

**Rocky Mountain Restoration Initiative (RMRI)
September 11, 2020, 9:00 AM - 11:00 AM
RMRI Biomass Utilization Subcommittee
Meeting Summary - FINAL**

ATTENDANCE

Participants: Angela Boag, Mo Bookwalter, Jason Lawhon, Molly Pitts, Mike Preston, Ellen Roberts, Kirby Self, Mark Shea, Garrett Stephens, Nathan Van Schaik, and Bill Yemma

Facilitation: Tim Reader and Samuel Wallace

ACTION ITEMS

Tim Reader	<ul style="list-style-type: none"> • Reach out to Dr. Mackes to see if he has research on the carbon benefits of biomass energy. • Find the white paper authored by a professional group of foresters on the carbon benefits of wood and biomass utilization and share it with the Biomass Utilization Subcommittee. • Send a short statement on possible legislation to incentivize the use of Colorado biomass products in post-fire recovery applications to Samuel Wallace to distribute to the Biomass Utilization Subcommittee. • Start to create an informational framework for priority landscapes to gather information from timber and wood product businesses in their area based on their available capacities. • Draft a work plan for the Biomass Utilization Subcommittee based on this meeting’s discussion.
Tim Reader and Nathan Van Schaik	Develop a series of fact sheets that emphasizes the importance of using biomass.
Angela Boag	Bring up the idea of using Colorado wood products for post-fire recovery applications to the US Forest Service (USFS) Region 2 when they next meet.
Samuel Wallace	Create a Doodle to distribute to the Biomass Utilization Subcommittee.

7/21 BIOMASS POWER UTILIZATION WEBINAR DEBRIEF

Meeting participants debriefed the 7/21 biomass power utilization webinar. Their comments are summarized below.

- The biomass power utilization webinar was very informative. The metrics on the amount of biomass supply and energy output needed to support biomass power at scale in Colorado were particularly helpful. The Biomass Utilization Subcommittee should continue to reach out to experienced practitioners if they choose to promote biomass power applications in the future.
- The incentive structures to promote biomass power discussed during the webinar, including tariffs, auction mechanisms, and other methods, were informative. The Biomass Utilization Subcommittee could continue to explore what policies exist that could help support biomass energy production.

BIOMASS ENERGY UTILIZATION STRATEGY DISCUSSION

Meeting participants discussed strategies to promote the use of biomass energy in Colorado. Their comments are summarized below.

- One approach to increase biomass energy is to address barriers around the price competitiveness of biomass energy. For utility providers, the cost of biomass energy must be competitive with other energy sources. One strategy could be to organize a conversation with utility providers. If the state is to help promote biomass utilization, the state would need to understand the economic side of biomass energy from the utility perspective.
- There may be an opportunity to identify forest-adjacent communities that rely on fossil fuels for local energy and heating and find a way to replace fossil fuels with a biomass energy operation.
- Another strategy to promote the use of biomass is related to carbon. Biomass can be promoted as a lower carbon-intense energy source. The state administration is not interested in a cap-and-trade style program, but there is a broad interest in pricing carbon in a novel way. There are no current proposals to price carbon to make biomass more competitive with other renewable resources.
- There will be a market demand for cellulosic biofuels, considering that there is a need for low carbon combustion fuels for certain sectors, like aviation. California's low carbon fuel standard is an opportunity to produce cellulosic biofuels in Colorado.
- The Colorado Energy Office (CEO) is coming out with the Greenhouse Gas (GHG) Pollution Reduction Roadmap on October 1. Upon its release, stakeholders can provide feedback. This public commenting period is an opportunity for Biomass Utilization Subcommittee participants to provide specific feedback to the state on the important role of biomass in the energy sector.
- One question that the CEO continues to have is to what extent wood biomass produces carbon benefits. If the Biomass Utilization Subcommittee had hard numbers and a good summary of research demonstrating the carbon benefits from a mitigation standpoint, the CEO would be much more interested in pursuing biomass energy. The carbon benefits of biomass energy should be put into the context of emissions released from wildfires and burn piles
- The existing GHG Pollution Reduction Roadmap does not include carbon emission from wildfires. The Roadmap is based on an Environmental Protection Agency's (EPA) tool, which assumes that wildfires are carbon neutral because the trees will grow back after a fire. That assumption is likely invalid as forests are not re-growing as expected following fires, especially in ponderosa pine and Douglas fir forests.
- There are ongoing discussions on how to quantify forest and wildfire emissions. The California Air Resources Board (CARB) has preliminary estimates that indicate wildfires in 2020 have emitted half the total carbon that Colorado's entire economy emits in a year. However, states are disincentivized to incorporate wildfire emissions into their models because incorporating them means that states will not hit emission reduction goals.
- Researchers are struggling to quantify wildfire carbon emissions. For example, if mitigation treatments occur in a certain place, the only way to quantify carbon benefits is if a fire burns up to the treatment area.
- The Biomass Utilization Subcommittee could write a short white paper that summarizes the best available information on the carbon benefits of biomass energy.
- Colorado State University (CSU) Professor Kurt Mackes may have some research to weigh in on the carbon benefits of biomass energy. Tim Reader will reach out to Dr. Mackes to see if he has research on this topic. There is also a group of professional foresters that authored a white paper that addressed the carbon benefits of wood products and biomass utilization. Tim Reader will find that white paper and share it with the Biomass Utilization Subcommittee.

- One of the benefits of biomass energy in the context of other renewable energies is that it is non-intermittent, meaning that it can supplement and fill power gaps when renewable energies are not producing enough energy. Battery storage may also be an alternative to fill power gaps for renewable energies, so the Biomass Utilization Subcommittee should also look into the competitiveness of biomass energy compared to battery storage. The lifecycle of a battery also includes the issues associated with disposal, which is something else to consider when evaluating biomass energy compared to battery storage.
- In the past, there was a Colorado Biomass Work Group that examined state policies, incentives, and barriers. The report addresses carbon outputs, but it does not go into detail about the topic. The Biomass Utilization Subcommittee could revisit the Colorado Biomass Work Group report in more depth, especially the carbon section of the report.
- One of the challenges for biofuels is related to Renewable Energy Tax credits. Businesses in Colorado, like Red Rocks Biofuels, has not sourced biomass supply from USFS land due to complications with the Renewable Energy Tax credit. The EPA sets those policies.

BIOMASS UTILIZATION SUBCOMMITTEE WORK PLAN DISCUSSION

Meeting participants discussed developing a Biomass Utilization Subcommittee work plan. Their comments are summarized below.

- The RMRI subcommittee chairs met to discuss putting together work plans that contain the priorities of each subcommittee. Molly Pitts and Tim Reader have been developing work plan frameworks for the Workforce Capacity and Biomass Utilization Subcommittees.
- The objective of the Biomass Utilization Subcommittee work plan is to identify several priorities to work on going into the beginning of the next year. The work plan should outline the goals, strategies, and priorities of the Subcommittee and the specific action items to accomplish their priorities. The work plans are meant to be dynamic and evolve as the Subcommittee completes tasks.
- The work plans will also be placed on the RMRI website so that the greater RMRI stakeholder group and Leadership Team can better understand what RMRI subcommittees are doing. By better highlighting the subcommittees and informing the RMRI stakeholder group about what is occurring, it may pull additional interest and resources to the subcommittees.
- The work plan outline was distributed to Biomass Utilization Subcommittee participants before this meeting, with some of the sections filled in with example priorities. The task of the Biomass Utilization Subcommittee is to narrow down the list of potential priorities to three or four priorities.

BIOMASS UTILIZATION SUBCOMMITTEE PRIORITIES DISCUSSION

Meeting participants discussed the potential priorities of the Biomass Utilization Subcommittee. Their comments are summarized below.

Biomass Product Strategies

- One priority for the Biomass Utilization Subcommittee should be to strategize around other products for biomass utilization in addition to biomass energy. The Subcommittee can determine how to get the state to recognize and approve Colorado wood products that utilize biomass.
- Examples of biomass products include wood straw, which the Colorado Department of Transportation (CDOT) uses for projects, but federal agencies do not. Wood straw would be particularly beneficial for utilizing small diameter material.

- There is a biochar plant in Berthoud, Colorado. The biochar plant is a good way to utilize low-value timber on the Front Range. The biochar plant currently relies on wood from other sources, such as shipping materials.
- Oriented strand boards (OSB) are another product for potential biomass utilization. There is a lot of interest in having more OSB manufacturers in the West. There was an OSB facility in Olathe, CO, that closed down. These facilities take investment and supply. OSB, in particular, consumes wood in large amounts, and Colorado does not have the supply to sustain high levels of production. The hauling distance of biomass supply is also a barrier to producing OSB material.
- Oregon State University (OSU) has a sophisticated model to help collaboratives and communities narrow decisions related to developing wood product businesses. The model helps communities understand the cost, labor, equipment, and biomass supply needed to reach a production output for various products (e.g., OSB, firewood, biochar, etc.). The model could also help inform the Biomass Utilization Subcommittee why some wood product businesses fail in Colorado.
- It would be helpful to know where there are businesses across the state that are using biomass for energy or products (e.g., Ironwood is producing biomass pellets). Expanding the use of biomass is likely to occur by expanding existing operations rather than trying to establish new businesses. The OSU modeling could help identify where to expand existing businesses and establish new businesses when possible.
- Increasing the use of biomass is not only about expanding existing operations but also incentivizing businesses to use biomass from forest treatments in Colorado and not urban waste streams.
- For wood products, transportation of biomass supply is a key issue. There needs to be an integrated approach that identifies the potential recipients of wood products, such as construction companies that would use construction grade wood.
- Available information on wood product businesses is limited. Colorado State Forest Service (CSFS) use to conduct biomass studies, but they do not have the capacity anymore to conduct those studies. The Biomass Utilization Subcommittee could use data from surveys conducted by the USFS, University of Montana, and Northern Arizona University to gather information on timber and wood product businesses.
- Instead of taking a statewide approach, the Biomass Utilization Subcommittee could focus on the project areas to identify the existing businesses and the services they provide. The Biomass Utilization Subcommittee can work on achievable tasks in the three priority landscapes, assuming that it will provide benefits statewide. Local landscape partners can collect information locally if there is a framework on what information is needed. Some businesses might not share information if it is proprietary.
- If the RMRI Southwest Colorado partners know what information they should gather related to timber and wood product businesses in their region, they can track down the information.
- The Biomass Utilization could also organize workshops to educate contractors on the bidding process and bidding sites.
- The Biomass Utilization Subcommittee could advocate for the use of Colorado wood products, especially in post-fire recovery applications. For example, the Natural Resources Conservation Service (NRCS) could use Colorado wood straw for their emergency watershed protection program. Wood straw and wattles are two products that can help in post-fire recovery and can also be used for stream restoration and highway cuts.
- The Biomass Utilization Subcommittee could bring the idea to use Colorado wood products for state projects and post-fire applications to the attention of the state legislator and

relevant agencies, like CDOT, to potentially develop legislation to encourage the use of Colorado wood products. Legislation could help businesses and agencies identify ways to use Colorado wood products. There could also be an effort to educate small businesses on how to get their projects verified and used. Tim Reader has a short statement on possible legislation to incentivize the use of Colorado biomass products in post-fire recovery applications that he will send to Samuel Wallace to distribute to the Subcommittee.

- Federal agencies can also use Colorado wood for post-fire recovery responses. It would be helpful to know the USFS Region 2's policy on the material they use for post-fire recovery applications. It would also help to conduct a cost-benefit analysis on the use of wood products and understand the effectiveness of wood products in achieving desired results in a post-fire setting. Angela Boag will meet with USFS Region 2 and will bring up the idea of using Colorado wood products for post-fire recovery applications.

Utility Provider Strategies

- Another potential priority for the Biomass Utilization Subcommittee should be to reach out to utilities. The utility perspective is necessary to develop an understanding of their constraints and opportunities for biomass energy.
- RMRI-Southwest Colorado partners have been discussing opportunities for expanding biomass energy. They have learned that they will need an economy of scale to encourage the development of larger biomass energy units. The unit will need to produce a minimum of 10 to 12 megawatts (MW). It will likely also take legislation to subsidize the development of a new biomass power plant.
- An orderly approach is needed to develop a biomass power plant. The first step is to identify where a biomass power plant could be located. The discussion with the utility companies can help the Biomass Utilization Subcommittee identify new areas that could support another biomass power plant.

White Papers and Messaging

- The Biomass Utilization Subcommittee needs to address why Colorado businesses and agencies should use Colorado wood products made of biomass. The Subcommittee could write a series of white papers if they have a consensus on the challenges and opportunities for biomass. These white papers could put them in a position to influence policy.
- Biomass utilization should be tied with messages related to the cost of post-fire recovery and the importance of mitigation treatments.
- Trade associations and CSFS have messages that could be used to outreach to the public.
- Urban waste streams can serve as a supplemental source for wood product businesses. Information on the amount of usable woody debris that is diverted to landfills would be a helpful statistic for promoting the use of biomass.
- The story to promote the use of biomass should focus on what happens when biomass is not used for wood products. Right now, the woody material is cut and then burned, which is not a great use of the material. The message should show how products made from biomass help pay for mitigation treatments.
- Nathan Van Schaik and Tim Reader can develop a series of fact sheets that emphasize the importance of using biomass. Tim Reader has access to figures and statistics that can help inform these factsheets.

BIOMASS UTILIZATION SUBCOMMITTEE WORK PLAN FINALIZATION DISCUSSION

Meeting participants selected the four tasks they want to prioritize in the work plan. Their comments are summarized below.

- The four priorities of the Biomass Utilization Subcommittee are:
 - Create an informational framework for priority landscape partners to reach out to existing businesses in their landscapes based on the available capacities of the priority landscape partners.
 - Advocate for/pursue legislation for the use of Colorado wood products for post-fire recovery applications.
 - Organize a discussion with utility providers to understand their constraints and identify opportunities for biomass energy.
 - Develop a series of factsheets and white papers on the economic costs of fire, wood product economics, and carbon impacts of biomass utilization.
- Tim Reader can start compiling ideas to create an informational framework for priority landscapes to gather information from timber and wood product businesses in their landscapes.
- The Biomass Utilization Subcommittee will need to continue specifying actionable tasks for each of the priorities at a future meeting.

OTHER UPDATES

Meeting participants shared other updates relevant to the Biomass Utilization Subcommittee. Their comments are summarized below.

- The RMRI website is being updated with input from the Communications Subcommittee. There will be a webpage dedicated to the Biomass Utilization Subcommittee. The Subcommittee can put any information they want on their webpage. The website will highlight upcoming subcommittee meetings and make it possible for new members to join.
- Dr. Kurt Mackes will be hosting a webinar on wood products this fall. The webinar will include perspectives from industry and an overview of the technologies. They will also discuss opportunities for biofuels and biochar.

NEXT STEPS

- The Biomass Utilization Subcommittee should have a standing monthly meeting. Samuel Wallace will create a Doodle to distribute to the Biomass Utilization Subcommittee.
- Tim Reader will draft a work plan for the Biomass Utilization Subcommittee based on this meeting's discussion.