

**Rocky Mountain Restoration Initiative (RMRI)
February 5, 2021, 9:00 AM - 11:00 AM
RMRI Biomass Utilization Subcommittee
Meeting Summary - FINAL**

ATTENDANCE

Participants: Angela Boag, Molly Pitts, Mike Preston, Ellen Roberts, Kirby Self, Mark Shea, Jeremy Taylor, and Laura Wolf

Facilitation: Tim Reader and Samuel Wallace

ACTION ITEMS

Angela Boag	<ul style="list-style-type: none"> • Reach out to the Colorado Cannabis Working Group to invite them to a future Biomass Utilization Subcommittee meeting to discuss their interest in biochar. • Work with Colorado Department of Natural Resources (DNR) legislative liaison Alice Cosgrove to provide information on forestry-related bills with the Biomass Utilization Subcommittee.
Tim Reader	<ul style="list-style-type: none"> • Send information to the Biomass Utilization Subcommittee on the biochar workshop on April 8 and 9. • Provide updates on the Natural Resources Conservation Service's (NRCS) biochar program. • Follow up with Les Owens to gather more information on the Colorado Department of Agriculture's (CDA) biochar research in the San Luis Valley. • Identify opportunities to work with the Colorado Proud program to encourage the use of Colorado Forest Products.

DECEMBER 11 BIOMASS UTILIZATION SUBCOMMITTEE ACTION ITEM UPDATE

Meeting participants provided updates on their action items from the December 11 Biomass Utilization Subcommittee meeting. Their comments are summarized below.

- Tim Reader distributed factsheets on biochar. The factsheets were from programs in Kansas and Nebraska.
- Angela Boag has not had the opportunity to reach out to the Colorado Cannabis Working Group.
- Tim Reader reached out to the CSFS extension office to identify the new person managing the Colorado Proud program. He will continue to identify opportunities to work with the Colorado Proud program to encourage the use of Colorado Forest Products.

AIR CURTAIN BURNER DISCUSSION

Meeting participants discussed the opportunity for the state to host and operate an air curtain burner pilot project. Their comments are summarized below.

- The Colorado Governor's Office asked state agencies to develop proposals for potential federal stimulus funding, with the direction to think big and creatively. The DNR proposal included a diverse package that ranged from addressing orphan wells to developing new technological ways to understand snowpack and water availability. They submitted a request for ten crews with 20 people in each crew to serve as a wildfire mitigation strike team.

- In their proposal, DNR also submitted a request to purchase two air curtain burners to produce biochar. DNR, Colorado State Forest Service (CSFS), and Division of Fire Prevention and Control (DFPC) are discussing how to implement a pilot project if their proposal receives funding. As of now, DFPC seems to be the best organization to host and maintain the equipment. They also have staff members who have firefighting qualifications and can assist in operating the equipment. The air curtain burners can produce biochar from woody material and invasive species. The Governor's Office is interested in biochar from the carbon sequestration perspective. The next step for the air curtain burner is for state agencies to determine who will host, maintain, and operate the equipment moving forward.
- An air curtain burner pilot project will only be possible if the federal government provides a COVID stimulus package and the Governor's Office awards the funding to the pilot project.
- Partners have not determined a location for implementing a pilot project with the air curtain burners. The pilot project could be on state lands or connected with large-scale forest management projects. Transportation costs are a barrier to moving the air curtain burner too far. There is a tradeoff with purchasing smaller air curtain burners that are more mobile but have less capacity versus purchasing larger air curtain burners that are less mobile but have greater capacity.
- Outside of DNR, local groups have proposed purchasing air curtain burners in their Forest Restoration and Wildfire Risk Mitigation (FRWRM) grant applications. The goal of local community groups in purchasing air curtain burners is not to produce biochar but to increase their efficiency when managing slash. Local fire departments may be interested in purchasing and operating air curtain burners as well.
- There may be an opportunity to learn from community groups that have purchased air curtain burners in the past. Other states have also managed air curtain burners, such as California, Utah, and Montana. There may be opportunities to learn from them as well.
- Markit Forestry! has indicated an interest in hosting an air curtain burner or carbonator unit. Other states have carbonators they use for demonstration, but they are difficult to transport.
- Air curtain burners are particularly applicable for wildland-urban interface (WUI) treatments. Air curtain burners are an effective way to manage fuels and introduce smoke to WUI communities.
- Some materials, like pine needles, can clog up the air curtain burners. It is important that someone with experience operates an air curtain burner on site.

Clarifying Questions

Meeting participants asked several clarifying questions about the air curtain burner. Questions are indicated in italics with corresponding answers in plain text.

What is FRWRM?

FRWRM is a grant that the CSFS manages. The CSFS can award 25% of the funds towards capacity-building projects on non-federal lands. The FRWRM committee awarded \$1.5 million in FRWRM grants. The Governor's Office has proposed an additional \$6 million for FRWRM grants. If the legislature approves the funding in March, CSFS will administer the second round of FRWRM grants.

If there was an air curtain burner pilot project, would the biochar be spread locally, or would it be packaged and distributed elsewhere?

There is not yet an answer to this question. The goal of the air curtain burner pilot project is to demonstrate demand and effectiveness for future state programs, not necessarily generate a return on investment.

What are the logistics for transporting and loading the air curtain burner unit?

- For demonstration units, it is normally the responsibility of the vendor to manage the logistics. Estimates for the transportation and operation costs have varied widely.
- It can be difficult for local groups to find the equipment to transport it. There may also be barriers to acquiring smoke and burning permits. Acquiring the right permits may be easier if a state agency owns and operates the equipment.

BIOCHAR MARKET DISCUSSION

Meeting participants discussed the market for biochar. Their comments are summarized below.

- The biochar markets are not well established yet, but the cannabis industry and specialty growers are interested in using biochar. One reason for acquiring mobile platforms is to develop the biochar market for small agricultural operations. The mobile platforms will not be able to serve large industrial markets.
- There are efforts in Kansas and Nebraska to develop markets. The Rocky Mountain Research Station (RMRS) has analyzed market opportunities for biochar. The Council of Western State Foresters Forest Utilization Network has also published a report on biochar markets.
- Outside of agricultural uses, there may be uses in mine remediation. Mine remediation efforts may be closer to forest health treatments and have lower transportation costs.
- The use of biochar for mine remediation may be a good intersection between water resources and climate change mitigation. There may be an opportunity to encourage biochar use through Colorado Water Conservation Board (CWCB) grants.
- The Biomass Utilization Subcommittee could consider how biochar affects water quantity and quality. Increasing water retention through the application of biochar may benefit agricultural return flows and surface water quality.
- The Outdoor Restoration Force Act would provide funding for mine remediation if it passes Congress. There may be an opportunity to use funding from that bill for biochar use in mine remediation.
- The US Biochar Initiative has a wealth of knowledge on biochar markets. A representative from the Initiative could attend a Biomass Utilization Subcommittee meeting.
- Agricultural producers can be skeptical of introducing new products and techniques on their farms. The CDA had set up a research farm in the San Luis Valley, but it is unclear what results came from that farm. Biochar may be a way to increase agricultural production while using less water. State and Federal agencies should be looking into the viable use of biochar and the benefits to producers. Tim Reader can follow up with Les Owens to gather more information on CDA's biochar research in the San Luis Valley.
- The Biomass Utilization Subcommittee should consider inviting cannabis industry representatives to a meeting to discuss their interest in using biochar. Angela Boag will reach out to the Colorado Cannabis Working Group to invite them to a future Biomass Utilization Subcommittee meeting to discuss their interest in biochar.

BIOMASS UTILIZATION SUBCOMMITTEE WORK PLAN DISCUSSION

Meeting participants revisited and discussed the Biomass Utilization Subcommittee. Their comments are summarized below.

- The Biomass Utilization Subcommittee has four priorities in their work plan:

1. Advocate for the use of Colorado wood products in post-fire recovery applications
 2. Create a framework for biomass businesses (manufacturers and contractors) in the three RMRI priority landscapes
 3. Compile and develop various informational factsheets on the true value of biomass utilization (carbon emissions, avoided costs, economies, etc.).
 4. Continue exploring credible energy applications of bioenergy with local providers, including small-scale power and thermal and biofuels.
- For the second priority, Tim Reader is working on taking statewide spatial information on industry and clipping it to the RMRI priority landscapes. The map will display the industry capacity in the three priority landscapes.
 - For the third priority, Nathan Van Schaik developed a factsheet. The Biomass Utilization Subcommittee may not have the capacity to develop factsheets and white papers on the true value of biomass utilization. Nathan requested feedback on the desired state section of the factsheet. The Subcommittee will need to update some of the data for accuracy, such as the \$2,000/acre for steep-slope treatment. The Biomass Utilization Subcommittee will dedicate more time to discussing the factsheet at their next meeting.

PARTNER UPDATES

Meeting participants provided updates. Their comments are summarized below.

- The Workforce Capacity Subcommittee hosted a webinar on logging equipment training programs. They had speakers from Northern Arizona University (NAU), Northern Maine Community College, and Shasta College. Partners can find the recording and presentations from the webinar at [this link](#).
- The NRCS chose Colorado as a place to develop practices for biochar and compost on agricultural lands. They are piloting a program where participants in the (EQIP) Environmental Quality Incentives Program can receive additional compensation for the use of biochar on their land. Tim Reader will provide updates on the NRCS's biochar program.
- There is a biochar workshop on April 8 and 9. Tim Reader will send information on the biochar workshop.
- The tax exemption for using beetle-killed wood products expired. State legislators have agreed to run the bill again to reintroduce the tax incentive to use beetle-killed wood.
- Tim Reader reached out to the CDA to develop a grant application for the Specialty Crop Block Grant Program. The goal of the project was to pilot the use of biochar on specialty crops. He reached out to the Specialty Crop Association but did not receive a response. The effort to apply for the grant did not go through due to a lack of engagement.
- The survey that NAU distributed to contractors has had 60 responses so far. The respondents have indicated that workforce is one of their biggest challenges. The survey is still open and receiving responses.
- Molly Pitts reached out to Angela Boag to discuss opportunities for using dead wood through the Federal Emergency Management Agency's (FEMA) emergency declaration. There may be potential to use the dead wood from the 2020 fires, and they will continue to work on that effort.
- The Colorado Rural Electric Association (CREA) is introducing legislation to the state legislature. The details on the bill have not yet been announced. Angela Boag will work with DNR legislative liaison Alice Cosgrove to provide information on forestry-related bills with the Biomass Utilization Subcommittee.
- Applications for the USFS Wood Innovations grant were due a few weeks before the meeting. The USFS received a lesser number of applications than normal. There were likely several factors involved with the low application rate: COVID impacts, higher match

requirements, and less outreach than normal due to Laura Wolf being on detail. In total, they received three proposals for the USFS Wood Innovations Grant and one proposal for a new program focused on wood energy and manufacturing development. The USFS Region 2 Office is currently reviewing the applications and will send any qualified applications for final review by the USFS Washington Office.

- The USFS announces their request for proposals for the Wood Innovations grant program at the end of October. The applications are normally due in mid-January or the beginning of February. For next year's Wood Innovations grant program, the Biomass Utilization Subcommittee should consider reaching out proactively to businesses to develop applications.
- Representatives from the Utah Division of Forestry toured mills in Southwest Colorado because Utah recently had sawmill closures. Tim Reader is working with the Utah Division of Forestry to pull timber supply from Utah to mills in Southwest Colorado.

NEXT STEPS

- Samuel Wallace will create a Doodle to distribute to the Biomass Utilization Subcommittee to schedule the next Biomass Utilization Subcommittee meeting.
- One agenda item for the next Biomass Utilization Subcommittee is reviewing the factsheet that Nathan Van Schaik developed.