

Cal FRAME Update

INTRODUCTION

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 risky¹.

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 the Forest Management Task Force (FMTF) REDS WUG Removing Barriers Committee and the Joint Institute for Wood Products Innovation (JIPWI) Biofuels Feedstock subgroup. 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.

After the release of the concept paper in summer of 2020, CLERE Inc—in partnership with Conservation Strategy Group—conducted a state-wide listening tour to a diverse stakeholder list of industry professionals, state and federal department heads, non-profits and the environmental justice communities with near uniform support or interest. The concept was also featured at a meeting of the Forest Management Task Force's (FMTF) and within the 2020 recommendations to the Governor from that group, and the Joint Institute for Wood Product Innovation (JIWPI) "Recommendations to Expand Wood Utilization in California" approved in November of 2020. In 2021, the Governors Office of Planning and Research received 2.5 million dollars from the Governor's Budget to establish pilots investigate the concept at the regional level. Currently, the regions of interest encompass a total of 16 counties:

- Shasta Region (Shasta Co., City of Redding, possibly Lassen and Tehama)
- Central Sierra (Placer, El Dorado)
- Southern Sierra (Tuolumne, Alpine, Calaveras, Mariposa)
- North Coast (Humboldt, Mendocino, Sonoma, Trinity, Siskiyou, Del Norte)
- North Bay Area (Marin and cities within County)

This paper will go over important updates to Cal FRAME which have occurred through the listening tour, convening work groups and discussions with points of contact who will be piloting the regional concepts as of the Summer of 2021.

¹ CLERE Inc. (2020). "[Lack of Feedstock Supply Reliability Impedes Capital Investment in Wood Utilization](#)"

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. Leadership at multiple public agencies were highly supportive of the concept and willing to workshop ideas or involve themselves in some capacity. 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 turn around 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.

After the listening tour, the Joint Institute for Wood Product Innovation invited CLERE Inc to facilitate a working group on overcoming barriers to feedstock procurement with the intent to expand the budding hydrogen market including renewable transportation fuels for California. Several meetings with industry professionals, USFS staff and innovative leaders in the field were held to discuss Cal FRAME. The working group developed a list of over 35 questions which each region would need to address in order to launch a successful feedstock aggregation model. Over the course of these discussions, several new operational aspects and potential revenue streams were identified as opportunities for Cal FRAME.

OVERVIEW OF CONCEPT UPDATE

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. In terms of institutional arrangements, the new addition to the concept was the idea of Community Service Districts (CSD) as another viable legal formation to coordinate operations (in addition to the original recommendations for a Joint Powers Authority, State Agency or Special District.) Additionally, while the original concept emphasized developing a business development hub to act as a clearinghouse for new businesses, stakeholders and regional points of contact would rather emphasize (1) developing a certified chain of custody from wildfire reduction projects; (2) developing a mapping tool for private properties; and (3) developing a wildfire-safe insurance product. This also compliments the original interest to expand workforce capacity to perform third-party environmental review services for the US Forest Service.

Community Service District

In unincorporated areas, basic services like water, sewer, security and fire protection are usually provided by the county. Because counties often consist of large and diverse geographical areas, providing a consistent and adequate service level across all areas can be difficult. The Community Services District Law (Government Code §61000-61850) was created to provide an alternate method of providing services in unincorporated areas. CSDs have the ability to develop a tax base to provide a wide range of community service- related needs include fire protection or habitat mitigation. CSDs may span over multiple cities or counties and will calculate taxes based on the value of the land to go directly to the services provided by the CSD. In context to Cal FRAME, this institutional arrangement may prove to be highly beneficial as a form of governance to combine special districts or unincorporated areas with mutual interest to perform forest health operations and represent a larger landscape for managing feedstock contracts.

Environmental Review Services

As written about in the original concept paper, Cal FRAME has always focused on addressing staff capacity issues to project implementation. 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.

For example, over the last several years, the Tahoe NF has been repeatedly unable to fill three to four vegetation management positions.² Staff capacity to perform more work and approve work that could be completed by Partners is shrinking and requiring USFS Region 5 to share key positions like a Vegetation Management Officer (VMO) with other National Forests.³ 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 districts are operating at 50% of their organizational management chart.

Fortunately, in accordance with a 2017 letter from Chief Tooke⁴ and the recent Batch 2 USFS Directives Update regarding allowable expenses in stewardship agreements, R5 has also clarified that USFS Regions can collect stumpage receipts and be appropriate for the use of pre-NEPA and post-NEPA activities. This change will essentially provide workforce capacity to National Forests with small NEPA teams to use non-

² Personal Communication, David Fournier 3/3/2021

³ Ibid.

⁴ US Forest Service: Washington Office (2017) "Memo: Authority to Begin collecting Stumpage Receipts"

federal partners to conduct NEPA and open more acres for needed forest health treatment within a shorter timeframe.

That said, line officers (i.e. District Ranger, Forest Supervisor) rely upon USFS staff to produce specialist reports and NEPA compliance documents. Reduced staffing capacity extends project timelines and delays work. When working with 3rd-party specialists and/or teams, USFS personnel impose substantial and sometimes unnecessary oversight and review expectations that undermine the efficiency and productivity of third-party efforts.

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, ad-hoc and with no restrictions to contract employment.⁵ Expanding the federal capacity to perform more NEPA work is still highly desirable for some regions and will be monitored closely. Another approach could be developing experienced third party NEPA teams (i.e. led by Partners) with experienced staff can preclude the need for Forest staff produce some specialist reports. Developing and publishing objective standards for third party specialists, team qualifications and work products could improve work quality and increase USFS comfort. Developing third party “review teams” who provide oversight on multiple forests/districts could also provide safeguards to resolve limited Forest-level capacity.

It is the intention that CAL FRAME can help facilitate these improvements.

Support for private landowners

There is less interest in Cal FRAME to operate as a hub for business development, but rather, offer a number of services or products private land management through certifications, insurance and mapping.

Certification refers to ensuring the forest management operations and/or the chain-of-custody (ie. the wood products) come from responsibly managed forests aligned with local, regional and state priorities. Depending on the type of model and product, certification has risen to be a compelling piece of improving supply chain logistics. While there are some which believe that it could provide another revenue stream, tracking the source of wood products back to operations which are helping protect and support rural economies at risk of catastrophic wildfire has developed serious traction through our conversations. This process would be complimentary to interests in developing state-of-art mapping tools.

Mapping is a standard tool to assess, model and implement 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. Furthermore, mapping would also be an asset for developing analytical frameworks to streamline certification processes for sustainable or wildfire risk reduction procurement.

Wildfire Insurance has recently been a priority topic for many homeowners in California. Defining methods to maintain the value of the home in a wildfire risk region and reduce premium costs on insurance would be able to better incentivize two immense needs: fuels reduction and home values. In late June 2021, the Nature Conservancy in partnership with Willis Towers Watson insurance produced a

⁵ “USFS Directives Update and Opportunities for Partnership”. CLERE Inc. 2021

report on quantifying the risk reduction of ecological forestry with insurance.⁶ The report is highly encouraging and finds substantial savings in annual home insurance premiums when ecological forestry treatments occur within the community.

Concerns about USFS biomass availability

There are several issues that have been identified as problems related to biomass feedstock availability from federal lands: (1) timber appraisal process, (2) archeological and wildlife surveys, and (3) confusion on USFS collaborative tools like Stewardship Agreements or Good Neighbor Authority.

The USFS is required to appraise timber value before offering it for sale. Currently the agency utilizes a transaction evidence-based approach that can be cumbersome and not reflect true market value. Due to the relatively low market value for biomass, the USFS resource appraisal process should be updated to account for base rate values, especially for vegetation treatment projects that are likely to produce primarily non-merchantable forest biomass. Also, costs associated with forest inventory procedures (timber cruising) by the USFS can be significant, thus adding to the overall cost of fuels treatment projects. Due to the relatively low value of forest biomass there is a reduced need to devote significant resources to conduct forest inventory ahead of fuels treatment projects. Also, Limited Operating Periods (LOPs) are often required for fuels treatment and forest health projects in order to protect sensitive resources (e.g., northern goshawks). They result in a very short time period (e.g., two or three months) when project implementation can occur. Policy changes would be necessary to provide greater flexibility and evaluate tradeoffs when considering effects from project implementation relative to long-term viability of sensitive species populations.

Another challenge is the often the intensive and time-consuming piece in the project development process; Archeological and wildlife surveys. There are inconsistencies among Forest staff when interpreting required processes to complete these surveys, and more effort needs to be made considering how these surveys can be done more efficiently for low value biomass projects. The Regional office staff can and should provide leadership and guidance to ensure the most efficient processes are followed in order to support Forests complete this work in a timely and cost-effective manner. Another issue is the inconsistency in federal policy implementation for items that “require” Forest staff to conduct (e.g. appraisals). A thorough review of all items that require federal staff with specific federal certifications should be conducted and vetted with the Regional Office. Items that do absolutely require federal personnel should be well-funded with contingency plans to ensure these elements do not become the bottlenecks and impact workflow.

The final issue, and potentially most critical, is the fact that the utilization of Stewardship Agreements (e.g. Master Stewardship Agreements, Good-Neighbor Authority) are not well understood by agency staff when products (i.e. timber and biomass) are included. Reviewing policy differences within timber contracting and stewardship agreements related to timber and biomass projects will provide clarity for the Forest and partners, while trainings are needed to facilitate this process. Additionally, forest decision makers are often unwilling to commit to a “floor” of acres treated or volume of timber or biomass using long-term Stewardship Agreements. Region 5 leadership must provide support for decision makers to enter into these agreements. Collaboratives should encourage partners to continue to bring resources that can deliver projects that have treatment acre and volume goals. Region 5 has not developed or

⁶ <https://www.nature.org/content/dam/tnc/nature/en/documents/FINALwildfireresilienceinsurance6.27.21.pdf>

committed to developing any 10+ year stewardship contracts to facilitate investment in expanding biomass harvesting and utilization capacity.

While there is substantial complexity and risk for the agency, existing purchasers/contractors, and for new and expanding biomass enterprises, the agency must commit to working in a transparent and cooperative way with relevant stakeholders to balance risks and interruptions to long-standing business practices with the potential offered by contractually secured long-term biomass feedstock commitments that are only possible using stewardship contracting authorities. Other Regions (R3, R6) are offering long-term stewardship contracts that may serve as case studies or templates.

It is hoped, and indeed expected, that CAL FRAME entities will be able to facilitate the changes described in this Section through building a relationship of trust through sound structural tools and consistent communication and leadership between the National Forests, Forest Service leadership, and local agency and community involvement.

NEXT STEPS

In 2020, the concept was featured on both the Forest Management Task Force's⁷ (FMTF) recommendations to the Governor and Joint Institute for Wood Product Innovation (JIWPI) "Recommendations to Expand Wood Utilization in California". In the JIPWI recommendations, recommendations 1.5 "Forest Biomass Supply Chain Development" advocates to implement five actions to scale the Cal FRAME concept. JIPWI recommended total costs of \$7.5 million and to have several unique institutional arrangements established by 2025 throughout the state. In the 2021 Governor's Proposed Budget and subsequent May Revise, the concept was allocated funding as stated in recommendation 3.10 from the FMTF recommendations to the Governor: "Address Feedstock Barriers Through Pilot Projects".

In the 2021 Enacted Budget, the Office of Planning and Research has been allocated a \$3 million one-time General Fund in 2020-21 as a part of a comprehensive package to increase the pace and scale of forest health activities and reduce wildfire risk and referred to as the "Wildfire and Forest Resilience Package: Innovative Wood Products".⁸ OPR staff have expressed that it plans to fund five such projects, with the intent of providing the funding to groups that plan to explore regional approaches towards forest biomass feedstock supply chain management. In 2021, CLERE developed a list of over 30 scoping questions through the Feedstock subgroup of the JIPWI Biofuels Working Group for regions to consider when establishing a regional model for woody aggregation.

Moving forward, the strong policy support to expand the hydrogen market will necessitate constancy to forest biomass feedstock supply as a priority, and long-term research will be needed to enable this sector at this larger scale of feedstock supply. The following research questions can be conducted concomitantly as the responses to the initial scoping questions developed under the JIPWI Biofuels Working Group are answered:

- What are the organizational structure and financial variables that change when moving to contracting with large scale facilities, (meaning scaling from small to large scale wood product business partners)?

⁷ Now called the "Wildfire and Forest Resilience Task Force"

⁸ <http://www.ebudget.ca.gov/budget/2021-22EN/#/Department/0650>

- Can these entities provide enough contract stability to entice private lenders and equity investors for projects of this value?
- How will forest biomass best be combined with agricultural and urban wood waste in order to support these larger scale projects?
- How can we ensure that at this scale the demand for wood waste will not drive forest practices?

CONCLUSION

Throughout the last year, Cal FRAME has been discussed widely for its opportunities to address a persistent problem throughout the state. While there is widespread interest in seeing these wood waste management entities launch, many questions remain to be answered. Community and industry buy-in will be critical to successfully launch Cal FRAME especially in the first several years of piloting. This includes conducting significant outreach and communication with existing facilities to support the concept while new infrastructure is being developed.