



4FRI Stakeholder Group - Biomass Meeting

Monday, April 13, 2026 | 1PM - 4PM

AZ Game and Fish Department - 3500 S Lake Mary Rd, Flagstaff, AZ 86001

Meeting Recording:

https://drive.google.com/file/d/195Tc6HlqljU_XCzrOZWWhG_jDFuCrQnDd/view?usp=drive_link

Participants: Kevin Ordean, Mary Lou Zimmerman, Amy Tinderholt, Anne Mottek, Elvy Barton, Neil Chapman, Tabi Bolton, Scott Frantz, Sasha Stortz, Scot Rogers, Lisa Bolton, [Niki vonHedemann](#), Joel Jurgens, [Travis Woolley](#), Nicole Kennan, Cerissa Hoglander, Pascal Berlioux, Diane Vosick, Evan Nye, Brad Worsley, Ali Azadfar, Brian Nowicki, Gary Moore, Lindsay Riggs, William Brand

Facilitation: Andi Rogers, Carrie Eberly (Southwest Decision Resources)

Meeting Goals

1. Identify and prioritize learning needs for the 4FRI SHG regarding biomass solutions
2. Review the existing regional biomass efforts, gaps, and opportunities, and roles for regional groups
3. Build on initial discussions related to biomass contracting changes

Meeting Notes

Biomass Solutions

Review and modification of the list [\(link\)](#)

- Additions to the initial table included: firewood, mastication, and cogeneration/combined heat and energy/power (CHP)
- Discussion on OSB-co-gen plant, why not marketable?
 - Co-gen has a very specific meaning (producing heat and electricity). Makes sense with some wood applications, or at NAU project; when there is a need to heat AND provide electricity.
 - OSB is not in the cards anymore, required a lot of power, therefore biomass was integrated
 - Co-gen not in the cards due to wood availability - always had the stakeholder agreement (scale) 30-50k, reality is that 4FRI doesn't have the "wood basket" for several appropriate industries. - The scale is not right. 35,000 is not enough wood to also support an OSB plant.
 - RFOR could do a co-gen along with the same logical principle (C-gen/CHP added to list)
- Questions and discussion surrounding "scalable"



- Minimum size to be economic? Scalable to the 4FRI acres projected now and into the future? Has to take care of the problem in its entirety?
 - Scalable to the number of acres now into the future, strategies depend on context.
 - How big a slice of the pie is a particular strategy for consideration
- 1 technology or solution would not answer all biomass issues across the extent of the 4FRI landscape
- Defining “scalable”: ability to make a meaningful difference, quantitatively significant, statistical relevance, to become a “real player”, as opposed to “mom and pop”
 - 2000 tons/annually is too little, 50-200k/annually is more ideal
 - Did not consider solutions that were limited to a few thousand tons
 - Technology and the market have to be at a scale to make a difference; is the scale of solution aligned with scale of the need?
 - What is the scalable solution for 35-40k/year 1 million green ton per year?

BioChar Discussion

- How it is produced mattered (place-based technologies)
 - On-site, up to 20 metric tons/day; to replace pile burning
 - Gasification plants - 600 metric tons/day
 - Kilns in place-based locations might be great in 4FRI
- Biochar scalability (Small - large measured in green tons/acres; scalable - add additional reactors) - Depend on the viability of the haul distances.
 - Likely scalable (small to large), existing technology, estimated impact
 - Market and market scalability matters as well as ability to scale up implementation (paper example, budding market, large, budding, they all matter) - Biomass may not be marketable
- Is there an interest? Yes - likely (Tyson and Randy Nichols in Springerville) - operate at a low scale (5k green ton/year)
- We need to know a lot more - Explore what the potential projects are, players, what they are proposing, how they will finance it.
- SRP RFP for Biochar - final stages
 - The motivation behind it was to help support and grow biochar as a strategy. We (SRP) don't need to make profit, we need it to chew biomass.
 - Compared to other biomass strategies, very cost-competitive at bone dry. Is very scalable, 5-10k tons, 50k/tons, >100 tons/year (small, medium, large). Can add additional reactors
 - Their RFP had multiple bidders across multiple locations and scales.
 - Agree there is not a strong biochar market today, but is a growing product, yes. Value is in the carbon credits, including water retention - that is where you make a profit.
 - Questions



What kind of business plan: Would SRP be a purchaser? Selling biomass to you? 10-year contract to purchase annually (cc and other credits)?

- Maximum amount of biochar that SRP is interested in purchasing? Open scale? Upper ceiling?
 - Advertised that we were interested in purchasing 1500-4000 tons biochar (10,00-28,000 bone dry biomass/entity/year over 10 year). 1 or more contracts
 - Forest or sawmill? Has to meet a certain carbon protocol. Biomass, mill residual, 10 or under Ponderosa Pine and can include scrub oak.
- What would you do with the biochar?
 - Developing an end user strategy
- Timeline: expected timeline?
 - Release the results of RFP available within the next month or two to the public
- Process question: Does off-take compatibility exist with individual stakeholders? Move through this quicker
- Foundational information: large numbers being thrown around, numbers that have never been seen in terms of treatment to date (e.g., 30-50k for treatment), other numbers state the associated biomass
 - Does the FS require biomass removal from all Rx locations?
 - No. About how many acres require biomass removal (annually).
 - Scot can get this to us. But not now. East side more, west side less. Driven by market opportunities. Goal has been an offtake of every product, so it would be good if we could.
 - Future projection: 1 for 1? Does every acre require it? Depends on whether there is a solution.
 - Doesn't ever feel like we're gonna do a 1:1.
 - Transportation subsidies for all?
 - No. If we have an offtake sink, then maybe (with transportation subsidies)
 - Some spots will always be too remote, may need to subsidize.
 - Longer-term solutions are needed as well as short-term. Building a program towards WHAT?
 - Market-based solution - negative value of the product becomes the challenge
- What is the problem for which we are looking for a solution?
 - No real benefit for planning something we cannot execute
 - NEPA docs require the removal of the fuel
 - We do not have the flexibility to decide whether to remove fuel. Important to remember we are not in a free space, market, etc.
 - Reality is that it cost \$\$ to move biomass, inconvenient, AND we do not have the choice.



- Re-invigoration of the Biomass Working Group for prioritizing and learning?
 - Propose the following.
 - Remove non-viable/unrealistic solutions
 - e.g., Using criteria - technology, financials
 - Ecological restoration of the landscape - In line with the tenets of restoration - added criteria?
 - Prioritize the list, based on a criteria
 - RFOR is actively pursuing offtake: biochar, bioelectricity, graphyte, chip and ship, landscaping bark and chips, pellets, firewood, co-located Co-gen (R4 or Winslow)
 - Offtake Analysis:
 - Biocoal/carbon - Not ready
 - Singas hydro - not able to compete
 - Landfill-to-landfill gas - worst-case for cost-effectiveness.
 - Landscaping - current market saturated, but could be used for dust mitigation on solar (reduce by half).
 - Scale of biomass power plant - no
 - Biodiesel - not viable
 - BioChar - scalability not just whether there is tech or market. Two factors: no one has bought it. 2000 tons made and had to almost give it away.
 - OSB - would need to be heavily subsidized but could work at a smaller scale. - would not find capital to finance
 - Inform the capital as well.
 - Landscape bark and amendments - green
 - Firewood - Scaling is very hard, some discussion and disagreement here. Further discussion on criteria.
 - Restoration aligned or not?
 - Biomass energy - consistent with restoration, captures greenhouse gases. Emerging tech. Most are consistent with restoration
 - Lop and scatter or mastication may not be consistent with restoration goals. Last resort.
 - Mastication can be combined with lop and scatter.
 - Even small contributions are meaningful, desirable, but not necessarily what we hang our hat on/how to bring in new players. Not at scale solutions.
 - Need to know how much each tech can add to the piece of the pie.

Regional Biomass Efforts

Greater Flagstaff Forest Partnership (GFFP)

- The paper started from Senator Kelly's office. Solutions: saying they were taking "getting rid of biomass" as very serious



- For 22 years we have been talking about biomass
- Public/private partnership as a solution - complex
- Forest Biomass Coalition: part of GFFP
 - Interested in the biochar as another activity
- Did go through a vetting process
- Focus of their letter:
 - Public and private solutions (more than a private sector problem)
 - Suggest to Kelly's office on how to make it sweeter to create offtake.
 - Thinking in terms of FWPP process: example of the willingness to put money into solving a federal problem.
 - Tactical level actions - local to Washington
 - NRWG did not cover this part of their paper - per Pascal

Natural Resource Working Group (NRWG)

- Similar genesis, 1. Ask WO to propose solutions and by some of the technical staff as well. What is executable and what is not?
- NRWG yielded a "longish" description to explain to committee staff.
 - Based on the analysis, what can be part of the solution? Huge industry attendance at NRWG - a keen understanding within industry of how fragile the current situation is. Formally voted for with the paper. Industry has a greater sense of urgency than the other 4FRO stakeholders.
 - Same ask, same process. Genuine dynamic push from industry players.

Working Together

- What do we do with the synergy?
 - Some think we have done what we needed to do.
 - Work with NAU, is there a solution there?
 - RFOR CHP - C Gen
 - RFP - SRP
- On to execution, next steps - What does that look like for 4FRI?
 - Communications
 - Letters have done their job. They show support for solutions as they come forward
 - Being intentional about where we flag support and non-support
 - Play our parts and report back
 - Public needs attention: Lessons from FWPP
 - Can commit to reporting out on FBC and GFPP - spearheaded by Diane
 - NRWG: Commitment to update the group on relevant items, etc.
 - Knowledge/Understanding of options
 - Better understanding the technologies is helpful



- Next steps - table leads to “what do we need more info on”. What is the portfolio of solutions that will be proposed?
- Collaboration
 - Policy, private, public
 - Continue to listen to what’s being worked on. This is where we all come together.
 - If we find alignment, great, if we don’t know about it, we can’t support it.
- Timing
 - Time-sensitive issue, but no one can force private industry to invest
 - More time to be transparent, more time to share in these efforts
- Implementation/Industry
 - Fear of failure, larger the facility, larger the failure
 - RFOR going through major change
 - NovoPower also going through a hard time
 - At some point, we have to fight through the fear - need to lean on a known solution, not 10 solutions because we don’t have 10 solutions
 - Partnerships
 - Commitment to operationalize, commit to public-private partnership - able to get 74% of the vote. Think they can do it again. Need to talk to our group, haven’t chatted for a while.
 - NRWG ball in the court of private players in terms of investment, public = FS, Master Stewardship agreement, utilities for PPA’s or not.
- Execution is out of the group's hands
- Need to determine who is driving these conversations - “WE” as collaborators, partners, implementers, funders, etc.
- Integration of 4FRI SHG moving forward
 - Refinement of the Red, Yellow, Green
 - Future Steering Committee Item: If a “portfolio” needs to be refined

Biomass Contracting Changes

- [Executive summary](#)
- [Presentation](#)

Stakeholder Disclosures & Review Action Items

Action Item	Lead	Status
Future steering committee agenda item - Red, yellow, green refinement and decisions on what else we need to do	SDR and SC	



Commitment from NRW and GFFP to update 4fri	Pascal, Brad, Anne	
Post ppt to basecamp	SDR	

4:00 Adjourn

Steering Committee Meetings (second Tuesday of each month)

-2026 1/13/2026, 2/10/2026, 3/10/2026, 4/14/2026, 5/12/2026, 6/9/2026, 7/14/2026,
8/11/2026, 9/8/2026, 10/13/2026, 11/10/2026, December no meeting

Stakeholder Group Meetings (fourth Wednesday of the month, except November)

-2026: 1/28/2026, 3/25/2026, 5/27/2026, 7/22/2026, 9/23/2026, 12/2/2026

	2026 Steering Committee		2026 Stakeholder Group	
	Hot Chair	Cold Chair	Hot Chair	Cold Chair
January	Joel Jurgens	Melanie	Joel Jurgens	Melanie
February	Joel Jurgens	Melanie		
March	Melanie Colavito	Jay Smith	Melanie Colavito	Jay Smith
April	Melanie Colavito	Jay Smith		
May	Jay Smith	Pascal Berlioux	Jay Smith	Pascal Berlioux
June	Jay Smith	Pascal Berlioux		
July	Pascal Berlioux			
August	Pascal Berlioux			
September		Neil Chapman		Neil Chapman
October		Neil Chapman		
November	Neil Chapman			
December	Neil Chapman		Neil Chapman	