TSS; Federal Grant received; results due late September, 2011



# Meanwhile, back at the ranch...

- “Renewable” versus “clean”
- Technology over-subsidized and over-promised
- Competition with existing biomass uses
- Air quality & human health concerns
- Forest ecological impacts concern
- “Carbon neutrality” debate and concern about whole-tree harvesting (“dirtier than coal”)
- Concern about in forest costs, road use, etc.





# Responses

- Messaging on renewables; life-cycle assessments
- Technological skepticism & principles: Efficiency; Scale; Location
- Accommodation with existing uses
- Coordination with air quality regulatory agencies
- Forest practices dialog ongoing
- Emphasis on logging residuals only
- Realism about economic availability & road use; promote on-site densification



# 2011 Legislation – Signed by Governor April 29

- “Next-generation” cellulosic bioaviation fuel
- Marries two traditional Washington State industries:
  - Forest Products and Aeronautics
- Builds on Sustainable Aviation Fuel Northwest initiative (SAFN) – Boeing, Alaska Airlines, Ports of Seattle & Tacoma, WSU, Climate Solutions
- Claim benefits of in-state location of supply chain
- Near closed loop processes
- Sustainability criteria



# Questions?

[www.dnr.wa.gov/ResearchScience/Topics/Other/ConservationInformation/Pages/em\\_biomass.aspx](http://www.dnr.wa.gov/ResearchScience/Topics/Other/ConservationInformation/Pages/em_biomass.aspx)





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