Biomass Energy in the North Coast Region

An Assessment and Strategy for Ecologically and Socially Compatible Development

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NCIRWMP and Biomass

Biomass projects affect, and can be dependent upon, water resources. This document will present a strategy for how the region might advance biomass utilization strategies, **with particular focus on biomass-to-energy projects, that are compatible with protecting and enhancing water resources**, terrestrial habitat conditions, forest health and resilience and climate objectives while also improving the economic stability of the region and advancing the overall environmental and energy supply goals of California as a whole.

The Watershed Center

The Watershed Research and Training Center has broad experience in leading planning and development at both local and regional levels to facilitate healthy stewardship based economies and policies that promote our vision of thriving communities rooted in place.

Document Development and Assessment Process

- Time Period
- Document Review
- Personal Interviews
- Report Compilation

Key Findings

1. North Coast has Significant Renewable Energy Production Potential, including Biomass Energy

There is significant opportunity for renewable energy development on the North Coast, and in rural areas of California in general, however there are a number of obstacles that will need to be resolved, removed or circumvented to reach the full potential while also insuring ecologic health.

2. Market Potential must be paired with Ecologic Health

3. Reality Check

The myth of biomass as a stand alone silver bullet / cure all for the economic challenges of the region needs to be tempered with a broader strategy

4. Help Is Out There

Urban / Rural networks, education, legislative collaboration, power purchase agreements, etc are non existent and could be a powerful message if nurtured and facilitated.

Obstacles

1. Transmission Infrastructure Access / Expansion
   - Current transmission infrastructure may not match up with feasible current / future supply delivery areas

2. Market Awareness / Energy Knowledge / Ability to Work The System
   - Limited regional market knowledge / relationships
   - Limited overall energy IQ. Infrastructure, regulatory players, process to get projects off of the ground
   - Low capacity to tweak political / legislative / regulatory / financial machines to the advantage of small project development in rural areas

3. Lack of Economically Feasible Small-scale Technology
   - Lack of balance between capital costs of small-scale generation and the value of the resulting energy generated. There is a need to either drop the capital cost or increase the value.
   - Lack of available appropriate technologies at scales that match supply availability (generally smaller than 5 MW) and power purchase pricing that does not justify investment in R&D and/or capitalization of small biomass systems.

4. Lack of Guaranteed Feedstock Supply
   - Currently challenging to secure a feedstock supply in contractually agreeable terms to justify investment (primarily an issue for public lands, but also for private)

Opportunities

1. Timing is everything
    - RPS Demand
    - CCA Development
    - Momentum Behind Environmental Groups Support
    - California's Cap and Trade Rulemaking

2. Development of Regional Voice and Capacity
    - Educational Forums
    - Regional Planning and Administrative Resource Utilization
    - Focused and Powerful Influence on Legislative and Regulatory Actions

3. Sacramento is Paying Attention
    - Document Development Spurred Conversations and Raised Awareness of North Coast
    - Key Timing Regarding Items Mentioned in #1
    - Relationships Being Established (CEC, PUC, Legislators, Natural Resource / Energy Staffers)

Opportunities (cont.)

4. Highlighted Projects

- Trinity River Lumber Combined Heat & Power (CHP)
  Location – Weaverville, Trinity County
  Project Description – Biomass to Energy Combined Heat and Power Facility. Proposed as a partnership between the Trinity River Lumber Company (TRL), Redding Electric Utility and Trinity Public Utilities District

- Yreka/Timber Products Company (CHP)
  Location – Yreka, Siskiyou County
  Project Description – CHP facility proposed at 15.7 mW that would provide steam to Timber Products Company veneer mill and make additional thermal load available for district heating, as well as provide electricity to the grid.

- Biochar Demonstration Project: Redwood Forest Foundation Inc. (RFFI) & Mendocino County Woody Biomass Working Group (WBWG)
  Location – Usal Redwood Forest, and vineyards, Mendocino County
  Project Description – Demonstrate commercial viability of small-scale pyrolitic conversion of woody biomass to agricultural grade charcoal, also known as biochar. Biochar is a promising carbon rich soil amendment with multiple benefits.

- Biomass Heating of State Campus Facilities
  Location – Mendocino, Humboldt, Trinity, Modoc, Siskiyou
  Project Description – Currently, there are a number of state campus facilities (i.e. Department of Corrections/CalFire Conservation Camps in Trinity, Modoc, Siskiyou and Mendocino) that could relatively easily implement cost-saving biomass to energy projects by converting their existing fossil fueled boiler heating systems to woody biomass boilers. These projects could be developed either as a package (which might bring down the cost of borrowing) or individually.

Opportunities (cont.)

- **Modoc County Sage Steppe Project**
  Location – Modoc County
  Project Description – This project could springboard from a recent environmental record of decision (ROD) that was a result of a 9-year collaborative process between the United States Forest Service, U.S. Bureau of Land Management, and Modoc County citizens that proposes juniper reduction on 4 million acres of public and private land over a 50 year period. Available biomass volumes will increase from approximately 70,000 bdt/yr to over 200,000 bdt/yr over time.

Other projects in planning stages:

1. College of the Siskiyous Biomass Heating Project – Siskiyou County

2. Ft. Bragg Biomass Facility – Mendocino County

3. Various Municipal Campus Projects – Region Wide

4. Biomass Ethanol Production Feasibility Study – Del Norte County

5. Sonoma Biochar Initiative – Sonoma County

Proposed Strategies

1. Work regionally

The Counties and partners of the North Coast Region should pool their energy through the NCIRWMP process to develop shared strategies to affect policy, transmission, grid access, and funding for investments in R&D, demonstration and project development for commercial technologies going forward. The world of energy development and policy is complex and competitive, and regional Counties and businesses will compete more effectively at the state-level if they act as a regional unit.

2. Increase regional energy knowledge and capacity for engagement

Energy development and policy is highly complex and political. There is a need for the development of educational materials, technical assistance, and programming for local decision makers, county staffs, and development partners to increase their familiarity with CA energy policy, the logistics and economics of biomass energy development, transmission and interconnection, and the ecological and social dimensions of biomass energy. This will facilitate regional participation and success in the emerging field of opportunity for biomass energy.

3. Engage urban and suburban power customers

Forge new partnerships with end-of-line power customers (local urban / suburban /rural utilities) and state and federal agencies to facilitate equitable project financing. Explore linkages with Community Choice Aggregations (CCAs), Joint Power Authorities (JPAs) and other partnership structures to leverage resources.

Proposed Strategies (cont.)

4. Leverage available funding

State and federal assistance programs such as grants and loan guarantees are likely the keys to supporting R&D, demonstration and commercialization of appropriately scaled conversion technologies and projects.

5. Work on project development through partnerships and collaboration

Practice collaboration and build partnerships to forge long-term and environmentally sustainable feedstock supply contracts and balance ecological and social values with project economics.

6. Strategically target new facility locations and potential transmission expansion / improvements

Target locations where capacity is lacking and focus on ecological and social values to help determine attainable supply within an economic haul distance from the plants.

7. Advocate for biomass energy pricing equity and support the Public Goods Charge and other measures that can improve capacity and opportunities in rural areas

Advocate for fair-accounting energy pricing and feed-in tariffs that acknowledge the many ancillary benefits of biomass energy and push for the reauthorization of the Public Goods Charge as a means to support economical biomass utilization and continued R&D into emerging biomass technologies. Pilot and demonstration projects, supported by the Public Utilities Commission, may serve as a first step for more systemic policy direction.

Thank you for your attention!

Additional Questions / Discussion