



# Connecting the Dots - Healthy Forests, Healthy Communities

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*Squaw Valley California*

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# ***Placer County Biomass Program***

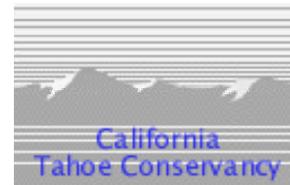
***Needs*** - Lower fire danger, reduce air pollution from burning, create green energy, create future economic growth

***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***

USFS NF biomass removal



After



## ***On-Going Biomass Related Projects***

Economic Forest Biomass Treatment  
Lake Tahoe Basin  
American River Watershed

### Carbon Offsets

Carbon Avoidance – Less burning  
Carbon Sequestration – Healthier Forests  
Carbon Mitigation – Offset Development  
Forestry Protocols – Scientific methods

Tahoe Basin Biomass Facility  
Public/Private Partnership  
Renewable Energy  
Public Benefit



## ***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

***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 earmarks,  
NV Energy investment, Ca





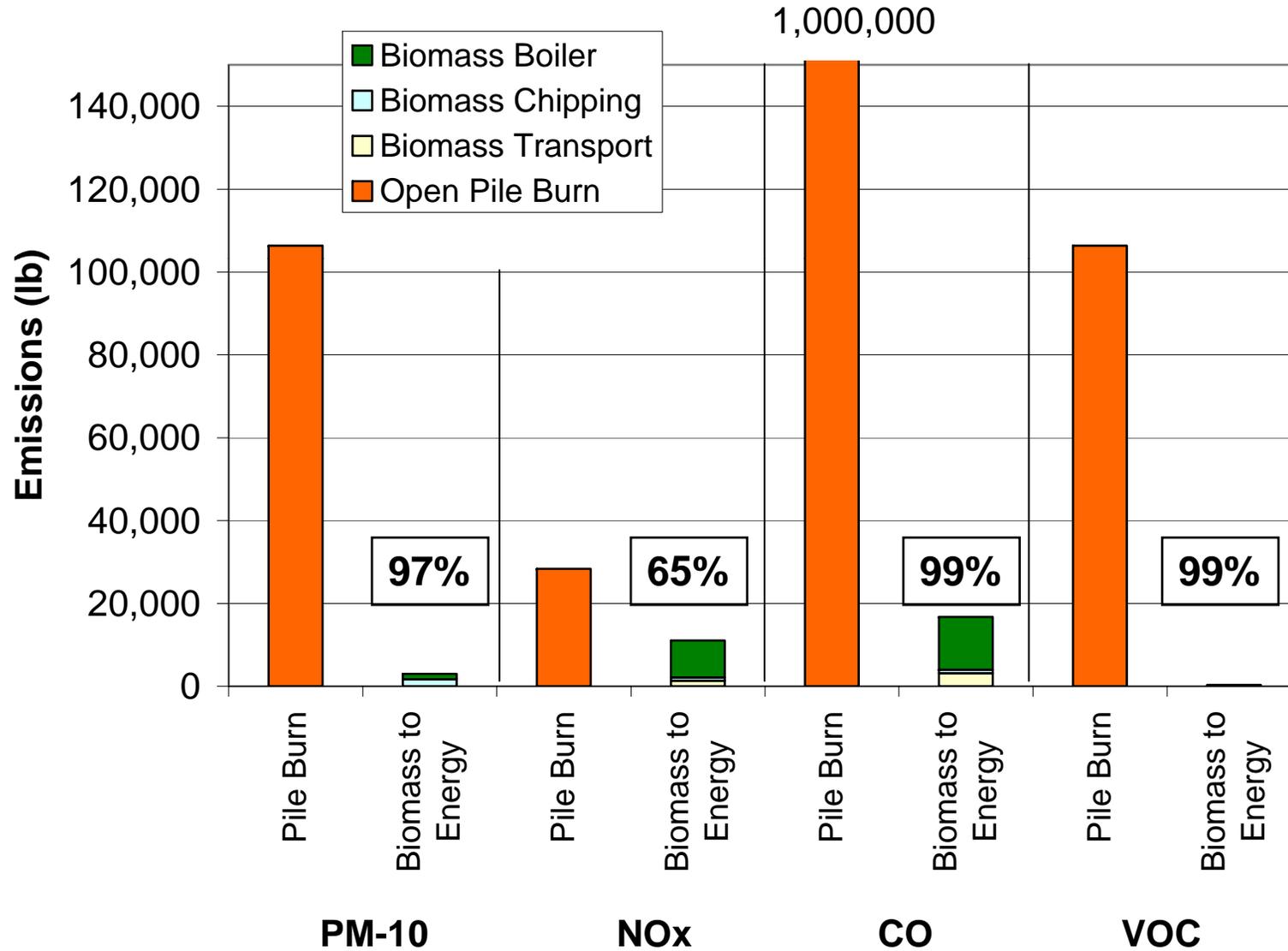
# Economic Forest Biomass Treatment *Project Facts*

- 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



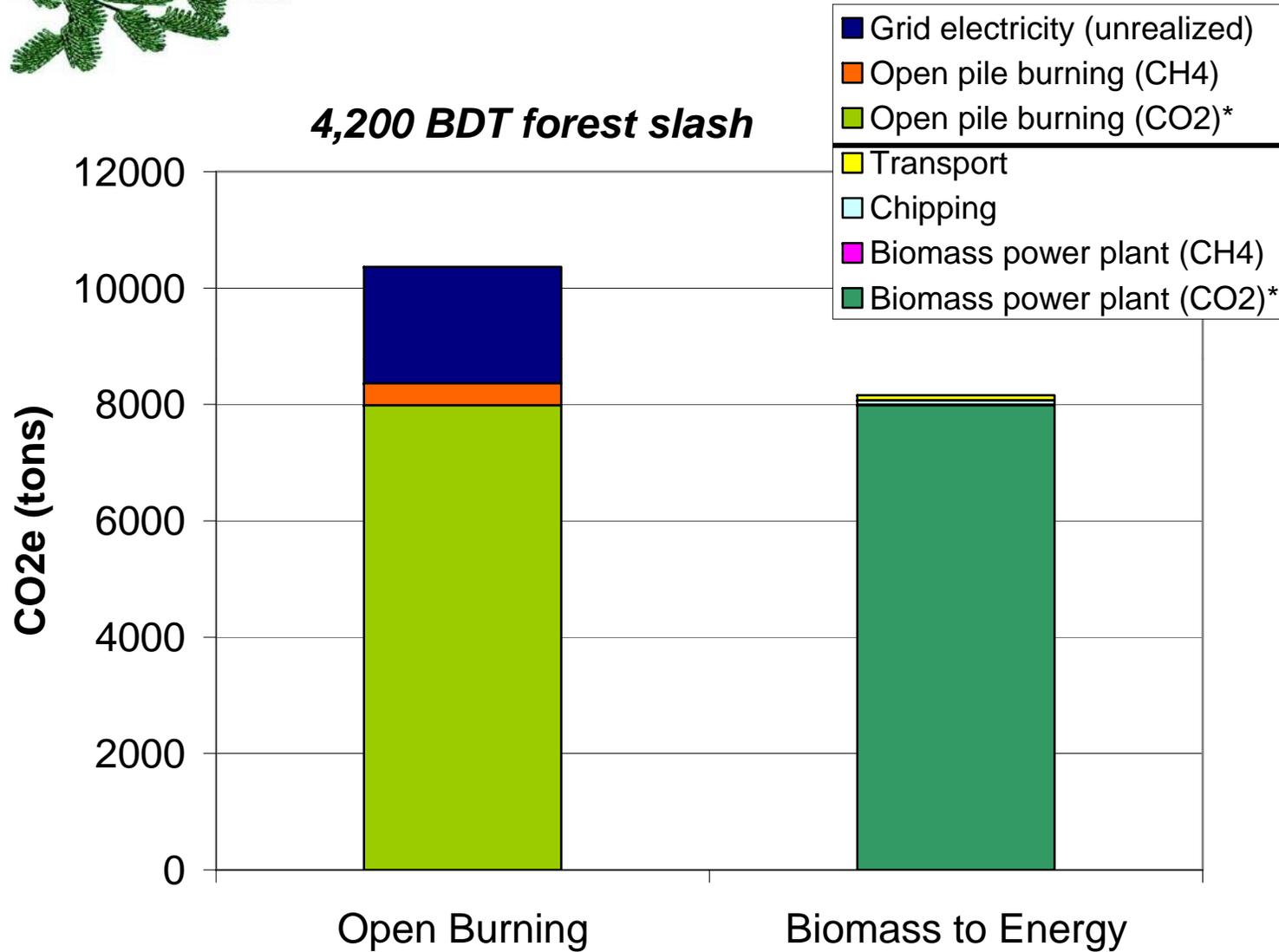


# Criteria Air Pollution Emission Reductions Open Pile Burn vs Biomass Waste to Energy





## Greenhouse Gas Emission Reductions Open Pile Burn vs Biomass Waste to Energy



**CO<sup>2</sup>e Reduction : 2,205 tons**



## CO<sup>2</sup> 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 CO<sup>2</sup> reductions

$2,200 / 4,200 = .523$  tons of CO<sup>2</sup> per ton of biomass

Carbon equation =

$\frac{1}{2}$  a ton of CO<sup>2</sup> 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 ( $\frac{1}{2}$  a ton of CO<sup>2</sup> per ton of biomass) as the driver
- Carbon credit sale of \$10 per ton equals \$5 per ton of biomass = Sustainability



## Potential Benefits to the Watershed

**Now that Biomass piles have been removed:**

- **USFS rehabilitation & planting of genetically superior seedlings**
- **Net increase in water yield**
- **Forest more fire resilient**
- **Less erosion**



**Before**



**After**



# ***Placer County Biomass Program Next Steps***

Continue Progress of On-going activities

- Keep working with our partners

Carbon Program Implementation

- Work with local, state, federal agencies

Build Local Infrastructure/Create jobs

- Transition opportunities to private business

Develop Distributed Network of Biomass facilities

- Expand Strategic Plan with private stakeholders

Stewardship Process Update

- Work with USFS and Environmental Community to create solution

***Avoid This***



***Keep This***





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Questions/Comments

