

BIOMASS WORKING GROUP MEETING

TUESDAY, FEBRUARY 18, 2014

Room: Hearing Room A; California Energy Commission; 1516 Ninth Street; Sacramento

Time: 12 p.m. to 3 p.m.

Toll free call in: 1-866-469-3239

Meeting number: 929 299 134

Next Meeting: March 18, 2014

Attendees:

In person: Doug Snyder, Paul Mann, Phillip Treanor, Steven Nicholls, Bob Goodwin, Doug Wickizer, Andrei Rykoff, Jim Bowmer, Garry O’Neill, Larry Swan, Chris Friedel, Gabriel Taylor, David Lewis, John Paluccio, Rob Williams, Debbie Schmidt, Greg Osborn, Peter Tittmann, Mik McKee, Rizaldo Aldas, Angie Lottes, Rob Williams

Phone: Elissa Brown, Jim Zoellick, Tedi Duree, Mark Rosenberg, Rick, Fred Tornatore, Chris Koczaja, Nick, Cheryl Lee

The room and call in information for this meeting will remain the same for the rest of 2014.

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**BIOMASS CONVERSION TECHNOLOGIES; DUE DILIGENCE FOR TECHNOLOGY DEPLOYMENT:
PETER TITTMANN, UC BERKELEY CENTER FOR FORESTRY**

Presentation available at cawoodenergy.org.

Goal: Provide information about how to evaluate the technology that will be discovered or encountered as the group moves forward.

Due Diligence: evaluating the capability and efficacy of a specific technology to achieve your goals and objectives.

Definitions:

- technology → multiple subcategories (gasification, ORC, boiler etc.).
- vendor → entity providing technology
- project → values, goals, objectives hope to achieve
- values → principals and/or ideals (alternative energy)

- goals → overall desired results (reduced fossil fuel consumption)
- objectives → more specific (10 long-term jobs)
- team → the people deploying the technology

BEFORE CONDUCTING DUE DILIGENCE:

- Define the project
- Identify the known unknowns
- Identify all the variables
 - fuel supply
 - technology requirements
 - operation
 - maintenance
 - personnel requirements
 - emissions, especially criteria pollutants Ozone
 - liquids that are involved
 - residuals (mass of output/ton of input)
 - critically important to understand the development status of the technology (lab scale, pilot scale)
 - list of examples of where the proposed technology is already employed
 - service contracts (reflects vendor's confidence in technology)
 - Vendors
 - relationships between client and vendor
 - Company you're doing business with

SUMMING UP

- Keep aware of the project goals and objectives
- Know just enough about all components of the project
 - easy to get lost in the details
 - keep your team working together and informed

EMERGING AND COMMERCIALIZED TECHNOLOGY PRESENTATIONS

This is a pilot session for the BWG. In the future we will put out an RFQ for technology companies and vendors that might be interested in sharing their success stories or pitching a new business plan for an emerging technology. Comments on this session or ideas for future sessions are welcome.

RELIANT BIOFUELS: PAUL MANN

Biorefining Forest Biomass

Why should the Forest Products Industry consider pursuing biorefinery opportunities?

- What is the need?
- What is the pain?

California's pain is directly correlated to catastrophic wildfire; degradation of watersheds is a real problem

Biorefinery: an industrial plant for purifying a crude substance

- into more useful products
- a means of capturing value not currently realized
- “more jobs from the same tree”

Reliant Biofuels is torrefying and pelletizing biomass to fuel power systems. They are currently marketing for sale in China.

CNF BIOFUEL, INC. : JOHN A. PAOLUCCIO PE, INVENTIVE RESOURCES, INC.

The need for reduced consumption of fossil fuels and the opportunities presented by biomass

- Just talking wasted biomass (piles, slash etc.)
- Pollution avoided calculation should be considered → the avoided emission from decomposition

Torrified Wood: a chemical-free process to “preserve” wood

Torrified pellets retail for \$250-500 a ton

- demand is increasing, especially among coal plants
 - torrefied wood can be crushed and pulverized just like coal

CNF is utilizing fluid phase torrefaction, in which pelletized fuel is lowered into an enclosed container and heated fluid is circulated around the pellets to remove impurities.

One benefit of using liquid for torrefaction is retaining oil from the pellets, which can be purified and sold as alternative product.

This is an emerging technology, CNF has never built a commercial size processing plant. Construction has begun on a “larger unit”. A commercial scale facility would process 60 tons of pellets per hour.

*Torrification test-stand is available on CNF Biofuel's website

PHG ENERGY

Gasification: Real World Opportunities

Clean Energy Conversion through gasification

Define the project’s big picture and determine how to bring all the pieces together

- look at specific energy needs (heat/electricity)
- and feedstock availability

→ to size the gasifier appropriately

There are feedstock specifications

- consistent fuel = consistent gas
- some variable to gasification include:
 - moisture content (low moisture is critical)
 - chip/fuel size
 - density
 - fuel quality
 - ash output

Every project is situational

- back of the envelope financial analysis
- and then the added environmental benefits are considered

Waste wood/sludge project: \$2.5 million capital cost, net energy production

SUBGROUP UPDATES

REGULATION AND POLICY AKA FBI (CHRISTA/TAD/BRUCE S.)

No updates.

THERMAL (NICK/LARRY)

Working on moving forward with Conservation Camp projects.

INTERNAL STRUCTURE (JERRY/NICK/RICK)

No Updates.

BIOENERGY ACTION PLAN/SUSTAINABILITY UPDATE (KIM/BILL)

No update.

CONFERENCES

U Montana gave a presentation on primary wood processing facilities – bark and landscaping material to energy application. Not quite done yet, but the final project will be available in a few weeks/months.

Financial roundtable is currently pending internal conversations at SNC. The facilitator contract has been approved and April is now the target for the meeting. Getting responses from our co-sponsors has been slow so a specific date has not been set.

WBUG grant program should be available fairly soon.

CAPACITY AND EXISTING INFRASTRUCTURE (JERRY/JULEE)

No updates.

STATEWIDE WOOD ENERGY TEAM

One contract with TSS and Mendocino focusing on a site assessment study has begun. Camptonville Community Partnership and Sierra Institute have also been awarded contracts to do feasibility studies.

Upcoming tasks for SWET include continuing to consider applications, developing financial strategies and enacting a BWG MOU.

AGENCY UPDATES: (30 MINUTES)

CEC, EPIC UPDATES

EPIC funding – solicitations will be out by June

CAL FIRE

Biomass facility development on CCC, funding has been secured for two facilities, engineering is underway, expected to be completed later this year.

CPUC

Shannon is no longer the SB1122 lead analyst or the designated BWG participant. Another will be assigned the position sometime in the future.

Commissioner Peterman is now in charge of SB 1122.

US DEPARTMENT OF AGRICULTURE

FOREST SERVICE

Farm bill – USFS has permanent authority to authorize stewardship contracting. Number of other things: integrated resources services contracts ☐ there is no/limited liability for contractors who start fires but only for stewardship contracts? Insect and Disease infestations – eligible for CatExs, up to 3000 acres.

PROJECT UPDATES

SIERRA INSTITUTE, MIK MCKEE

Working to secure a district heating feasibility study for Portola – will be available on the SWET website. Close to securing agreements from partners about thermal boilers with various partners.