



Observations from Placer County's Bio-energy Project

Presented to:

Community Scale Bio-energy from Woody Biomass: Policies and Technologies

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Sacramento, California

*Brett Storey, Placer County Biomass Program Manager
(530) 745-3011 bstorey@placer.ca.gov*





Necessary Steps: Clear Direction

- Placer County Problem: History of increasing forest fires, increasing open burning of piles, increasing air emissions, canceling of fire insurance, respiratory related health issues
- Board Of Supervisors Direction
 - Reduce Catastrophic Fire Conditions
 - Improve Regional Air Quality
 - Provide Long Term Solution for Forest Waste
 - Create Employment Opportunities
- Develop Strategic Plan (*adopted in 2007*)
- Look for/Capture Funding





Necessary Steps: Options Investigated

- Biomass recovery throughout forest
 - Can it be accomplished?
 - Can it be more streamlined to reduce cost?
 - Can it be sustainable?
 - Will it reduce emissions enough?
- Biomass to energy conversion projects
 - What will work within 5 years,
 - 10 years? Beyond?
- Public/Private Agencies for Solution
 - Will cost sharing make it economically feasible?
 - Can cost per Kw be good enough?
 - Will it provide jobs/economic growth?





Necessary Steps: Thorough Studies

DOE, USFS Grants and County funds have been used

Critical Feasibility Areas

- **Technical Solutions:** Combustion technology, Air emissions & control, Logistics, New Source Review, Intermediate (60%) Design
- **Fuel Feedstock:** 50 mile/40 year Fuel Assessment, Master Stewardship Agreement, local infrastructure, local Agency contracting, secondary fuel source
- **Environmental:** California Environmental Impact Report, *Federal Environmental Assessment, Health Risk Assessment, *Health Impact Assessment
- **Economics:** Economic Proformas, Investor agreement, Power Purchase Agreement, Transmission agreement, Future technology upgrades, Carbon Credits
- **Regulatory:** California Public Utilities Commission, Renewable Energy Credits, Investment Tax Credits, Production Tax Credits, SB1122?



Necessary Steps: Partnerships





Necessary Steps: Public Outreach

- Get information to public/solicit input
- Prepare communications strategy
- Choose site carefully
- Ensure benefits to community
- Prepare proper environmental & health analysis
- Plan public meetings & hearings strategies
- Prepare for litigation





Facility Attributes:

Proposed 2MW Electrical Generation

(Power for 1500 Homes Annually)

- Facility size based on fuel availability, transmission line capability, emissions allowances, cost to market
- Reducing reliance on fossil fuel (replacing mostly coal based energy)
- Bundling Power and REC's attractive for PPA discussions
- Built on Commercial Zoned Placer County-owned site
Conditional Use Permit from County
Permit to Operate/Authority to Construct from APCD
- On-site stockpile/supply (approx 1 acre), back-up material nearby
- Tied directly into local grid using exiting transmission lines



Principal Technology Chosen

Gasification

Two 1MW Gasification units

Creates Syngas



Gasification Unit
(Phoenix)

Creates Electricity

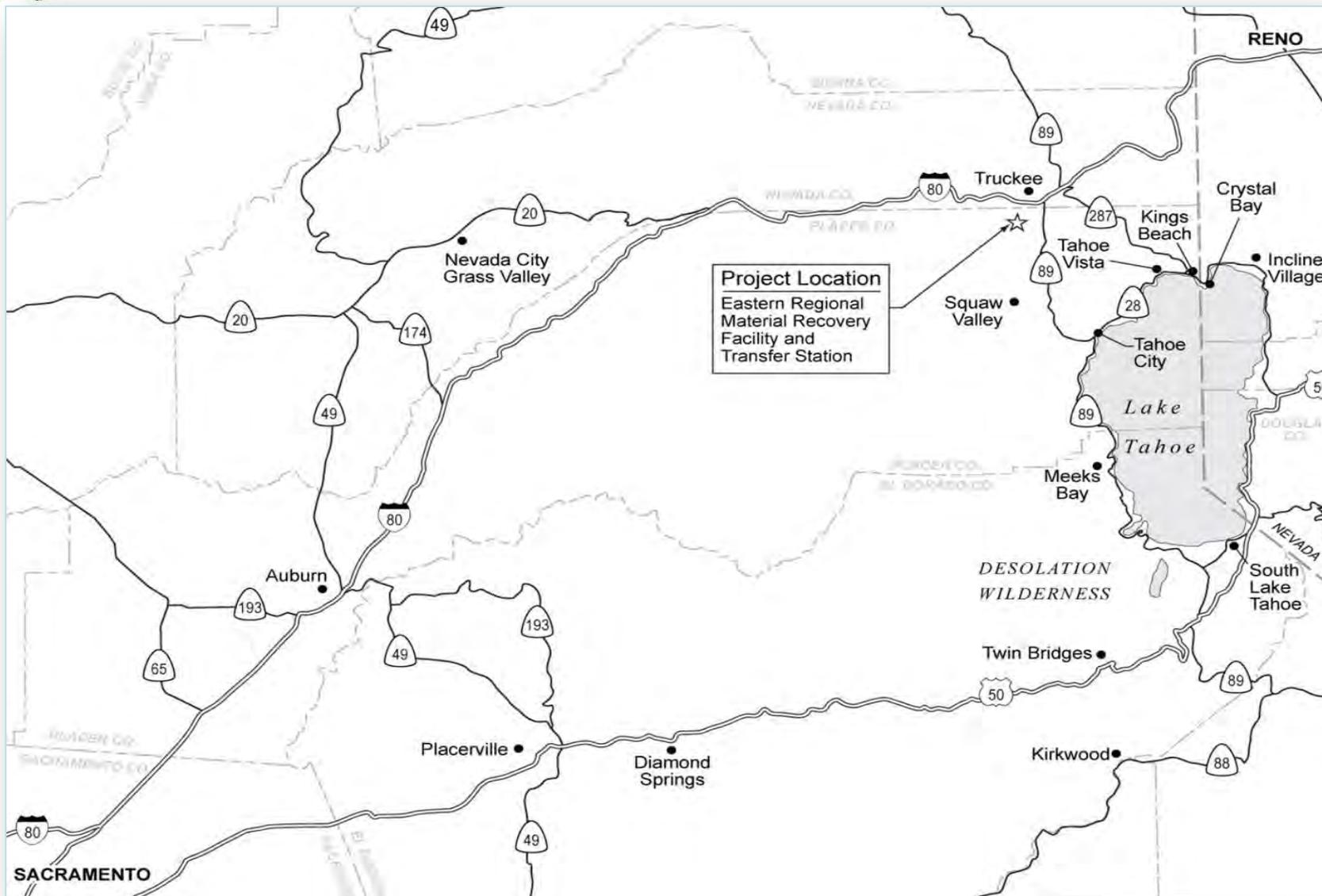


Internal Combustion Engine
Coupled with a Generator
(GE Jenbacher)

Creates Biochar



Vicinity Map – Cabin Creek





What Does the Facility Look Like?



VIEWPOINT 1 VISUAL SIMULATION

CABIN CREEK BIO MASS FACILITY
PLACER COUNTY, CALIFORNIA


WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS
3301 C Street, Bldg. 100-B Tel: 916.341.7760
Sacramento, CA 95816 Fax: 916.341.7767



Process to build Next Steps

- Present Project and Final EIR to PC Planning Commission: Dec 20 2012
Certify Joint Environmental Document:
CEQA: EIR Lead agency Placer County, NEPA: EA Lead agency DOE

*“After implementation of the proposed mitigation measures, all of the adverse effects associated with the proposed project would be **reduced to less-than-significant level.**”*

Approve Conditional Use Permit

- Present Project to PC Air Pollution Control District: Jan 2013
Authority to Construct/Permit to Operate
 - Investors decision for Construction: Spring 2013
 - Site prepared summer through fall 2013/2014
 - Accepting material summer through fall 2014/2015
 - Facility could be “on-line” 2015