



Northeastern California Forest Residual Aggregation Market Enhancement (Cal FRAME) Pilot Project



Background

Despite an excessive amount of dead trees, brush and small diameter wood that needs to be removed from California's forests, existing and proposed wood waste utilization projects face a close to insurmountable challenge when it comes to demonstrating sufficient and long-term access to woody feedstock sources. There are several reasons why a feedstock agreement is difficult to obtain: (1) volatile markets, (2) declining USFS budgets and staffing capacity, (3) the low value of biomass as compared to its high transportation costs, and (4) administrative challenges of contract management. All these factors lead to the vexing reality that while feedstock agreements are a necessary component to securing a financial package for new wood product businesses, they are difficult to obtain. Without a minimum contract term of ten years, many lenders and investors deem wood products and bioenergy projects too risky.

In response to this challenge, a new concept was proposed and has since been the subject of several convening workgroups over the last several years to improve forest supply chain logistics, including: (1) the Forest Management Task Force (FMTF) REDS WUG Removing Barriers Committee and (2) the Joint Institute for Wood Products Innovation (JIPWI) Biofuels Feedstock subgroup. The Forest Biofuels Working Group, specifically, engaged 50 experts throughout the state to promote policy and market development of forest biofuels (Sanchez et al 2022). They recommended to establish and support new flexible, public regional entities to overcome barriers to long-term forest biomass feedstock supply.

More recently referred to as the California Forest Residual Aggregation for Market Enhancement (Cal FRAME) model, the concept proposes to centralize an efficient biomass removal and utilization process for forest health projects using a new and transparent inter-governmental framework. This process will bundle feedstock agreements for wood-based businesses to secure reliable, long term feedstock supply while providing an economically viable outlet for forest health and fuel reduction projects in California's forests.

2020 Cal FRAME Listening Tour

From August 15, 2020 to February 14, 2021, CLERE Inc identified, engaged and maintained discussions with various stakeholders throughout the state on several innovative concepts to improve forest supply chain logistics including: (1) Cal FRAME wood waste management authorities, (2) insurance for forested landowners, and (3) insurance for LTOs and forest professionals. CLERE Inc engaged with over 45 stakeholders from public agencies, academic institutions, the environmental community and industry professionals throughout the state on the fundamental components to Cal FRAME. There was near

unanimous interest in the concept proposal and significant support to scaling the concept to the next phase. The most prominent points of support and concern are highlight below.

Main Points of Support

- Builds capacity for rural land managing organizations like Resource Conservation Districts (RCDs) to manage forest implementation projects.
- Offers a solution to both forest industry operators and timber product business in removing more wood off National System Lands. With current forest projects piling wood slash to be burned or left to decay, forest contract supervising organizations like Mule Deer, National Forest Foundation and the Nature Conservancy are all interested in the prospects of removing wood and generating a more favorable operation cost.
- The amount of forest health projects that need to be conducted can only be accomplished through a more streamlined process like Cal FRAME, which would provide an economically viable outlet to non-merchantable biomass

Main Points of Concern

- **Financing.** Finding sustainable funding for Cal FRAME has been the most prominent concern mentioned throughout the outreach process. Many stakeholders are supportive of any solution to improve forest operation logistics, however express strong concerns on the limited amount of funding given to forest projects already. Several stakeholders pointed to the main issue being high costs of transportation and low value of biomass rather than contracting.
- **Increased bureaucratic complexity.** With the passage of SB 901, the environmental review process was streamlined and reduced the turnaround time on project implementation. Some stakeholders expressed concern about adding another step to already-complex forest projects.
- **Potential displacement of private industry.** Several agencies and nonprofits work as forest implementation contractors where Cal FRAME could be seen as taking control of the contracting market. Some stakeholders suggested an expansion of the concept to include all types of wood procurement from both urban and rural regions.

Pilot Concept

The Cal FRAME concept (originally proposed in summer of 2020) has gone through a number of changes, while still emphasizing the same goal: to improve the forest supply chain through an ad hoc public process. Establishing a new entity to maintain existing or to enable new business development may provide an invaluable addition to the already well-developed supply chain in the region. **The entity will not regulate, add costs to individuals or businesses, or replace existing businesses.** Additionally, the entity will be voluntary.

In early discussions, the proposed entity could be a regional biomass aggregator to centralize feedstock contract management through semi-public legal arrangements like Joint Powers Authorities or Community Service Districts. However, the entity has the potential to service a number of gaps within the supply chain to handle the increasing amounts of forest residue coming from fuel reduction efforts. Through collaboration and partnership development, the number of options available to the region to mobilize forest residue and centralize residue aggregation will need research to validate the opportunities

and challenges to short-, mid-, and long-term solutions. Some ideas from past working groups and other regional Cal FRAME groups include:

Third-party environmental services: Performing NEPA has been a particular challenge due to a variety of barriers including limited staff capacity of skilled individuals to perform the needed work. While there are highly qualified staff within each National Forest, there is difficulty in putting together large landscape scale projects due to these staffing challenges. Many ranger districts are operating at 50% of their organizational management chart. Cal FRAME, as a centralized hub to support and assist USFS staff, could facilitate third-party environmental review services or employ the Intergovernmental Personnel Act (IPA) in partnership with the USFS for non-USFS employees to work under a Forest Supervisor.

Mapping: is a standard tool to assess, model and prioritize a variety of factors in forest operations and supply chain logistics. Especially on the front end of establishing Cal FRAME, mapping will be an important tool to assess feedstock availability, current treatments, projected treatments and accessibility of utilization. Many mapping tools and analyses are being developed in the region currently, and Cal FRAME will leverage existing efforts to meet program goals.

Innovative financing: while not the primary function of Cal FRAME, a regional entity could act as a vehicle for innovative financing strategies like pooling funding resources through a JPA, enabling wildfire insurance schemes, or facilitating new models of carbon accounting protocols.

Northeastern Regional Context

Northeastern CA—including Shasta, Lassen, Modoc, Siskiyou, Trinity, and Tehama Counties—has numerous small and industrial businesses working to sustainably manage California forests in the Wildland Urban Interface (WUI) and “Wildlands.” With the goal to develop community and ecological resilience to high-intensity wildfires, the region must incorporate the expansion of fuel reduction and forest restoration efforts into land management objectives. However, these prescriptions produce large quantities of unmerchantable “forest residuals” which are currently pile burned or left in-woods to decay due to complicated market dynamics and the high costs required to remove them from the woods.

A more robust wood products market is needed. Adding new infrastructure and/or expanding existing infrastructure to handle expected increases of residue from fuel reduction treatments will be necessary.

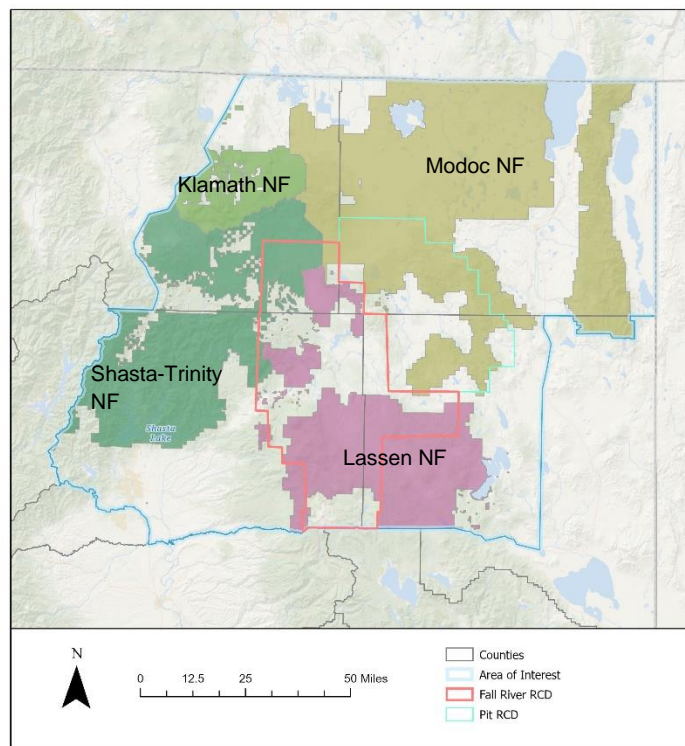


Figure 1: Area of Interest (AOI) for Pilot Project includes Modoc, Lassen, Shasta-Trinity, and Klamath National Forests, along with the Fall River and Pit Resource Conservation District boundaries

However, prospective wood products businesses face high barriers to market entry in California, and often face a near insurmountable challenge in securing long-term feedstock supply contracts. Without a guaranteed supply contract, facilities are not eligible for loans, debt servicing or other financing strategies.

This pilot project, led by the Fall River and Pit Resource Conservation Districts, is one of five projects in CA intended to meet the Office of Planning and Research (OPR) Pilot Project Criteria. It is informed by several years of state-led work groups to address barriers to wood product market development. Both RCDs are committed to sharing information and will collaborate throughout the project period with all pilot project cohort members.

Northeastern CA OPR Pilot Cal FRAME Project Goals and Tasks

The overall goal is to develop community and ecological resilience to increases size and severity of wildfires throughout California. Large quantities of forest-based biomass need to be removed from the forests in order to return the forest structure within its natural range of variation. As such, and due to the barriers to building a CA wood utilization economy, OPR's Pilot Cal FRAME Projects aim to develop regional strategies to establish reliable access to woody feedstock through a variety of feedstock aggregation mechanisms and organizational innovations. The northeastern region has identified the following tasks:

1. **Partnership Recruitment and Development:** Initial partnership recruitment and development for the Pilot Project has occurred but more work is needed to fully develop the project team and proposed future organizational structure and strategy to aggregate feedstock. Ultimately, the project team will identify key stakeholders to participate in several focus groups and provide input on project direction/strategy. Furthermore, with the establishment of entity organizations like JPAs, this task will aim to initiate a regular meeting with interested entities who would best be able to implement CalFRAME goals and objectives
2. **Market Impact Assessment:** The region is geographically diverse and has a highly developed timber supply chain compared to other rural regions in California. Due to the legal chains of custody when conducting forest operations, the purchasing entity (e.g., mill, licensed timber operator, etc.) "owns" the material. Development of a new feedstock aggregation entity, either under the ownership of a JPA or private entity, has the potential to disrupt existing businesses. As Cal FRAME's chief goal is to support community and ecological resilience in all forms, a Market Impact Assessment will need to be developed in order to understand where there are synergies for feedstock aggregation within the available market.

A feedstock market snapshot assessment functions similarly to a regional biomass supply market. As such it will include: (1) current business activity, (2) net availability of biomass with projected increases in treated acres, (3) biomass price and cost curves, and (4) market competition.

Additionally, many of the facilities in the region operate under the state-sponsored BioRAM program, with contracts from PG&E expiring near 2025. The MIA will conduct a sensitivity analysis on enabling policy mechanisms like BioRAM to understand how the market may change in the next decade. Finally, the last section of the MIA would review the impact of the new entity on existing businesses and consider how such an entity could enhance existing businesses.

3. **Organization Structure Legal Analysis and Recommendations:** the project team will provide a thorough review of several potential organizational structures key stakeholders and focus group members. The final recommended structure will be well vetted with all partners, and a structure implementation plan (SIP) will be developed to layout steps needed to create the chosen new entity.
4. **Entity Action Plan:** The Entity Action Plan will provide the foundation for future activities of entity implementation. The Plan will focus on the following objectives and be informed by the previous task research:
 - a. Identifying and securing partnerships with landowners through agreements and contracts. An analysis will be conducted to determine how best to engage with *non-industrial timber landowners* in a productive manner that can result in long term relationships. Working with them to determine sustainable ways to process the biomass left from their fuel reduction activities is a key component of this study. Second, the team will include a discussion of the various collaboration tools and long-term contracting available when working on National Forest System lands, and the barriers which might inhibit success in the region.
 - b. Identifying and securing partnerships with existing and future businesses through agreements and contracts. Identifying the existing wood utilization businesses is a key part of Task 2. The Plan will include lists of existing and potentially new businesses that could utilize the feedstock collected and will roughly estimate the total demand projected at these businesses. It will conclude with ways the entity can maintain the existing business environment while promoting sustainable growth with projected increases in wildfire occurrence.
 - c. Establishing third-party NEPA teams and other environmental services for landowners. This Plan will include an analysis of the Inter-personnel Act (IPA) to determine if a County could provide staff to a federal partner to assist in the development of NEPA work, or other project related work. Also, the Plan will consider the feasibility of providing a network of consultants, or staff of the JPA, to provide such services for private landowners who may not be familiar with such processes.
 - d. Conducting community education and outreach. The Plan will highlight what kinds of activities are needed within the community to help raise awareness about the need to remove and utilize biomass waste in order to help support the sustainability of forest ecosystems and community health.
 - e. Developing a budget for the new entity. This Plan will include a rough budget to account for costs needed to open the recommended entity and other action items.
5. **Long Term Objectives Plan:** Many long-term objectives will align with existing assessment and planning efforts, and also build out new concepts regarding some of the following: (1) biomass transportation subsidies or other public asset needs within the system; (2) developing processes for severe fluctuations in wood market volume, including market price volatility; (3) reviewing/advising advanced data collecting and modeling; (4) review new infrastructure ownership models for forest management projects; (6) long term workforce capacity support for federal land managers, particularly coming from local governments.

References

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