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Biomass Program Structure

Presented to Mono County Biomass Utilization Task Force



Mammoth Mountain

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Placer County Biomass Program

Needs - Lower fire danger, reduce air pollution from burning, create green energy, create future economic growth

Guidance - Board Of Supervisors created a Biomass Policy Team & adopted a Strategic Plan for Wildfire Protection and Biomass Utilization

Implementation - Programs developed and continuing via county & federal funding & grants and partnerships

























On-Going Programs



Community Biomass
Collection



Chipping



Regional Biomass
Collection



Before

Contracts in Place

Material being
Reclaimed

Air Pollution Saved

Forest Health Increased



After

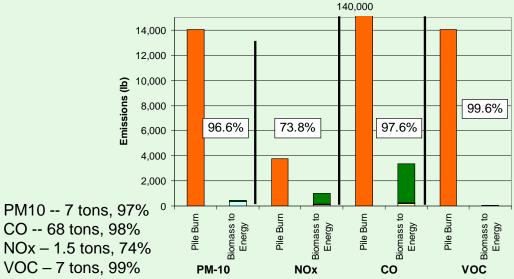


Benefits - Biomass Solves Environmental Issues

2008 Regional Biomass removal – Tahoe Basin

Biomass processed and transported (Loyalton and Carson City) 330 BDT Biomass chipped and used for ski slope stabilization 229 BDT





Current Practice - Burn Biomass

Large amounts of air pollution Deposition to lake Smoke Respiratory Issues

Future – Convert Biomass to energy

Healthier Forest Less Fire Danger Improved Air Quality Lake Clarity Improved



Potential Tahoe Basin Biomass Facility

What: 1 – 3 MW wood to energy producing facility (including electricity & heat)

80' X 80' 2-story building

When: Facility could be operational by winter 2012/13

Where: Kings Beach prime location, others considered

Why: Improve forest health, reduce fire danger, remove waste, lower air

pollution, provide public benefits

Who: Public/Private partnership with NV Energy, USFS

How: County funding, federal grants, NV Energy investment



Kings Beach Biomass Facility Conceptual Site Plan





Potential Tahoe Basin Biomass Facility

Project Funding to Date

- 2007 The U.S Forest Service and Placer County funded a preliminary technical feasibility assessment for a biomass energy facility in the Lake Tahoe Basin - \$75K
- 2008 Placer County received Congressionally-directed funding (Congressman Doolittle) to move this facility concept through the development phase -\$650K
- 2009/10 Placer County has recently been awarded additional funds (Senator Feinstein) to assist in the construction of the biomass utilization facility - \$1.5M and \$1M requiring matching funds
- Placer County is also contributing significant project support
- NV Energy private partner to contribute remaining funding



Steps to Begin a Biomass Program

- > Fund a part or full time Biomass Coordinator Good Project Manager
- > Develop a Policy Team Multi Disciplined, BOS engaged
- > Write a Strategic Plan Be realistic of what's available
- > Write Biomass into Multi-Hazard Mitigation Plan Funding potential
- > Acquire Lobby activity Both Fed and State level
- > Advocate with Legislature Spend time in Sacramento, DC
- > Develop a Funding Strategy Realism with some reach for the stars
- > Perform a Feasibility Study Small cost is warranted if facility is realistic



Partnerships

- ➤ Develop Primary Partnerships USFS, CALFire, APCD, Local Fire, Water Agency, Conservancy
- ➤ Encourage Secondary Partnerships
 Fire Safe Councils, Environmental Stewardship Groups, Land fill
 Operator/Green Waste Company
- ➤ Ask for Anything and Never Turn Anything Down
 Request funding via grants, use matching funds
 Peer Review
 Barter activities









Funding Opportunities



➤ Big Picture Requests - Think Regional Congressional grants
Conservancy Grants
USFS Grants
BARCAP
CEC, DOE

National Non Profit Grants



➤ Local control requests — Think Mutual Benefits
Air Pollution Grants
Agency Grants
Joint Projects





Implementation Steps

- ➤ Easy/Cheap Steps
 Work with Fuel Reduction Projects, CWPP, Education
 to County, partnering with local agencies, local green
 waste partners, Regional Biomass Locations, develop
 private partners
- ➤ Funding Required Steps In house Strategic Plan, Multi-Hazard Mitigation Plan, advocate with Legislature, funding strategy
- Funding Required Steps Grants (Public & Private)
 Feasibility study, lobby activity, build facility



Long Term Opportunities

- > Alternative Fate for Biomass (besides open burning)
- ➤ Create Sustainable Supply
 USFS options: Stewardship, Other contracting
 issues: NEPA, lawsuits
- ➤ Build a Facility (s)

 CHP

 Transportation Fuel

 Pellet

 Other
- > Develop Carbon Market (Mitigation or Offsets)
- ➤ Mono County Priority



Carbon Program

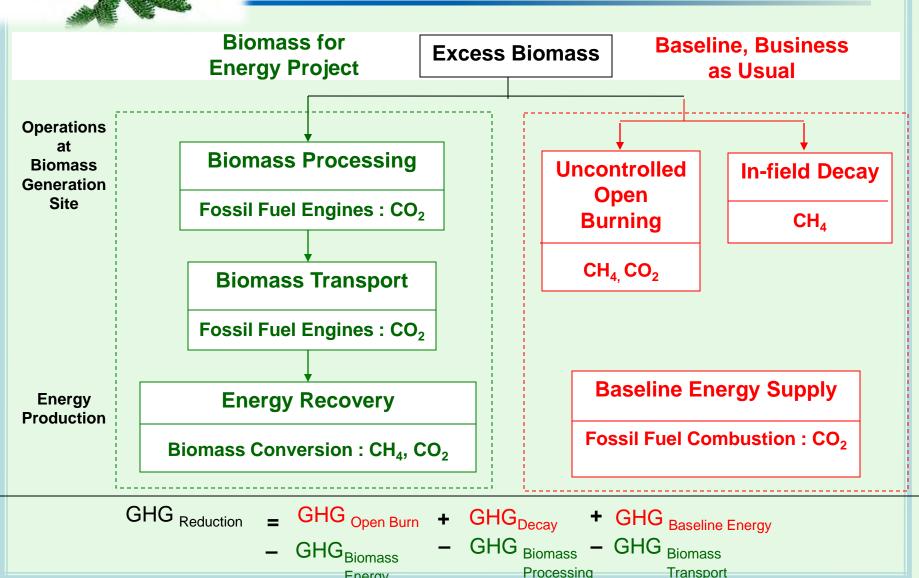
Carbon Market Discussions

- Carbon Offsets Fossil Fuel Offset Development
- Carbon Avoidance Less open burning, less forest fires
- Carbon Sequestration Healthier Forests, replanting of forests
- Carbon Mitigation GHG land development mitigation banking

Carbon Protocols

- Forestry Protocols Scientific methods
- PCAPCD Biomass to Energy (BOF approved 2009 sent to CARB)
- USFS/Spatial Informatics Group Forest Fuel Treatment (Wildfire Reduction, Enhanced Forest Growth) end of 2011

EMISSIONS ACCOUNTING



Energy



Economic Forest Biomass Treatment Project Facts

- Case Study Demonstration Project:
 - Moved 7,089 green tons (4,200 BDT)
 - Excellent fuel quality 9,000 Btu/lb, 40% moisture
 - 4,652 MWe
- Economics approx. \$55/BDT (\$3.25/MMBtu)
 - working to increase operating efficiency and reduce cost



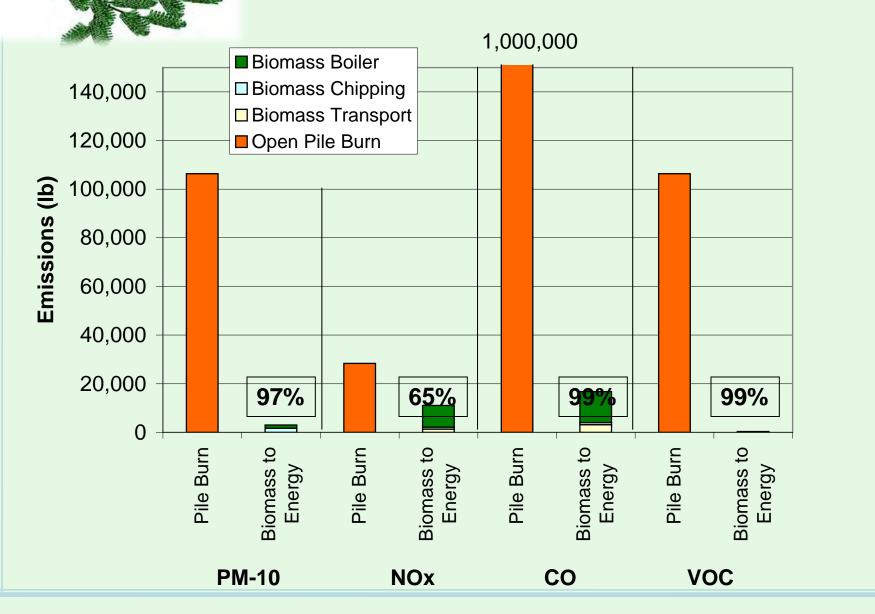


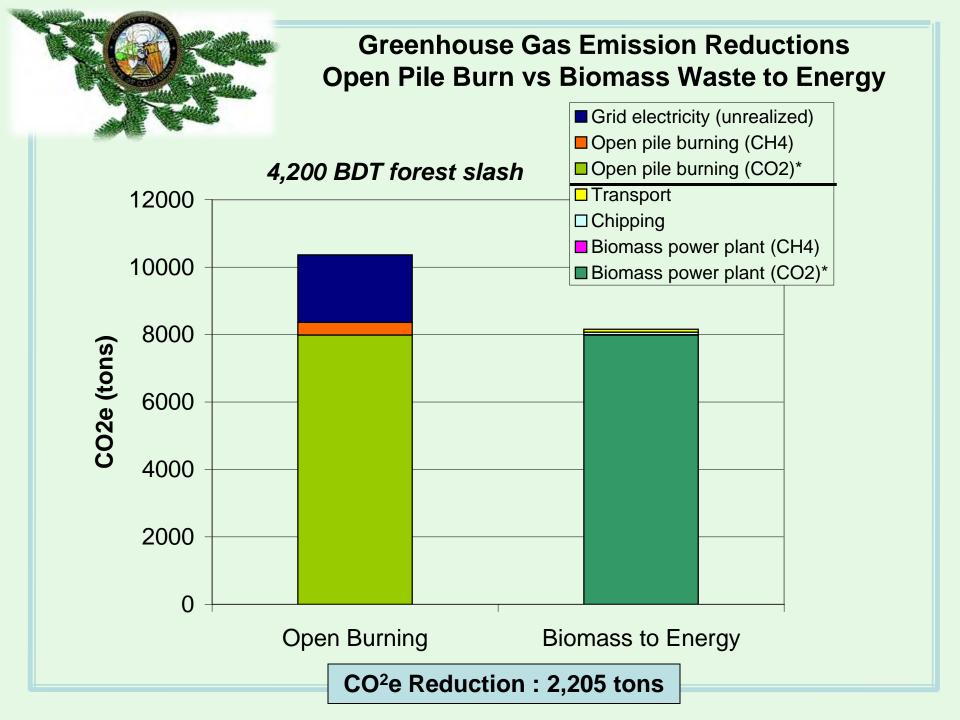






Criteria Air Pollution Emission Reductions Open Pile Burn vs Biomass Waste to Energy







CO² Cost Effectiveness

Biomass:

Biomass costs = \$55 per tons for grind/haul Biomass power plant rate \$45 - \$65 per ton

Carbon: (60 mile radius travel)

4,200 tons biomass = 2200 tons of CO² reductions 2,200 / 4,200 = .523 tons of CO² per ton of biomass

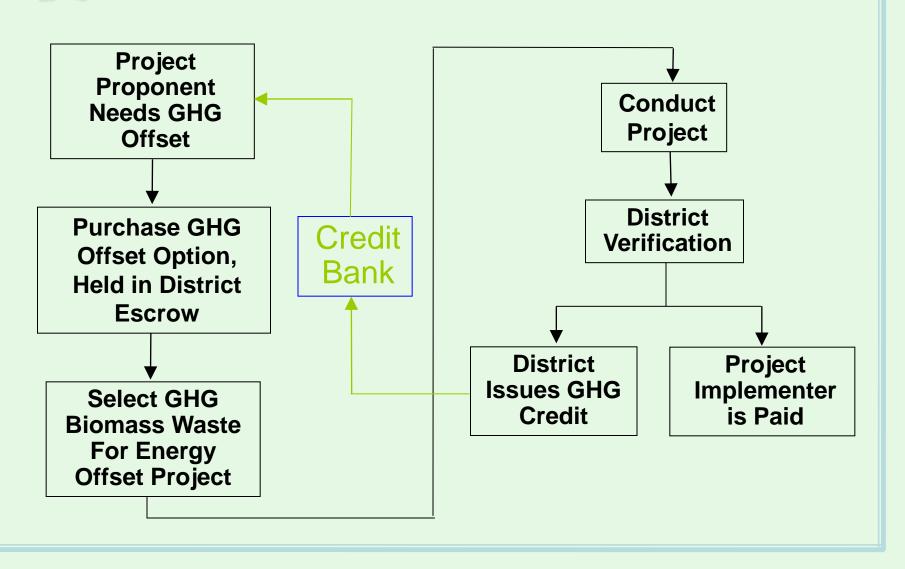
<u>Carbon equation =</u>
½ a ton of CO² per ton of biomass

Premise: Sustainable Biomass Operations

- >For biomass to be sustained 2 items need to be accomplished
 - 1) Operational costs need to be improved
 - 2) an economic driver needs to be injected
- ➤utilize the carbon credit (½ a ton of CO² per ton of biomass) as the driver
- ➤ Carbon credit sale of \$10 per ton equals \$5 per ton of biomass = Sustainability



SAMPLE IMPLEMENTATION





Issue Resolution Opportunities

➤ Have you started the conversations?

Governmental, Business, Environmental

➤ Is the infrastructure (funding, willingness and competence) in place to support biomass operations?

Governmental: Federal, State, Local

Business: Harvest operators, Energy companies

> Do you have /are you willing to create competency in Biomass Technology?

Multiple technologies, regulations

- ➤ Have you put your partnerships in place?

 MOU's, Joint agencies working groups, support letters
- ➤ Are you ready to follow through with commitments?

 Trust becomes the issue



Questions/Comments

Website Under Construction

http://www.placer.ca.gov/Departments/CommunityDevelopment/Planning/Biomass.aspx

