JOINT POWERS AUTHORITIES

A TOOL TO MANAGE FOREST BIOMASS RESIDUALS IN CALIFORNIA

Prepared for :
Fall River Resource Conservation District

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Contents

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Executive Summary

Despite an excessive number 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. Without a minimum contract term of ten years, many lenders and investors deem wood products and bioenergy projects as too risky (CLERE, 2020).

In response to this challenge, a new concept was proposed and has since been the subject of several convening workgroups over the last few years to improve forest supply chain logistics. More recently referred to as the California Forest Residual Aggregation for Market Enhancement (CAL FRAME) model, the concept proposes to create "biomass supply management entities" that could provide a regionally tailored, public process that would administer the flow of biomass between landowners, suppliers and buyers.

This paper will review various options to institutionalize a feedstock sourcing model to support forest resilience through improved biomass removal and contracting mechanisms. An aggregation entity could negotiate and support long-term contracts between biomass off-takers and suppliers, advancing the ability of both kinds of businesses to meet lender and investor requirements and to complete facility finance and development. Such entities could also provide other business and community support functions. By satisfying investor requirements, the aggregation entity has the potential to overcome one of the largest barriers restricting infrastructure development from capital markets.

Joint Powers Authority, Innovation and Services

California has a long history of exercising joint powers with more than 1,800 Joint Powers Authorities (JPAs) operating in California, according to a guidebook on JPAs written by the California Senate in 2007 (Cypher et al., 2007). California Government Code Section 6500 *et seq.* allows special districts, cities, counties, as well as state or federal agencies, to agree to create another separate legal entity, or jointly exercise overlapping powers common to each participating agency. Member agencies create JPAs to deliver more cost-effective services, eliminate duplicative efforts and consolidate services into a single entity. Commonly, joint powers are exercised to work on projects like groundwater management, transportation planning, road construction, or habitat restoration to name a few. They can also be created to provide a service or manage energy procurement.

The formation of a JPA is unique in public governance because it is not created by signatures on petitions or approved by a vote. Rather, a JPA is a voluntary collaboration for multiple public agencies to define mutually held powers to handle a common or complex issue. JPAs operate as a public agency, and as such are subject to the Ralph M. Brown Act, Public Records Act, Political Reform Act, and other public interest laws that ensure political transparency. It is very important to note that the powers defined within a JPA agreement must be already held by the member agencies.

The primary and most important tenet of JPA law is that the enabling agreement between the entities determines the scope of authority. First, the entities must agree on what they wish to accomplish, determine the breadth of their overlapping authorities, and then decide which member agency's administrative rules will govern the implementation of those goals. After reviewing these factors, they must decide whether to create a separate legal entity to handle the effort, or simply share responsibilities within a joint powers agreement by and between the partner agencies.

Finances of JPA Management

JPA entities have basic costs to "keep the lights on." This includes staff (including benefits), insurance, and other business hard costs like equipment, any brick-and-mortar related expenses, software or online services, as well as the general fees collected from the JPA by the state and county. These administrative costs should be calculated based on the level of public services and the complexity in nature of those services, as well as what the members of the JPA are willing to offer from their internal resources. These costs can be relatively easily calculated and then built into the agreement between the parties that is set up when the JPA is organized. The responsibility for unforeseen costs should also be provided for within foundational documents. In general, administrative costs for the management of a JPA should be shared by member agencies committed to the purpose of the JPA, but unique arrangements can always be made.

The costs for the administration of a JPA are generally a small proportion of the overall budget if there is a large capital project, planning effort, or joint property maintenance scheme at the center of the entity's purpose. The primary tools for covering both the administrative costs and project costs are described below.

- **Fees and Assessments:** Local governments (and JPAs who are comprised of such entities) can charge fees for services they provide. For example, a JPA can provide a fee for service to pay for contract negotiation and ongoing implementation, to develop a forest management planning document, or to provide business or technical support. A JPA can also install special assessments by going to the constituents in their jurisdictions for approval by following certain steps for approval.
- **Bonds:** JPAs have independent authority to arrange capital financing by selling bonds. As used in this context "bonds" means revenue bonds, notes, or other evidence of indebtedness. Revenue bonds support public works projects by creating a vehicle for individuals to lend money to a public entity with the expectation of having that money returned with interest by the end of a defined period.
- **Tax increment financing (TIF):** TIF refers to the practice whereby the future property tax revenues for a defined area are captured at the beginning of project construction in order to support development. This most likely would be used in order to pay back the bond dues.
- **Community measures for parcel tax:** Communities can come together and decide that an issue is important enough to self-impose a parcel tax.

The following table is a list of JPAs working to address watershed health, fuel reduction, and to a lesser extent, biomass utilization.

Name	Description
Eastern Sierra Council of Governments	A JPA which seeks to integrate responsible ecosystem management, natural resource conservation, sustainable outdoor recreation, and economic development using best available science. "Outcomes include a local interdisciplinary NEPA team that can accelerate project planning." (personal interview, ESCOG, April 2023)
Upper Mokelumne River Watershed Authority	UMRWA's role is to perform water resource planning for the region, facilitate forest fuels reduction and restoration projects, secure grant funding, and leverage federal and state investments for widespread regional benefit.
West Placer Waste Management Authority	A JPA agreement between Placer County and the cities of Lincoln, Rocklin, and Roseville to own, operate, and maintain a sanitary landfill. WPWMA has begun working with other, smaller entities to "diversify" its biomass market outlets. Most notably, in 2018 the WPWMA entered into a limited site use agreement with Biogas Energy, Inc. to study forest-to-bio-oil and bio-char using pyrolysis technology.
Marin Wildfire Prevention Authority	MWPA is a JPA funded through Measure C, a ten-year parcel tax estimated to raise $19 million annually. It was formed as a cross-jurisdictional authority for the Marin County area to advise and administer fire safety and preparedness efforts. It is predominantly made up of fire districts and includes 17 member agencies. Their primary goals are vegetation management; detection, alert, and evacuation; grant management; defensible space and home hardening
East Bay Hills Initiative to Convene a Wildfire Prevention Authority	The East Bay Wildfire Prevention and Vegetation Management coalition is a grassroots effort of community organizations in partnership with county staff and elected officials. Initially, the group secured endorsements for a potential JPA, however, in the fall of 2022, the working group made the recommendation to pursue the development of a Memorandum of Understanding (MOU).

Could a JPA Improve Forest Biomass Feedstock Supply Chains by Providing a Feedstock Supply Agreement that Includes a Publicly Managed Price Mechanism and Contract Risk Protections?

Often, income generated from biomass-heavy forestry operations (i.e. fuel reduction projects) do not cover costs leading to financial loss, and consequently, a variety of policy incentives have been created over the years to address this issue (The Beck Group, 2019, Swezy, 2020). These incentives, however, have not led to an in increase in biomass availability or new wood product businesses. The primary reason identified for this failure is the inability for biomass suppliers and new businesses to come to long term agreements on price and volume of biomass.

Feedstock aggregation entities could manage the negotiation and ongoing contract management between feedstock suppliers and facilities in order to improve the business climate, and bring about longer agreements. Essentially these entities would match buyers and sellers, based on the amount of feedstock each is interested in selling/buying over time. Many businesses will choose to leave a certain percentage of feedstock available for spot market pricing. This would equate to matching risk tolerance and pairing both sides for potential long-term agreements. In order for

this contracting to work, the template agreement must combine a formula rate contract with a price collar, which could significantly reduce risk for both parties.

- **Formula rate contract:** A formula rate is a fixed formula often used by utilities to calculate a charge or rate, such as the electricity charge per kWh. Within the formula, there are many inputs which are fixed but some are variable (cost of capital, depreciation, revenue requirement, interest rate, etc.). On an annual basis, the utility submits any changed inputs to the regulatory body for review and possible approval. In this context, a formula (or model) would be approved and establish a long-term price for biomass procurement where various inputs are updated on a recurring interval over the term of the contract.
- **Price collar**: a "collar" is a popular financial strategy to limit an uncertain variable's potential outcomes to an acceptable range. In business and investments, a collar agreement is a common technique to "hedge" risks or lock in a given range of possible return outcomes. Effectively, a collar sets a ceiling and a floor for a range of values: interest rates, market value adjustments, and risk levels. In this case, it may appropriately find a boundary where neither the buyer or seller are gaining a significant advantage over the other.

Finally, the essential component of this new contract would be an indemnification term associated with an insurance product protecting against the lack of feedstock or disappearance of the biomass offtake business, discussed below.

Contract Indemnification and Insurance Innovation

Tumultuous wood markets can cause many investors to hesitate when considering new wood-product-based businesses or investing in expansions of current facilities. Using insurance pools that have been used in the past by agencies for self-insurance and personnel-associated risks, an aggregation entity can support both the supply and demand side of wood products through the indemnification of third-party contracts or independent businesses.

More research needs to be done to understand if the JPA would need to be a party to the contract, or could simply facilitate insurance products for third parties. If insurance risk could be reduced through pools held by a JPA, this could significantly improve business outlooks. Other areas for insurance innovation could benefit haulers and loggers who encounter high-costs to start a business, or homeowners insurance in forested areas. With the latter being addressed on at the national level, a JPA could provide private landowner insurance in addition to being a feedstock aggregator.

Environmental Review, Business Support, Equipment Leasing Owning Infrastructure and Other Services

A JPA could expand its services for landowners, forestry professionals, wood products businesses, tribes, local agencies, and non-profit organizations to improve costs and efficiency of land management objectives. These include things like conducting third-party NEPA or CEQA analysis, providing market relevant information through analyses for business development or mapping information, owning infrastructure, or making operation equipment available for lease.

Each one of these services can sometimes be available in disparate parts of the supply chain. A management entity offers the opportunity to centralize all of these solutions in order to avoid duplicity and streamline information gathering for a growing workforce. Most importantly, it is locally driven and builds on the various levels of collaborations already formed at the landscape level.

Another aspect of such a management entity is the possible role that such an entity could play to increase the confidence of federal land managers to work with local partners in the region. The Entity could provide training and technical support, funding, and even help negotiate contracts between landowners and suppliers. These relationships between suppliers (USFS, for example) and sellers (Licensed Timber Operators) would strengthen the regions chances for a more stable arrangements between buyers and sellers of the biomass.

Optional JPA Models

All approaches below involve managing the price mechanism and negotiating FRCWC with enhanced all-party indemnification. Approaches A-C can be combined in various ways, and involve the creation of a new Agency.

Approach A – "A Public Infrastructure JPA"

A JPA is formed to be directly involved in funding public infrastructure like a biomass utilization campus, a sort yard, or biomass conversion or utilization facilities. As the most comprehensive of the options, this would establish a JPA that would own or manage the development of a wood utilization facility. The JPA would then enter into contracts with feedstock providers (e.g., landowners or forest sector contractors) using the new FRCWC or other contract mechanisms. This JPA would likely look to use public property belonging to one of its members, or could also involve leasing private lands to serve as a host site for the desired infrastructure. Most likely this would be a public/private partnership that would involve participation from the private sector, but the JPA itself would be made up of government agencies only. As government agencies do not seek profit but only need to ensure that projects meet costs, this pathway may allow for revenue sharing.

Approach B "A Services JPA"

A JPA is formed to provide a menu of community services and may own equipment to lease to new businesses or the community. Essentially this scenario is any and all services that the members want to provide, but avoiding any public infrastructure or land ownership. This approach would involve the new JPA Agency providing the contract management for the new FRCWC template, and would manage that price structure and contract. JPA staff could also provide a menu of other services, such as forest management planning that could include environmental review under CEQA or NEPA, insurance resources for land owners and wood products entrepreneurs, green waste program management, or connections to commercial lending professionals.

Approach C – A Wildfire Prevention JPA.

A JPA could be created with the primary focus of paying for fuel treatment activities that would also require that associated biomass waste that is created from these projects is utilized and not

open burned or left to decay and exacerbate fire risk. Such a JPA could facilitate the use of the new contract template using the developed price structure, or negotiate other agreements between local businesses. Currently, the utilization of the materials is not built into the JPA structure at the Marin WPA, so this would be a new aspect of existing entities.

Approach D – No Entity is Created, JPA Agreement Only: Contract and Insurance Facilitator Only.

Finally, instead of creating a new entity, the local governments enter into a Joint Powers Agreement to facilitate the use of the contract template and provide the cost methodology and indemnification insurance across their respective geographies. This pathway would likely require a partnership with state and possibly federal entities to help the local agencies pay for this work, and could include such a partnership, which could be modeled after the current Sierra Nevada Conservancy Joint Powers Agreement.

RCD Entities as Members of a JPA

Resource Conservation Districts (RCDs), as defined under state law, could serve as a member of a JPA as they are public agencies as defined by that Act. The only problem with an RCD as a member would be under Approach A, because California's Public Resource Code Division 9 Chapter 1, General Provisions, Article 1 Policy of State, Section 9001(c) restricts power production and distribution directly. Specifically, the Code states, "The districts shall not conserve water for power purposes or produce or distribute power for their own use or the use of others." Because of this prohibition, and the fact that JPA's are limited by any member with the least amount of authority on the Board, a JPA made up of RCD members that wants to own infrastructure would need to develop work arounds for this limitation. For example, the JPA could enter into a lease or license agreement and hold a separate agreement with a private entity that could generate power. Also, there is the option to explore new possible legislation language that could address the current prohibition of power production in the California Resource Code and establish a long-term solution. Another approach that could be applied using RCD entities in any of the approaches is to have the JPA hire the RCD to administer the new Agency.

Conclusion

Ultimately, it is the communities that are central to improving the biomass removal in our rural forested regions. This effort aims to bring together whatever are the most capable local government entities within the communities to create a regionally powered, publicly transparent, strategically funded consortium. Such an entity can manage contracts, own public infrastructure, or provide other services. With strong administrative processes, including a new feedstock contract with a public price mechanism and indemnification provisions, clear funding mechanisms, and insurance tools, the high tide of strong business practice can lift all boats.

Overview and Purpose

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, sometimes due to fire salvage, (2) declining USDA Forest Service budgets and staffing capacity, (3) the low value of biomass as compared to its high transportation costs, (4) the administrative challenges of contract management and (5) lack of skilled workforce and housing for those workers. 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 exceedingly difficult to obtain. Without a minimum contract term of ten years, many lenders and investors deem wood products and bioenergy projects as too risky (CLERE, 2020).

In response to this challenge, a new concept was proposed. More recently referred to as the California Forest Residual Aggregation for Market Enhancement (CAL FRAME) model, the concept proposes to develop an efficient biomass removal and utilization process using local government, or other institutional arrangements, for forest health projects using a new and transparent intergovernmental framework. This process will explore ways to support wood-based businesses in their efforts to secure reliable, long-term feedstock supply while providing an economically viable outlet for forest health and fuel reduction projects and their associated contractors or landowners, in California's forests.

The concept was first explored in 2018 within the Forest Management Task Force (FMTF) Rural Economic Developmental Steering Committees/Wood Utilization (REDS/WUG), and later explored within research published by Conservation Strategy Group (CSG, 2021), and the Joint Institute for Wood Products Innovation (JIWPI) Biofuels Feedstock subgroup (Sanchez, 2021), which also produced a white paper that included a section on this subject. Additionally, CLEE at UC Berkeley also tackled this issue (Elkind et al., 2022).

In 2021, the Governor's Office of Planning and Research (OPR) was provided $3 million from the Wildfire and Forest Resilience Early Action Package to address economic development opportunities; $2.5 million was allocated to support new long-term wood feedstock pilot projects (CAL FRAME), which OPR used to fund 5 projects throughout the State. These pilots will develop plans to improve feedstock supply chain logistics within each target region via an institutional arrangement that bears the structure, authority, and resources to aggregate and initiate long-term feedstock contracts. Each project will explore and assess market opportunities to improve biomass feedstock availability in their region.

Led by the Fall River and Pit Resource Conservation Districts (RCD), the Northeastern California Woody Feedstock Aggregation Pilot Project ("Shasta OPR pilot project")—including Shasta, Lassen, Modoc, and Siskiyou Counties—has a mature timber market with mixed landowner types who manage the surrounding forests for varying objectives. In the coming decades, regional strategies to develop community and ecological resilience to reduce high-intensity wildfires will need to expand fuel reduction and forest restoration treatments, which will

produce large quantities of commonly unmerchantable forest-based biomass and sawmill residue. Currently, unmerchantable biomass is either pile burned or left in-woods to decay due to a variety of reasons including complicated market dynamics and the high costs of removal. Adding new infrastructure and/or expanding existing infrastructure to handle expected increases in residue from fuel reduction treatments will be necessary. A "biomass supply management entity" could provide a regionally tailored, public process that can administer the flow of biomass between landowners, suppliers and buyers. Such an entity could be a Joint Powers Agency (JPA), which could be made up of several special districts or local governments in the region that choose to tackle this problem.

This paper will review various options the region has to institutionalize a feedstock sourcing model to support forest resilience through improved biomass removal and contracting mechanisms. An aggregation entity could negotiate and support long-term contracts between biomass off-takers and suppliers, advancing the ability of both kinds of businesses to meet lender and investor requirements and to complete facility finance and development. Such entities could also provide other business and community support functions. By satisfying investor requirements, the aggregation entity has the potential to overcome one of the largest barriers restricting infrastructure development from capital markets (CLERE, 2020).

SECTION ONE: JOINT POWERS AUTHORITY OVERVIEW

California has a long history of exercising joint powers with more than 1,800 JPAs, according to a guidebook on JPAs written by the California Senate in 2007 (Cypher et al., 2007). California Government Code Section 6500 *et seq.* allows special districts, cities, counties, as well as state or federal agencies, to agree to create another separate legal entity, or jointly exercise overlapping powers common to each participating agency. Member agencies create JPAs to deliver more cost-effective services, eliminate duplicative efforts and consolidate services into a single entity. Commonly, joint powers are exercised to work on projects like groundwater management, transportation planning, road construction, or habitat restoration to name a few. They can also be created to provide a service or manage energy procurement. An agency is not required to have the acronym "JPA" in its organization's name. For example, many agencies which unify planning jurisdictions will operate under the name "Council of Governments" (COG). JPAs play an extensive role in the local and regional management of California today.

The formation of a JPA is unique in public governance because it is not created by signatures on petitions or approved by a vote. Rather, a JPA is a voluntary collaboration of multiple public agencies to define mutually held powers to handle a common or complex issue. JPAs operate as a public agency, and as such are subject to the Ralph M. Brown Act, Public Records Act, Political Reform Act, and other public interest laws that ensure political transparency.

It is very important to note that the powers defined within a JPA agreement must be already held by the member agencies. A new agency cannot be established to provide services or take responsibility for activities that are outside of its members' legislative purview. For example, waste treatment agencies cannot form a JPA to provide ambulance services, or a transportation agency cannot form a JPA for firefighting.

Understanding the basic process for establishing the use of joint powers is an important basis for determining whether this tool is appropriate to manage finance, oversee construction, provide a service, or deliver another local government need. The first and most important tenet of JPA law is that the enabling agreement between the entities determines the scope of authority. First, the entities must agree on what they wish to accomplish, determine the breadth of their overlapping authorities, and then decide which member agency's administrative rules will govern the implementation of those goals. After reviewing these factors, they must decide whether to create a **separate legal entity ("JPA")** to handle the effort, or simply share responsibilities within a **Joint Powers Agreement** by and between the partner agencies.

A. Joint Powers Agreements that Do Not Create a Separate Entity

The most common reason existing government entities choose to enter into a Joint Powers Agreement is so that they can act within a broader area with their neighbors to solve common problems; beyond their individual jurisdiction. Being able to provide services or otherwise act within other geographic areas allows jurisdictions to consolidate and share resources. If entities choose this path and use joint powers authorities to act in one another's areas (but not to create a separate entity through the Agreement) the process is very simple to set up. The Agreement is much like any other contract between two or more parties, where each is responsible for whatever it has signed up to do, as described in the contract, and the agencies remain responsible for all their actions and obligations. There is no separate entity, and therefore the other noticing requirements

of the statute do not apply, and the agencies are limited to whatever finance and bonding mechanisms they have within their own enabling powers (CA Gov. Code, § 6542).

An interesting example of such an agreement was done in 2015 when two state Conservancies—the Coastal Conservancy and the Sierra Nevada Conservancy—entered into such an agreement (Coastal Conservancy, 2015). In this case, the Coastal Conservancy wanted technical assistance from its sister agency which included handling grant funds, and so the need prompted the use of the JPA agreement mechanism. The ensuing JPA agreement allowed for the sharing of resources for implementation within a region that covers multiple jurisdictions. While an Agreement without the creation of a separate entity is easy to set up, the use of them is not much different than a standard contract, and so most local governments choose instead to create a new entity to utilize the many advantages of the JPA law.

B. Joint Powers Agencies

The more common use of the Law is for a group of entities to come together to establish a legally independent organization that will serve the common interests of those groups, as defined by those member agencies. This new organization will typically have representatives from the member agencies on its governing board. As a legally separate entity, it can enter into contracts, sue or be sued, and is required to conduct annual audits. They can also hire staff, obtain financing to build public facilities, and manage property. These entities can also take advantage of the one independent power given under the JPA law: the power to issue bonds, which is a complex process described by Article II of the Statute. A basic understanding of JPA functions is needed to understand how they could potentially solve the issues related to forest biomass feedstock supply chains.

C. The Finances of JPA Management

The first type of financial burden to discuss is the administrative cost of "keeping the lights on." This includes staff (including benefits), insurance, and other business hard costs like equipment, any brick-and-mortar related expenses, software or online services, as well as the general fees collected from the JPA by the state and county. These administrative costs should be calculated based on the level of public services and the complexity in nature of those services, as well as what the members of the JPA are willing to offer from their internal resources. These costs can be relatively easily calculated and then built into the agreement between the parties that is set up when the JPA is organized. The responsibility for unforeseen costs should also be provided for within foundational documents. In general, administrative costs for the management of a JPA should be shared by member agencies committed to the purpose of the JPA, but unique arrangements can always be made.

The costs for the administration of a JPA are generally a small proportion of the overall budget if there is a large capital project, planning effort, or joint property maintenance scheme at the center of the entity's purpose. The primary tools for covering both the administrative costs and project costs are described below.

i. Fees and Assessments

Local governments (and JPAs who are comprised of such entities) can charge fees for services that they provide. For example, a JPA can provide a fee for service to pay for contract negotiation and ongoing implementation, to develop a forest management planning document, or

to provide business or technical support. If a JPA administered fuel reduction services, landowners could pay for those services, or if a JPA owns personal or real property, it could lease those to the public. Service fees will be an integral part of any governance structure implemented within the region.

A JPA could also install special assessments by following certain procedures. An assessment is a tool used for a one-time cost to help offset a specific community improvement or need, while a fee is generally charged for the use of a public facility or to pay for a public service. A fee can be recurring and is used to cover costs associated with the use of a public pool, for example, or a fee that is charged to use an Electric Vehicle (EV) lane. Sometimes fees and assessments are combined. Local government must ensure that these fees and assessments are not imposed as a tax, which is a critical part of the implementation of any such system *("Overview of Proposition 218...").*

ii. Bonds

JPAs have independent authority to arrange capital financing by selling bonds. As used in this context "bonds" means revenue bonds, notes, or other evidence of indebtedness (CA Gov. Code, § 6540). General Obligation Bonds that are paid by taxes of local governments are not covered under the JPA law. Revenue bond issuance is tied to a revenue stream for repayment of indebtedness, such as fees, assessment, or the expected income from the new project being financed. Such projects are generally infrastructure improvements. Normally local governments must get voter approval when issuing any bonds, but JPAs can issue revenue bonds without holding an election, as long as member agencies of a JPA adopt a local ordinance that permits the JPA to issue a bond. For more about JPA bonds, The California Debt Financing Guide is an excellent resource (CDIAC, 2019).

Another type of relevant bond that is separate from JPA authority that is sometimes invoked by local entities that are part of a JPA is the Mello Roos Act of 1983. This law allows for the creation of Community Facilities Districts (CFD) that can finance community improvements. To establish a CFD, a two-thirds affirmative vote of property owners is required if there are no more than 12 registered voters living within the proposed district. However, if more than 12 registered voters are living in the district, a two-thirds vote of registered voters is required, which gives the CFD the ability to sell bonds to raise money to fund public improvements such as roads, schools, parks, police services, and other amenities desired by the community. It also provides the CFD with taxing authority on district residents when the tax is used to pay off the bond principal, interest, and administrative fees.

iii. Tax Increment Financing

Tax Increment Financing (TIF) strategies are often associated with JPAs issuing bonds due to the unique advantage it offers. TIFs pay for infrastructure improvement projects by harvesting the future value of the property taxes associated with the improvement project. In other words, a JPA would be collecting the taxes from 10 years in the future in order to pay for projects today. Before a piece of 2012 legislation that dissolved Redevelopment Agencies, PFAs were common with community redevelopment projects for infrastructure improvements using TIFs. Today, TIFs were re-introduced through two new types of PFAs that were developed to offset redevelopment costs for local government agencies (CALED, 2019). Enhanced Infrastructure Financing Districts (EIFD) and Community Revitalization and Investment Authorities (CRIA) are both examples of

other government entity structures working to finance certain projects using innovative financing. The California Association on Local Economic Development released a booklet titled “FAQ on California’s New Tax Increment Financing Tools” which delves into this subject, thoroughly (CALED, 2019). An example is Golden State Finance Authority (GSFA), a JPA formerly known as the Rural Home Mortgage Financing Authority, which consists of California's 58 counties (GSFA, 2023). It consolidates federal, state, and local funding to provide grants and other financing needed by first-time home buyers. They have participated in over $12.6 billion in loan financing and $545.7 million in down payment assistance since they were formed in 1993 (GSFA, 2023).

iv. Community Measures for Parcel Tax or Sales Tax

In some circumstances, communities come together and decide that an issue is important enough to self-impose a parcel tax. Such an effort requires dedicated community outreach and resources to work with the population about the issue, including things like listening sessions and working groups. The valuation of the measure could also impact the outcome, for example, a 1-cent tax might be more successful than a 10-cent tax in a rural area. Documents about successful community parcel tax efforts are available and could be used as examples in the Region (MWPA, 2023). Another tax option includes submitting to the voters an imposition of a general sales tax increase, which may only be submitted for voter approval at an election for city council or board of supervisors.

SECTION TWO: EXAMPLES OF JOINT POWERS AGENCIES

Most JPAs are made up of city and county partners, and a handful of specific types of special districts. For example, Irrigation and Water Districts are one of the oldest types of special districts to partner with cities and counties to get work done together under JPA law. Water and power management are the most common use of JPA authority today. JPAs also work especially well for waste management because waste hauling, sorting, and recycling processes can require expensive equipment and facilities. With a JPA in place, smaller local governments can work together to cover the costs of equipment for these important local waste-themed activities. JPA law also is at the core of Councils of Government (COGs) and Open Space Districts. These agencies can offer planning services for the purpose of establishing consensus about the needs of an area, and how to interconnect various solutions over multiple jurisdictions.

While there are no examples of JPAs in the study region, many located in other parts of California are relevant. Only a very few, however, have a direct link with forest management, hazardous fuel reduction, and forest health. We will now review some examples of JPA organizations, and spotlight four JPAs, three of which have either recently formed or have taken on more responsibility with vegetation management in the last 5 years.

A. Providing Water, Power, or Other Related Services: Irrigation and Water Districts, and, Public and Municipal Utility Districts.

As mentioned earlier, Irrigation and Water Districts are two of the oldest types of special districts to partner with cities and counties to get work done together under JPA law. Looking to such entities for examples of contracts and fee/cost management could be an important tool for any future JPA dealing with biomass markets. Additionally, many of these entities have a vested interest in land management and fire reduction, as evidenced in the interviews that took place through another Cal FRAME Pilot (Tahoe Central Sierra Cal FRAME Project Water Agency Role in Forest Health Report, 2023). Many of these special districts will already have administrative staff that could be used for a JPA or have the means to easily process administrative and personnel services, but at the same time, they are not as bureaucratic as a city or county, which could make such a district a great administrator/member of a biomass focused JPA.

i. Example: Los Vaqueros JPA

The Los Vaqueros Reservoir JPA is comprised of four water districts, a municipal utility district (East Bay Municipal Utility District), and a public utility district that establishes a system of governance and provides administration for the Los Vaqueros Reservoir Expansion Project. The work of the JPA is projected to improve the reliability and quality of water supply to the Bay Area while also protecting Delta fisheries and adding additional ecosystem services. The objectives of the JPA are to ensure sufficient and stable funding for the projects to achieve these goals, and related administrative and support activities while also ensuring costs are reasonable and allocations are equitable and transparent. The JPA oversees project design, construction, operation, maintenance, and the repair and replacement of water facilities. Their role includes entering into contracts and agreements to further the projects, issuing bonds, entering into loan agreements for

the "Local Agency Partner Cost-Share of the Project", delivering services to the JPA members, and receiving payments from members to create financial infrastructure for the projects.

Relevant Links:

https://losvaquerosjpa.com/
https://www.ebmud.com/about-us/news/press-releases/los-vaqueros-reservoir-joint-powers-authority-formed

B. Waste Management Authorities

Waste management is often accomplished through a JPA mechanism. JPAs work especially well in this context because waste hauling and sorting, and recycling processes can require expensive equipment and facilities. With a JPA in place, smaller cities can join together to cover the costs of equipment for these important local waste-themed activities. Including waste management authority as a member of biomass waste-focused JPA would make a lot of sense for many reasons. First, they already have processes in place for dealing with wood waste; they most likely have storage space or can be a repository for wood that doesn't make it to utilization, and could even partner with companies that want to utilize wood at their location. Second, they understand the complex world of waste regulations. Third, they are known to the waste haulers in their local area and have existing land use authorities to do their work. Finally, they have existing administrative systems and fee structures that can handle biomass waste-associated issues. In summary, having a waste management authority on a biomass-themed JPA is ideal. An example will be covered later in this Section.

C. Open Space Districts and City/County Parks

Open space park districts are another common special district in California. Additionally, most cities and counties provide extensive park and recreational services. Providing this very popular community value requires significant local government effort, and like the other examples of JPAs above, the provision of such services can often be improved when many agencies work together. Note that grounds restoration, vegetation and trail management, and fuel break maintenance are essential activities that can be shared with an Open Space District and its government partners. Local governments generally enjoy public support to use local general funds for park management. Depending on the volumes of woody biomass waste coming from any particular park(s), a biomass-themed JPA could benefit from the inclusion of a Park District as a member.

i. Example: Tuolumne Regional Park JPA

The Tuolumne River Regional Park JPA was formed as an agreement between Stanislaus County and the Cities of Ceres and Modesto. The responsibilities of the JPA include service as an advisory body on the acquisition, development, maintenance, and operation of the park it oversees, as well as other lands it owns and manages. Members of the JPA are appointed by their respective legislative bodies and serve at their direction and cannot include paid City or County employees. The JPA is responsible for providing and facilitating the Environmental Impact Reviews pursuant

to California Environmental Quality Act requirements for the development of the lands under its authority.

Relevant Links: **https://www.modestogov.com/2624/Tuolumne-River-Regional-Park-JPA**

D. Councils of Governments, Housing, and Transportation Services

JPA law also is at the core of Councils of Government, or COGs. These agencies can offer planning services to establish a consensus about the needs of an area and how to interconnect various solutions over multiple jurisdictions. State laws rely on COGs to prepare regional housing needs assessments, for example, that direct strategies within the county and city regional plans. COGS often look at broad systems and take land use and the associated parks, open space, wildlands, and fire risk and services into account when they build plans for their communities, and as such, a COG could be a potential member of a biomass-themed JPA.

i. Example: Mendocino COG

An example of a COG is the Mendocino Council of Governments (MCOG) which serves as the Regional Transportation Planning Agency (RTPA) for the region of Mendocino County. Their mission is to provide regional, community, and inter-community transportation planning and to administer transportation funding and financing to develop transportation projects and support transportation services in the region. Their role is also to administer grants for transportation and community enhancement projects as well as to support public discourse on other matters of regional importance. MCOG is responsible for preparing the Regional Transportation Plan and ensuring that funded projects are consistent with the plan.

Relevant Links: https://www.mendocinocog.org/

ii. Example: Rural County Representatives of California – Golden State Finance Authority

Rural County Representatives of California (RCRC) is a forty-county member-support organization with the purpose of advocating for the issues that impact the rural counties of California. Over the years it has developed multiple public service entities including the Golden State Finance Authority (GSFA) and Golden State Natural Resources (GSNR). GSNR is a non-profit, 501(c)3, forest resiliency company, and GSFA is a Joint Powers Authority whose purpose is to provide affordable housing and contribute to the social and economic well-being of California residents. GSFA could develop and own infrastructure improvements, and could potentially participate as a member in a JPA contemplated within this Project, particularly if public infrastructure ownership is a goal. Such participation would be valuable because of the Authority's relationship with RCRC, as well as its understanding of financing mechanisms to fund public infrastructure improvement projects.

Relevant Links: https://www.gsfahome.org/

E. State Agency Participation in JPA

State agencies can also participate in JPA organizations and agreements. Another example, separate from the one mentioned earlier between The Coastal Conservancy and The Sierra Nevada Conservancy (SNC), is an example involving The Tahoe Conservancy and SNC which establishes a framework for carrying out forest-related projects in which they jointly handle the application, receipt, and disbursement of public funds through the JPA and from one entity to the other; share resources; and combine services across jurisdictions. The Tahoe Conservancy and SNC will use existing staff to administer a JPA consistent with the JPA terms and conditions. The following describes an even more robust example where a separate JPA entity is involved.

i. Example: The State Santa Monica Mountains Conservancy and its Partners

The Santa Monica Mountains Conservancy was established by the State Legislature in 1980. It has assisted in preserving over 75,000 acres of parkland in both wilderness and urban settings and improved more than 114 public recreational facilities throughout southern California. It is the overarching planning and public land acquisition entity for two counties, six mountain ranges, and ten southern California cities. Its mission is to strategically buy back, preserve, protect, restore, and enhance treasured pieces of southern California to form an interlinking system of urban, rural, and river parks, open spaces, trails, and wildlife habitats that are easily accessible to the general public. Its board consists of nine voting members (three ex officio members and six legislative members). The board is broadly representative of state, regional, and local interests. In addition, a twenty-six-member Advisory Committee meets with the Conservancy to provide citizens with the opportunity to participate.

The Santa Monica Mountains Conservancy is a member of nine active JPAs, two of which deal with vegetation management issues: the Wildlife Corridor Conservation Authority- which has the goal to assure sufficient continuity of wildlife habitat to maintain a functioning wildlife corridor made up of about 40,000 acres of land located between the Santa Ana Mountains and Whittier Hills- and the Mountains Recreation and Conservation Authority- which is dedicated to the acquisition, preservation, and protection of open space, wildlife habitat, and urban, mountain, and river parkland that is easily accessible by the public. It is also one of ten State Conservancies under the California Natural Resources Agency.

Relevant Links: https://smmc.ca.gov/our-partners/

F. JPA Spotlight: JPAs that are Closely Relevant to our Interests with CAL FRAME

The different examples listed above are substantive and provide general context, but the entities outlined below are JPAs that are engaged in activities closely tied to land and natural resource management. These entities are more directly related to our work and warrant a closer review. Each one includes aspects that could be recreated by a JPA in the Region that could improve forest biomass feedstock supply and availability.

i. Eastern Sierra Council of Governments

The ESCOG was established in 1995 by a JPA Agreement between the Counties of Inyo and Mono and the Town of Mammoth Lakes. In 1999, the JPA was amended to include the City of Bishop as a member. Its purposes include providing a forum for discussion of regional issues of interest to members, identifying and planning for the solution of selected regional issues requiring multi-governmental cooperation, facilitating actions and agreements among the members for project development, and conducting other regional functions as the members deem appropriate. It is also tasked with identifying funding sources and applying for and receiving funding for the planning and implementation of programs of regional importance.

In 2020, due in part to the need to address the forest health crisis, the four member agencies agreed to reformulate the entity and create a Joint Powers Authority giving it the ability to apply for and receive funding among other activities. ESCOG established the Sustainable Recreation and Ecosystem Management Program to seek and integrate responsible ecosystem management, natural resource conservation, sustainable outdoor recreation, and economic development using the best available science to advance resilience in the area. The program is empowered to apply for, pursue and administer grants and other funding to finance and manage projects that accomplish these objectives. This program is currently being implemented in partnership with state and federal agencies to scale up restoration projects in the region including fuels management projects for fire resilience. The ESCOG is contracting with a non-profit partner to implement many programs. This recent effort is an excellent model for this region to consider.

Relevant Links: https://escog.ca.gov/

ii. Upper Mokelumne River Watershed Authority (UMRWA)

The Upper Mokelumne River Watershed Authority (UMRWA) is the water management group for the Mokelumne-Amador-Calaveras (MAC) region and is a Joint Powers Agency comprised of six water agencies and the counties of Amador, Calaveras, and Alpine (UMRWA, 2023). They hold eight Board of Director seats and are supported by a part-time Executive Officer and several part-time contractors. UMRWA was formed in 2000 to address then-existing and emerging issues related to watershed restoration, water quality, and water supply. During its 22-year existence, the Authority has served as a venue for developing constructive, community-supported solutions to water and watershed issues.

UMRWA's activities are focused on watershed and forest restoration projects and cooperative regional water resource planning initiatives. The agency pursues and secures grant funding, contributes member funds, and leverages federal and state investments for widespread regional benefit. UMRWA has completed over $15 million in planning and implementation grants, including numerous Department of Water Resources (DWR) and Sierra Nevada Conservancy (SNC) grants. In 2017 - 2019, UMRWA received three SNC grants which were leveraged with USDA Forest Service (USFS) funding to support fuel reduction treatment on over 4,100 acres. In 2021, the agency completed a culvert replacement and drainage improvement project along 58 miles/338 drainage structures within the Power Fire burn scar that was funded by the National Fish and Wildlife Foundation. The agency has also completed several other Proposition 50 and 84 grants as part of the state's Integrated Regional Water Management Program (IRWMP).

UMWRA is an active member of the Amador Calaveras Consensus Group (ACCG), a mature and diverse forest collaborative. It holds a Master Stewardship Agreement and Supplemental Project Agreements with the USFS, and functions as a key partner for contracting

environmental planning and permitting, and forest fuel reduction and restoration projects. In 2018, the ACCG adopted a 5-year strategic plan which established the goal to develop a comprehensive landscape assessment for all lands within the ACCG focus area. In 2020, UMRWA, together with the ACCG and with funding from the SNC, developed GIS products that aid in landscape planning, including tracking fuel reduction-related projects and identifying high-risk areas for future predicted wildfires. Using this information, UMWRA went on to initiate a phased, landscape-level program known as the Forest Projects Plan (FPP), in partnership with the USFS and the ACCG. The FPP aims to reduce wildfire risk and intensity, improve forest health and resilience, and enhance and protect wildlife habitat on National Forest System lands in and adjacent to the Mokelumne River watershed which is effectively an island of unburned area surrounded by lands impacted by recent large wildfires.

UMRWA, in cooperation with the USFS, has led collaborative planning and development of the FPP Phase 1 environmental planning documents in compliance with the National Environmental Policy Act (NEPA) which were completed in late 2022, addressing 25,671 acres of non-commercial actions to reduce ladder fuels on the Eldorado National Forest, Amador Ranger District (RD). UMRWA worked closely with the USFS and ACCG throughout the planning process, far exceeding the scoping requirements, completing permitting quickly and under budget, and securing an ACCG letter of consensus support. In mid-2022, UMRWA was awarded a CALFIRE grant to implement the restoration of up to 3,000 acres of the Phase 1 project area. The agency is currently working with the USFS to develop an implementation plan that outlines the sequence for restoration of the remaining areas within the FPP Phase 1 footprint.

UMRWA initiated FPP Phase 2 planning in mid-2022, which is expected to include the ladder fuels and prescribed burn treatments provided in Phase 1 but will also include additional forest management actions such as fuel break construction and maintenance, meadow and aspen restoration, and road decommissioning/maintenance within an up to 220,000-acre study area that spans the Amador Ranger District and the Stanislaus National Forest, Calaveras RD. UMRWA anticipates utilizing a staged-decision-making approach for FPP Phase 2 given the size of the evaluation area, its span across two National Forests, and the expected comprehensive set of management actions. UMRWA anticipates it will take 2 to 3 years to work with the ACCG and the USFS to achieve FPP Phase 2 NEPA compliance, during which time it will continue to implement FPP Phase One.

UMRWA dedicates significant resources to support work and to pursuing grant funds for its forest health program. It was recently, and unexpectedly, notified that it together with the ACCG, was being considered for the SNC's Landscape Grant Pilot Program. If awarded, the grant could provide up to $10 million over 10 years toward forest restoration. Larger, multi-year investments such as this could significantly increase efficiencies and support UMRWA and its ACCG and USFS partners in their efforts to improve forest health and decrease wildfire risk and enhance the local capacity for forest restoration and potentially also biomass utilization.

Through its work, UMRWA has demonstrated a commitment to working closely with its partners and to responding to concerns early in the planning process to achieve collaboratively-supported projects that result in mutual gains. While this approach can sometimes demand considerable time and resources, UMRWA and its partners have been successful with it, building trust and rapport that may pay future dividends to be able to more quickly and comprehensively meet state and federal priorities for forest health.

Relevant links:
https://ballotpedia.org/Marin_Wildfire_Prevention_Authority,_California,_Measure_C,_Parcel_Tax_(March_2020)

iii. Western Placer Waste Management Authority

A regional agency established in 1978 through a JPA agreement between Placer County and the cities of Lincoln, Rocklin, and Roseville to own, operate, and maintain a sanitary landfill and all related improvements. The WPWMA's critical facility elements include the Western Regional Sanitary Landfill and Materials Recovery Facility (recycling, composting, household hazardous waste, construction and demolition, and public drop-off). One of the waste streams the WPWMA manages is wood waste which is predominately processed into biomass fuel. Most of the wood received and processed by the WPWMA is dimensional lumber from construction and demolition activities, however, the WPWMA does receive limited amounts of forestry and urban tree wastes. The WPWMA typically recovers and markets for reuse between 25,000 and 30,000 tons of woody material per year.

As noted above, most of these materials are used as biomass fuel and typically marketed to the Rio Bravo cogeneration facility located approximately 2 miles from the WPWMA's facility. However, over the past several years the market conditions for these materials have changed such that the demand by the Rio Bravo facility to accept wood materials from the WPWMA has been reduced and the value to the WPWMA of the biomass has gone from a net positive to a net negative value. This market change is related to Rio Bravo's operational priority of utilizing a majority of its operational capacity to process high-hazard forest materials.

To address these market changes, the WPWMA has begun working with other, smaller entities to "diversify" its biomass market outlets. Most notably, in 2018 the WPWMA entered into a limited site use agreement with Biogas Energy, Inc. which allowed Biogas Energy to site a pilot-study level biomass operation on the WPWMA's property that utilizes woody biomass to produce bio-oil and bio-char using fast pyrolysis technology. Biogas' Energy's operation was funded primarily through grant funding from the California Energy Commission; Biogas Energy is currently applying for additional grant funding to continue its operation and to expand/modify the marketable co-products of its system, including investigating the production of pipeline injectable natural gas.

The WPWMA was also approached by Pioneer Energy (a Placer County-based Community Choice Aggregator) and Wisewood Energy (a biomass technology developer and operator) about siting a small to medium size (~ 1 to 3 MW) biomass facility on the WPWMA's property to generate electricity for sale to Pioneer. The concept behind the proposal is to prove the viability of siting small to medium-sized biomass facilities throughout the county that could handle a range of urban and forestry waste and subsequently produce electricity for local use. Pioneer and Wisewood believe this model would allow for individual biomass facilities to be located closer to the source of fuel (reducing transport costs and associated environmental impacts) and could also be located close to key electrical transmission nodes. This project is still in the planning stages and the WPWMA has not yet entered into any contractual relationships.

Finally, the WPWMA has been approached by an entity with a preliminary concept to develop a co-located anaerobic digestor (AD) and woody biomass facility. The AD facility would process non-woody biomass materials including food waste, sludge, and other similar organic materials while the biomass facility would process both urban and forestry-type wood wastes. The entity proposing the concept believes that the two systems could work symbiotically to optimize the production of pipeline-injectable renewable natural gas, fertilizer products for agricultural applications, and hydrogen fuels for vehicle or similar fueling applications.

Relevant Links: https://wpwma.ca.gov/

iv. Marin Wildfire Prevention Authority

MWPA is a JPA funded through Measure C, a ten-year parcel tax estimated to raise $19 million annually. It was formed as a cross-jurisdictional authority for the Marin County area to advise and administer fire safety and preparedness efforts. It is predominantly made up of fire districts and includes 17 member agencies.

Their budget is broken down as follows: the projects featured on the MWPA website are cross-jurisdictional projects known as "Core Projects" (60% of MWPA budget) as well as Defensible Space and Home Hardening projects (20% of MWPA budget); the remaining 20% of the budget goes to MWPA member agencies for Local Wildfire Prevention Mitigation projects (Local).

Vision Statement: Marin Wildfire Prevention Authority communities are informed, prepared, fire-adapted, resilient, and capable of withstanding a major fire limiting the loss of life and major property damage while protecting our rich environmental diversity.

Mission Statement: The Marin Wildfire Prevention Authority leads the development of fire-adapted communities using sound scientific, financial, programmatic, and ecological practices, vegetation management, community education, evacuation, and warning systems with the support of its member and partner agencies.

The primary **goals** of this organization include:

1. **Vegetation Management:**

   MWPA's vegetation management programs are designed to reduce hazardous fuels and achieve measurable fuel reduction as outlined in their CWPP (Community Wildfire Protection Plan). They provide funding for specific local wildfire mitigation projects within each member's service area. Determining the appropriate level of vegetation management in each area is based on the best available science and the needs of the individual areas in question. The stated objectives of this project realm include maintaining appropriate levels of vegetation in the wildland-urban interface (WUI), wildlands (200 feet from roads), along roadsides, and along fire roads. These types of projects may vary depending on wildfire risk, proximity to communities and roads, vegetation type, topography, etc. MWPA assists member agencies during environmental compliance for core projects to ensure compliance with local, state, and federal environmental laws and regulations.

2. Detection, Alert, and Evacuation:

MWPA administers programs to improve detection, alert, and evacuation systems with Measure C "core funds" (60% of their budget) for cross-jurisdictional projects. Other projects are funded through local funds. Some project examples include evacuation ingress/egress risk assessments and subscriptions to warning programs.

3. Grants:

MWPA has a resident grant program that pairs with their defensible space and home hardening evaluation program to help residents remediate issues found during fire-safety home inspections. These grants will assist the community and reduce the burden of creating defensible space around homes, focusing on those with access, disability, and financial need.

d. Public Outreach and Education:

MWPA works with partners to share specific, actionable, measurable, and verifiable information and assistance to support the public role in creating fire-adapted communities, reducing risks, and minimizing disaster impact. Fire Safe Marin is its key partner for this work.

5. Defensible Space and Home Hardening:

MWPA and its partners provide technical resources to conduct defensible space evaluations to help residents protect their homes. They provide follow-up assistance (through the grants program) to alleviate the financial burden of addressing these upgrades.

A working group of the Marin Wildfire Prevention Authority/Ecologically Sound Practices Partnership has started a Biomass Recovery study, working in concert with resource haulers and processors, to identify responsible ways to manage the increased amounts of organic material being generated by both wildfire prevention activities and curbside collection programs. The Biomass Recovery study is based on the solution/proposal endorsed by Drawdown: Marin, a county-wide campaign to reduce greenhouse gas emissions dramatically and prepare the County for climate change impacts.

The objectives of the study are:

- To conduct a biomass inventory for the entire county (starting with data from all those who are managing biomass).
- To connect and collaborate with waste managers in Marin and Sonoma Counties.
- To conduct a feasibility analysis on biomass recovery pathways.
- To conduct an optimization analysis on biomass recovery options to assess GHG emissions and sequestration.

- To implement findings in a pilot project or existing resources.

Relevant links:
https://marin.granicus.com/MetaViewer.php?view_id=33&clip_id=9768&meta_id=1034220

v. East Bay Hills Efforts to start a Wildfire Prevention Authority

The effort to form the East Bay Wildfire Prevention and Vegetation Management coalition is a grassroots effort of community organizations in partnership with county staff and elected officials. Initially, the group secured endorsements for a potential JPA and made preliminary presentations to elected bodies and commissions to obtain support for a joint resolution that will allow local jurisdictions to explore the formation of the JPA.

From December 2021 through July 2022, more than 20 jurisdictions and agencies participated in several workshops for jurisdiction and agency representatives to explore and consider a governing structure, goals, funding strategies, and implementation approach. These workshops resulted in the nomination of a smaller working group composed of both fire professionals and elected officials from Alameda and Contra Costa Counties, and the Cities of Berkeley, Oakland, Richmond, and Pinole.

In the fall of 2022, the working group made the recommendation to pursue the development of a Memorandum of Understanding (MOU) in lieu of forming a new JPA. In November 2022, a law firm was retained to negotiate the MOU Agreement. The drafting of an MOU is seen as a first step to coordination. There is some potential for a JPA to be formed in the future once all members have built trust with one another. This hesitancy is believed to be primarily around fire agencies' concern about losing control of incidents and approaches to fuel reduction, and there is some skepticism about whether a new agency is necessary.

Relevant links: https://eastbaywildfirejpa.org/

G. Conclusion

These examples illustrate how flexible the JPA law allows local governments to be when it comes to providing public services. As mentioned earlier, there are thousands of JPAs in the state, but currently, there does not appear to be a JPA in the study area that could be used to incorporate the ideas of forest biomass removal, management, and disposal. As such, the exploration of new JPA entities is warranted, as well as considering other institutional arrangements. Funding these entities and their activities is an important part of any review, and shall be covered in the next section.

SECTION THREE: COULD A JPA IMPROVE FOREST BIOMASS FEEDSTOCK SUPPLY CHAINS?

The need to expand infrastructure for biomass processing is recommended by recent Statewide strategies to reach carbon neutrality by 2045. In December of 2022, the California Air Resources Board (CARB) approved its latest AB 32 Scoping Plan, which will significantly guide greenhouse gas (GHG) reduction strategies throughout the State. The Scoping Plan calls for treating 2 – 2.5 million acres of forests, shrublands/chaparral, and grasslands annually with regionally specific management strategies, including prescribed fires, thinning, harvesting, and other management actions. The 2022 Scoping Plan anticipates that these activities will restore health and resilience to overstocked forests, prevent carbon losses from severe wildfires, reduce health costs related to wildfire emissions, and improve water quantity and quality. This will likely drive further increases in forest management activities and biomass waste that will need disposal. The report specifically names the need to expand infrastructure for biomass removal from these types of "climate-smart management" (Scoping Plan, page 252).

The goal of the proposed entity is to cover costs and enable the expansion of biomass outlets to support additional acres treated in areas with high wildfire risk. This goal is complicated by a number of factors. Ultimately, the option for JPAs to effectively improve forest supply chains comes down to properly placed incentives, ensuring long-term risk hedging, and strong participation from various actors along the supply chain. Above all, this solution has the advantage of government partnerships, like JPA entities, not needing to make profit, having voluntary participation, and not replacing existing businesses. Below we look at the nuance of each of these aspects.

A. Background

Barriers to biomass utilization have been well documented throughout the West over the last two decades (Becker, 2010; Sundstrom, 2013; Nicholls, 2018; Dysthe, 2021; Sanchez, 2022). The two primary barriers that have dominated California's forest supply chain are (1) high costs of biomass removal and low value of end-use products, and (2) lack of guaranteed feedstock supply to support the development of new wood utilization businesses.

In order to understand these barriers at a regional level, this Pilot has drafted The Shasta OPR Market Capacity Assessment (MCA), which goes into depth on the net availability of biomass based on current market conditions for the region. The region contains six bioenergy facilities ranging from 15 to 55 Megawatt (MW) in size, four of which participate in the subsidized Bioenergy Renewable Auction Mechanism (BioRAM) program. The region also contains seven sawmills. In a region that already has one of the most mature biomass supply chains in the State, there are still over 200,000 bone dry tons (BDT) unutilized per year on a reliable basis, or over 1,000,000 BDT in five years. When incorporating more favorable market prices for biomass from new facility development, this number could easily magnify by two or three. The fact that a supply chain of this caliber still generates large amounts of unutilized biomass illustrates the scale of the issue at hand. Amid statewide goals to treat one million acres per year of private and public forestland, regions with currently no biomass outlets would have to reach and surpass the processing capacity of the north eastern Sierra Nevada region to achieve their proportional share of the State's goals for forest restoration.

Adding new infrastructure and/or expanding existing infrastructure to handle expected increases of residue from fuel reduction treatments will be necessary, especially as the State's goals aim to at least double the scale of the forest sector to achieve their carbon neutrality goals. However, prospective wood product businesses face high barriers to market entry in California and often face a nearly 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 (CLERE, 2021).

The next section will focus on how a JPA could manage price volatility in biomass markets to promote the use of long-term contracts, and will discuss how we can learn from sophisticated energy market contract mechanisms when procuring forest biomass. By using a newly developed model to develop a price control mechanism, there may be a way to address both the price and long-term supply issues in a single contract template, and allow both loggers and end-user wood utilization companies to hedge their risks over the long term. Other key factors identified for any JPA success includes providing insurance tools, third party environmental review, and other related services for those who are a part of this market.

B. Contract Template Innovation: A Publicly Managed Price Mechanism

i. The Price Problem

A key driver when deciding to conduct fuel reduction projects continues to be whether merchantable timber will be removed and whether there is a favorable timber price at the time of harvest. Consequently, the economic feasibility of removing biomass from operations is tied to timber price. As such, management actions that target fuel reduction often try to incorporate high-value sawlogs into a harvest to generate sufficient revenue to cover the costs of biomass removal.

Revenue generated only from biomass removal (i.e. fuel reduction projects) does not cover costs, and therefore, a variety of policy incentives have been created over the years to address this issue (The Beck Group, 2019, Swezy, 2020). These policies and their related funding streams have mostly targeted upstream forest treatment implementation (aka. cutting the tree) or tail-end wood utilization (aka. bioenergy or non-construction-based wood products). Due to effect of the subsidies acting on either side of the supply chain, a natural tension has developed between the buyers and sellers of biomass. Should loggers or landowners pay for the costs of biomass removal when they receive CAL FIRE, NRCS or FEMA-based subsidies to perform treatments? Or should it be end-user facilities that receive an incentivized Power Purchase Agreement (PPA) for utilizing high-hazard feedstock? As most actors in this supply chain are profit-maximizing enterprises, identifying a way to cooperate and share the cost burden will be essential moving forward.

a. The Cost of Biomass Removal

The cost of biomass removal ($/BDT), and the price for biomass purchased as feedstock by an end-user ($/BDT) are the two components at play in this market. A well-understood "financial gap" occurs when the price for biomass fails to cover the costs of operations, and has been the subject of many discussions over the last several years. External markets exacerbate the difficult economics of completing fuel reduction treatments and biomass removal as well (e.g., diesel price, the commodity price of lumber, etc.). Eventually, factors on both the demand-side (off-taker) and supply side (supplier) impact forest landowners' willingness, options, and ability to manage their land. These factors which effect price stability in markets makes landowners

hesitant to manage their lands. Without the landowner's confidence to enter into fuel reduction projects, long-term feedstock contracts are not possible.

In 2021, Camille Swezy developed a harvesting cost model (HCM) for forest health treatments being conducted on National Forest System (NFS) lands located in Plumas County. For one harvest, the cost of biomass removal and hauling from an integrated harvest to a nearby proposed mixed wood campus was estimated to be $67/BDT when including a 30% overhead charge to account for administration, insurance, and profits to logging operators. CLERE Inc performed a sensitivity analysis on the model developed by Swezy (2021) to illustrate how prices may be impacted by a variety of factors. When only examining a 15% deviation from baseline, some of the largest levers attributed to biomass costs are the following: operator productivity, contractor haul rates, diesel prices, and travel time. Cost sensitivity to these variables were confirmed by other academic research (Chang, 2023; Berry, 2018; Kizha, 2016). These four aspects of the HCM are highly dependent on each other and as such are hard to separate as salient variables. However, these four factors are central to determining reasonable prices for biomass, or at least, a reasonable starting place for the negotiation of a long-term feedstock supply agreement. How often the price is updated, and at what sensitivity points might a change be triggered are details that should be further explored when considering the build-out of this concept, which are explored below.

These four factors are central to determining reasonable prices for biomass, or at least, a reasonable starting place for the negotiation of a long-term feedstock supply agreement. How often the price is updated, and at what sensitivity points might a change be triggered are details that should be further explored when considering the build-out of this concept, which are explored below.

b. Other Considerations that Impact Price

i. Insurance

Overhead fees are included to harvest operations and cover administration, insurance, and profit margins. General liability and associated business insurance rates for loggers have been particularly important over the last several years. Victor Insurance Services is the official contract broker for workers' compensation and liability for the California Logging Association (CLA). They require 3 years of operations (or equivalent experience) and 4 years of loss runs before they can underwrite (Victor Insurance, accessed: January 2023). With requirements to initiate insurance and with costs to maintain logging companies being so high, it can be particularly hard to start a new logging company.

Currently, the industry standard overhead surcharge is 30% of base costs (Swezy, 2021). However, if insurance costs increase, costs may pass through to the delivered biomass cost, thereby widening the financial gap between buyers and sellers. However, these considerations are hard to analyze and were therefore not included in the above sensitivity analysis. The team will explore how to incorporate these considerations into a pricing mechanism when further information is provided to improve the modeling of these costs.

ii. Subsidies

Policy tools like grant subsidies or lucrative PPAs are widely used to incentivize fuel reduction projects. While facilities must battle with economic performance due to feedstock cost variability, PPAs have been used to provide guaranteed revenues to facilities that procure high-hazard fuel as defined by CAL FIRE. However, existing facilities have begun to lower their payments for feedstock if they are aware that a supplier receives a subsidy to remove biomass. While it makes sense why facilities would not want to pay market rate for feedstock that is already being subsidized for removal, this essentially nullifies the purpose of the subsidy to the supplier (to remove additional biomass that would have otherwise not been removed). Consequently, any feedstock contract that extends beyond 10 years will need to withstand subsidy variation. The following section will provide some tools which have been used in the energy sector to overcome these issues.

iii. Harvest Activities Impact on Market Price

An issue that could complicate things further is the potential for an increase in treated acres (driven by state and federal goals) to lower lumber prices. While there is no publicly available research yet on how these goals may have this potential consequence, it is well understood that large disturbance-based events (i.e. post-fire salvage) or heavy management of large industrial forests can drastically alter lumber prices. Consequently, this may discourage landowners from conducting an integrated sawlog with biomass harvest to realize a better value for their timber at a later date. However, it may also be the case that California's sawmill capacity is more of a determining factor of lumber prices rather than disturbance based events. This will need to be acknowledged and incorporated into market solutions.

c. Modeling the Purchase Price of Biomass

When we apply the costs to remove and haul biomass from Swezy's model ($67/BDT) to the current biomass price range offered at a facility ($45 - 55/BDT) we see there is a gap of $10+/BDT. This has been the source of many policy interventions over the last decade including American Forest Foundation's Forest Biomass Transportation Incentive (FBTI) and CALFIRE's new transportation subsidy. The problem continues today and is exacerbated by state goals to treat 1 million acres per year starting in 2025. A new decision support system from University of California Davis (UC Davis) researchers focuses on the economic viability of biomass facility infrastructure based on feedstock cost sensitivities that could be slightly modified to provide a basis for an agreed upon regional price.

In 2020, UC Davis researchers began developing an integrated economic and environmental decision support system to allow users to quickly evaluate the economic feasibility and environmental performance potential when siting a biomass utilization facility in California. It is currently under beta-testing and validation and is referred to as the Forest Resources and Renewable Energy Decision Support System (FRREDSS). In its many features, FRREDSS offers the ability to calculate a 20-year cash flow model with sensitivity to feedstock costs, in addition to a comprehensive life cycle assessment. It relies on the source code of the University of Colorado's Fuel Reduction Cost Simulator (FRCS) to calculate the costs of biomass removal (Fight, et al., 2006). FRREDSS also uses a transportation model to identify hauling costs. A user interface has

been developed for users to select a location on a map and input a potential facility's coordinates into the model.

The FRREDSS model can be particularly useful in understanding how much biomass material would be available to a facility under certain price conditions. For example, it has the ability for users to customize aspects like hauling wage, diesel prices, and harvest systems just to name a few. The model then calculates how much feedstock procurement costs would be based on forest biomass data from a modeling framework that integrates Forest Inventory and Analysis (FIA) data from the US Forest Service (USFS), the Forest Vegetation Simulator (FVS), and FastEmap (Field and Satellite for Ecosystem Mapping) in the surrounding area. Over time, feedstock costs increase due to the facility's interest to optimize the least-cost feedstock first.

This is important because both facilities and loggers are interested in the same goal: consistency. Logging operators want a reliable place to send the material to but are faced with the risk of facilities undercutting the full cost of operations. Meanwhile, facilities want a reliable stream of feedstock to be sent to the facility but may face supply insecurity for some percentage of their total feedstock requirements due to the price they need to pay for it. Both entities would benefit from hedging their risk. The FRREDSS provides a space to look at what an average price over 10 years may look like for both entities to trade biomass. This has been done in several ways in the energy sector for decades and offers the opportunity to bring price stability between these two entities.

ii. The Recommended Solution to the Price Problem: Formula Rate Contract With Collar (FRCWC)

The wholesale energy market is built on highly sophisticated contracting mechanisms to hedge risk over the long term. The forest-based feedstock procurement market for biomass utilization is plagued with similar long-term risk issues. Learning from existing energy-based market mechanisms may help with the goal of price stability along the biomass supply chain.

The central concept to helping both sides of a feedstock agreement reach a level of comfort in signing a longer-term contract is price stability. As we discussed above, supply can be inconsistent. Finding a path forward to allow for known contract pricing for biomass is critical. To do this, a central buyer market design could be used to control the price offered on 60-90% of the biomass over the life of a 10-year contract. This could leave something like 10-40% of the feedstock price to be uncontrolled (ie. purchased on the spot market) to allow for some opportunities to make (or lose) money on feedstock. These percentages would be based on how much the off-taker deems as "hard to procure" or "high-risk." These numbers would be communicated during contract negotiations. Similarly, a logger may be interested in having a guaranteed buyer for 60-90% of the biomass it produces. It would have the option to enter into an agreement with the off-taker, and then have market prices dictate where it would be able to haul the remaining 10-40% of its biomass.

The goals would be for an entity handling these contracts to seek out partners who have the same risk tolerance and pair them for potential long-term agreements. In order to identify a price through a forward contract, an agreed upon formula rate might be developed. Below we describe this concept in more detail.

a. First, set a formula rate for a percentage of the feedstock covered by the contract.

A formula rate is an agreed upon financial model—often used by utilities—that update inputs to calculate a charge or rate for service, such as the electricity charge per kWh. Many of the inputs are fixed but some are variable (cost of capital, depreciation, revenue requirement, interest rate etc.). These updates may directly tie into real time market data, or if the utility wants to change any fixed inputs, it can be submitted to the regulatory body for review and possible approval. If the inputs are approved, then they get plugged into the previously approved formula rate model and the new charges for the next year are adopted. Note that the formula does not change, just the variable inputs and the resulting charge. In this case a "regulatory body" for the purposes of these contracts must be identified to make this price mechanism work. Such a body should be a public agency to ensure transparency, rationality, and equity.

b. Additionally, we need to place a "collar" on the formula rate.

Generally, a "price collar" is used to limit price variability to within an acceptable range. In business and investments, a collar agreement is a common technique to "hedge" risks or lock-in each range of possible return outcomes. Effectively, a collar sets a ceiling and a floor for a range of values: interest rates, market value adjustments, and risk levels. This can be employed to ensure that off-takers are not taking advantage of suppliers who are subsidized through things like CAL FIRE or FEMA-based grants. One potential application of the collar could be to tier PPA contract offerings similar to a tax bracket. If a facility receives over a certain amount in PPA, then they must provide a minimum $/BDT to the logger.

c. A Formula Rate Contract with Collar (FRCWC)

Combining these two concepts into one contract provision could reduce and define the amounts of financial risk that both parties would be subject to for the term of the contract, allowing parties to understand the potential for return on investment and business model outcomes. The essential component of this new provision would be an indemnification term that would be associated with an insurance product that is adequately protected against the risk of the lack of feedstock or disappearance of the biomass offtake business.

iii. Caveats and Conclusion

Please note that this contract methodology is geared towards Licensed Timber Operators and related businesses, rather than non-commercial timberland owners. Private timberland owners would more likely need to use different factors to negotiate prices if they want to directly sell their biomass to bioenergy or wood products businesses in their area. Local governmental entities who would benefit from this new price contract mechanism are those who might own a facility, take control and sell biomass directly, lease out equipment, or lease land to offtake facilities. Even an entity that is only planning to be a matchmaker for the wood handlers and the entities would benefit from having this stable price available to base negotiations. In most cases, this new contract methodology that we are describing would need to be managed by a public agency of some kind and absorb the costs of the contract risk associated with this tool, which will now be discussed.

C. Contract Indemnification and Insurance Innovation

The Risk Problem: Insurance for feedstock supply contracts (separate and apart from other insurance products)

As mentioned earlier, insurance availability and cost can have an impact on biomass price. The reliability and capability of a business to execute a long term feedstock supply contract is also hampered by indemnification requirements. To support businesses on both the supply and the demand side of wood products, an innovation could be used to strengthen confidence in contracting is JPA provided insurance geared at indemnification risk. Potentially a JPA could rely on **insurance pooling** techniques that have been used in the past by agencies for self-insurance and personnel-associated risks. More research needs to be done to understand if the JPA would need to be a party to the feedstock contract, or could simply facilitate insurance products for third parties. If insurance risk could be reduced through pools held by a JPA, this could significantly improve business outlooks. Note that this tool could be made available in conjunction with the price mechanism provision innovation discussed in the previous section, or could be made available separately.

Another insurance issue comes from reports in the field indicate another challenge related to insurance are the costs and availability of new insurance policies for newly trained truck drivers. Policies covering in-forest activities are equally as expensive. Looking at other ways to provide reduced or subsidized insurance products for wood products businesses is another potential role of a JPA or other such entity.

Finally, there is the tangentially related issue to forest biomass supply chains, which is largest insurance issue of all: homeowners insurance in forested areas. Potentially a JPA could not only manage biomass feedstock aggregation but also provide for private land owner insurance-possibly in partnership with the State of California. If there is interest in creating such an entity, research is needed to explore the concept further.

D. Environmental Review, Business Support, Equipment Leasing, Owning Infrastructure and Other Services

A JPA could provide one or more of other services for landowners, forestry professionals, wood products businesses, tribes, local agencies, and non-profit organizations to overcome additional challenges these entities face when implementing forest health programs and biomass removal and utilization.

i. Environmental Review

One such service could be the provision of **environmental review** for different aspects of a given project, whether this is to comply with the state law known as the "California Environmental Quality Act" (CEQA), or the federal law called "National Environmental Protection Act" (NEPA), which both play a role in most of the activities that are part of a biomass feedstock supply chain. There is a significant lack of staffing at the USFS to conduct the environmental planning that is required to complete fuel reduction projects on federal lands, which

slows down progress. Additionally, this kind of review can be very expensive and seemingly complex for private non-industrial timberland owners. A JPA could provide these environmental review services at a reduced fee that would entice more entities into performing fuel reduction and forest health projects, and could also potentially contract that work out to local non-profit or consultant groups that may have skills in these areas.

ii. Business Support

Another idea that has been contemplated is the provision of other **business support-related services**, like assisting with business plans, feedstock analysis, market analysis, and/or financial modeling; connecting businesses with finance professionals or suitable lending programs; and, offering key technical assistance such as consulting Registered Professional Foresters, third party engineering reviews, and financial or legal counsel, to name a few. These types of business support services could assist new loggers, bioenergy or wood utilization facilities, small landowners, or tribal enterprises who are involved in the sale or purchase of timber or biomass.

Centralizing grant research, request, and administration using a JPA could boost businesses, local governments, tribes, and non-profit organizations. These potential services would improve coordination among those pursuing funding, avoid duplication of efforts, and reduce competition. This would, in turn, limit the number of precious resources a given entity expends to secure grant funds. Consolidated grant support could also provide capacity where it is currently lacking, namely grant writing, administration, and financial reporting, and create a more comprehensive and sustainable approach to the region's forest health programming which may serve to attract future large-scale investments. In certain circumstances, a centralized entity motivated to organize around funding can adopt business competitions to spur new business opportunities, as exemplified by the Northern Sonoma Air Pollution Control District's (NSAPCD) BioBiz Competition. While NSAPCD was not affiliated with a JPA, their BioBiz Competition was an intergovernmental, community-driven effort that awarded two businesses over $45,000 to start their company.

In a similar vein, a JPA entity may offer assistance for workforce training and development to meet the region’s current and future forest sector needs. The JPA could do this by connecting entities to programs already in existence including those led by Shasta College, the Sierra Institute for Community & Environment, and GoBiz, among others, which could train and certify individuals for a diversity of job classifications (e.g., sawyers, fire practitioners, heavy equipment operators, truck drivers, licensed timber operators, forestry technicians, etc.). If desired, the JPA itself could also spearhead its own workforce training program though it would be important to avoid duplicating efforts with others working in this space.

iii. Equipment Leasing

Another possibility is that a JPA entity may **own equipment and lease** it for use in the field to those who have met certain training regiments. The JPA could be responsible for equipment maintenance and could carry the insurance to offset those business expenses. This type of arrangement could reduce the financial strain for entities working in the woods, improve their chances of long-term success, and decrease their working capital needs, while at the same time strengthening their ability to perform and potentially expand their forest management and fuel reduction activities.

iv. Owning Infrastructure

Many JPA entities own and manage public infrastructure. Examples exist in the context of irrigation and water JPA agencies, waste management JPA agencies and transportation systems JPA agencies. In this context, financing tools, including attractive federal tax credits that will be discussed further in Section 4 below, could be utilized. The possible benefits of owning public infrastructure is removing the needs for high profit margins, the transparency and support for biomass feedstock coming from closely overseen sources, and the efficiencies of regional coordination. Additionally, these facilities could be public/private partnerships. The benefits of publicly owning biomass conversion or wood products facilities should not be overlooked.

v. Other

A JPA could also provide mapping, software, or other computing services associated with biomass feedstock utilization. This may include deploying a feedstock aggregation and mapping tool which is currently under development at Cal Poly San Luis Obispo. The tool can help to facilitate individual forest landowners to remove excess biomass from their land while at the same time assisting forest sector businesses and facilities to estimate potential workflow, the volumes of available material, the cost of service and transportation, and staffing needs to remove material and transport it to a facility for utilization. Taken together, a JPA's exercising of this tool may enhance the removal of excess biomass from non-industrial private lands.

Under California's Short-Lived Pollutant Reduction law (SB 1383), every jurisdiction must provide organic waste collection services, including green waste, beginning in 2022. A theoretical JPA may support compliance with this law by aggregating green waste, together with forest residuals, and facilitating its disposal through the JPA's fuel supply contracts with biomass utilization facilities. This service could be particularly helpful to local governments by limiting the costs of equipment, transportation, storage, administration, and reporting.

Another aspect of such a management entity is the possible role that such an entity could play to increase the confidence of federal land managers to work with local partners in the region. The Entity could provide training and technical support, funding, and even help negotiate contracts between landowners and suppliers. These relationships between suppliers (USFS, for example) and sellers (Licensed Timber Operators) would strengthen the regions chances for a more stable arrangements between buyers and sellers of the biomass.

There are most likely even more ways that a JPA could serve the needs of those involved in the industry than just those mentioned here, which should be further explored.

E. Conclusion

There are many different reasons that a group of local entities may choose to start a JPA or similar entity. When it comes to the management of biomass waste from forest health and fire reduction activities, the key issues to solve include contract price and insurance mechanisms, and the provisions of other environmental services. How these tools are delivered, and to what degree of involvement by the new entity, are up for discussion, and are outlined in the following Section.

SECTION FOUR: DISCUSSION DRAFT MODEL ENTITY APPROACHES

Central recommendation: All approaches below involve managing the price mechanism and negotiating FRCWC with enhanced all-party indemnification. Approaches A-C could be combined in various ways and involve the creation of a new Agency.

Approach A – "A Public Infrastructure JPA" A JPA is formed to be directly involved in funding public infrastructure like a biomass utilization campus, a sort yard, or biomass conversion or utilization facilities.

As the most comprehensive of the options, this would establish a JPA that would own or manage the development of a wood utilization facility. They would then enter into contracts with feedstock providers (e.g., landowners or forest sector contractors) using the new FRCWC or other contract mechanisms. This JPA would likely look to use public property belonging to one of its members, or could also involve leasing private lands to serve as a host site for the desired infrastructure. Most likely this would be a public/private partnership that would involve participation from the private sector, but the JPA itself would be made up of government agencies only. As government agencies do not seek profit but only need to ensure that projects meet costs, this pathway forward could be a viable option in the wood-rich northeast part of the state.

Funding for Approach A:

An important and innovative opportunity at the federal level became available in 2022 through the Inflation Reduction Act that could offer significant financial benefits to a JPA that takes this approach. Certain applicable entities, which clearly include state or local government (including a Joint Powers Authority with members of a local government) could develop a facility and then elect a "direct pay option" for close to a dozen renewable energy-related credits covered in the bill. The direct pay option allows for the JPA, in this case, to opt to receive the value of the tax credit as cash money, instead of as a tax deduction. This is far preferable for a public agency that has no tax liability.

A second pathway under this bill is that taxpayers (i.e., private project developers) may also elect to transfer the energy-related credits covered in the bill to an unrelated taxpayer. The transferred credit must be exchanged for cash and is not included in the transferor's income, nor is it deductible by the transferee. The transferee also cannot further transfer any tax credits it received in a transfer. This pathway does not appear to be relevant to a JPA but it could become relevant if the IRS makes an interpretation described below.

Direct pay in either scenario is available on a facility-by-facility basis and must be made in the taxable year when the facility is placed in service. Once elected, direct pay applies for the entire credit period. However, for the Clean Hydrogen Production Credit, Carbon Capture Credit, and Advanced Manufacturing Production Credit, the "applicable entity" restriction does not apply to the first five years of these credits for any taxable year before December 31, 2032. Additionally, domestic content requirements also must be met for direct pay eligibility, which is (i) 100% of any

steel or iron that is a component of the facility was produced in the United States, and (ii) 40% of manufactured products that are components of the facility were produced in the United States.

Two issues of interpretation are currently under review at the IRS. First, whether an "applicable entity" is broadly a "tax-exempt entity" which could go beyond local government to include non-profit entities under 501(c). Second, whether the transfers of tax credits (by private developers) to an "applicable entity" then turn those credits in for cash, even though that entity has no ownership interest in the facility. The first scenario would allow a broad array of non-profit organizations to get involved in the development of renewable energy projects, and the second scenario would allow local governments to support private development by buying the tax credit associated with a new facility and then reimbursing itself through the direct payment process. No direction has been issued by the Federal Government on these two issues at this time but it will be important to follow, especially the second issue, as that could allow for flexible financing with JPA entities.

Other more traditional funding mechanisms such as bonds, TIF, or other government-sourced indebtedness could also be used to support such projects, as well as fees, assessments, or self-imposed parcel tax measures. The only approach where bond authority is really relevant. General Obligation bonds through the counties would also be another source. Grant dollars from state and federal sources, as well as possibly seeking more long-term endowments or support from the private sector could also be possible. A public-private partnership with investors and local businesses could also support Approach A.

Discussion Points for Approach A:

Would there be interest in communicating with the City of Redding and Shasta County (and possibly also Modoc and Lassen Counties) in joining together to create one of the facilities listed above? Measure out risk and reward opportunities and community desire to develop workforce and wood utilization culture in an organized way. Does this region want to lead the state on the new wave of wood markets and local business development?

Approach B "A Services JPA" – A JPA is formed to provide a menu of community services and may own equipment to lease to new businesses or the community.

This approach would involve the new JPA Agency providing the contract management for the new FRCWC template, and would manage that price structure and contract. JPA staff could also provide a menu of other services, such as forest management planning that could include environmental review under CEQA or NEPA, insurance resources for land owners and wood products entrepreneurs, green waste program management, or connections to commercial lending professionals. Staff for the JPA could also serve one-to-four-year stints at USFS offices under the Federal Intergovernmental Personnel Act which could significantly improve USFS fuel reduction and land management activities (IPA, 1970). Such a JPA could also support workforce development activities in the wood products industry. This could include not just educational support, but helping newly trained employees obtain insurance, and even possibly equipment. The JPA could purchase high-priced equipment that could be leased to businesses or property owners, and then maintained and insured by the JPA to help businesses defray those costs.

All of these activities could also occur at the JPA described under Scenario A. Essentially this scenario is any and all services that the members want to provide, but avoiding any public infrastructure or land ownership.

Funding for Approach B:

Costs for the administration and personnel for such a JPA could be covered through a fees-for-services approach, including costs for contract management and services, but would also likely need some support from the general funds of the member agencies and even possibly ongoing modest support from the state of California. A parcel tax measure could also be used, as discussed in the next Approach.

Discussion Points for Approach B:

Which of the services, besides contract management, would the community see as valuable and utilize? How engaged are rural community members in business development? Could a green waste program work in more rural sections of the region? How would existing nonprofits and RCDs working in this space take advantage of these services? Are the regional forest service offices understaffed or have a difficult time meeting deadlines? What does the community college need to add jobs in this sector, and could the JPA help? How would such a Service JPA align with the state's concept of creating resilience hubs?

Approach C – A Wildfire Prevention JPA.

A JPA could be created with the primary focus of paying for fuel treatment activities and would also require that associated biomass waste that is created from these projects is utilized and not open burned or left to decay and exacerbate fire risk. Such a JPA could also facilitate the use of the new contract template using the developed price structure, or negotiate other agreements between local businesses. Currently, the utilization of the materials is not built into the JPA structure at the Marin WPA, so this would be a new aspect of existing entities.

Funding for Approach C:

In which a fee, assessment, or parcel tax would pay for such activities, see the examples of the Marin Wildfire Prevention Authority (MWPA) or East Bay Fire JPA which are described above. Many grant programs support wildfire prevention activities that could be used to help pay for vegetation management activities.

Discussion Points for Approach C.

Can the existing model in Marin be replicated in all or parts of our study area? Is there interest in seeing consolidated fuel reduction work done on private lands? Would the public lands managers participate and how would prioritization and decision-making work? Would the City of Redding or the county residents be interested in such a Measure? If not funded through a Measure, would they be interested otherwise? Would the group like an in-depth presentation from MWPA?

Approach D – No Entity is Created, JPA Agreement Only: Contract and Insurance Facilitator Only.

Another option would be to create no new entity, but rather, have the local governments enter into a Joint Powers Agreement to help facilitate the use of the contract template and provide third party pathway recommendations to needed risk reduction strategies across their respective geographies. This pathway would likely require a partnership with state and possibly federal entities to help the local agencies pay for this work, and could include such a partnership, which could be modeled after the current Sierra Nevada Conservancy Joint Powers Agreement.

Funding for Approach D:

Funding would likely be from the state through grants or general fund support and local agency contributions.

Discussion Points for Approach D:

How would a partnership with a state agency feel for the community? What are the pros and cons of having the contract prices managed at that level?

Consideration of Resource Conservation Districts Playing a Management Role within Each of the Four Model Options.

In response to the national "Dust Bowl" crisis of the 1930s, the federal government passed legislation in 1937 establishing the Soil Conservation Service (SCS). Shortly after the formation of the SCS, conservationists realized that a federal agency in Washington might not be sufficiently responsive to local needs. Soil Conservation Districts were then formed under state law to be controlled by local boards of directors. In 1938, California generated legislation authorizing the formation of Soil Conservation Districts under Division 9 of the Public Resources Code. These districts assisted landowners with erosion and flood control problems (primarily on agricultural lands), functions originally envisioned by the formation of the SCS. Under Division 9, Soil Conservation Districts were empowered to manage soil and water resources for conservation.

These powers were expanded in 1971 to include related resources including fish and wildlife habitat. This expansion of power was reflected in the change of name from "Soil" Conservation District to "Resource" Conservation District. Districts receiving property tax revenues before the passage of Proposition 13 in 1978 generally continue to receive county-collected property taxes; however, most districts receive very little regular funding through local taxation and rely heavily on competitive grants and other types of fundraising to stay in operation. Today, there are over 95 districts in California that manage diverse resource conservation projects covering more than 85 percent of the state. Within the region, there are five such Districts; Fall River, Pit River, Western Shasta, Honey Lake, and Modoc.

Resource Conservation Districts (RCDs), as defined under state law, could serve as a member of a JPA as they are public agencies as defined by that Act. The only problem with an RCD as a member would be under Approach A, because California's Public Resource Code Division 9 Chapter 1, General Provisions, Article 1 Policy of State, Section 9001(c) restricts power

production and distribution directly. Specifically, the Code states, "The districts shall not conserve water for power purposes or produce or distribute power for their own use or the use of others." Because of this prohibition, and the fact that JPA's are limited by any member with the least amount of authority on the Board, it would not be a good idea for an RCD to be on the Board of a Public Infrastructure JPA that plans to sell any electricity as a product.

That being said, there is precedence for an RCD to enter into a lease or license agreement and hold a separate agreement with a private entity that could generate power, similar to the arrangement with the Marin RCD's co-composting operation, to overcome the prohibition in Section 9001(c) of the Resource Code. In the case of the Marin RCD, it serves as the fiscal agent for a regional co-composting program. The Marin RCD does not own property but instead has partnered with Marin County and Marin Municipal Water District through a license agreement for use of County and Water District lands to provide a space for the co-composting program. The Marin RCD, in turn, holds a professional services agreement with a private entity for commercial operations of the co-composting program on the property secured under the license agreement.

Also, there is the option to explore new possible legislation language that could be legislated to address the current prohibition of power production in the Resource Code and establish a long-term solution.

Another approach that could be applied using RCD entities in any of the approaches is to have the JPA hire the RCD to administer the new Agency. There is nothing within RCD law that would prevent it from providing the comprehensive management services associated with forest biomass collection, transportation, and delivery. Staff could be employees or contractors of the Agency itself or the RCD. There are many creative ways in which such a District could be the "brains" of such an operation if that model was desired in a region. In the case of the Shasta Region at hand, serious consideration of the use of the Fall River or Pit River RCD to play some role in the administration of a new JPA should be considered.

NEXT STEPS

A key group of RCDs, tribal groups, and local government partners, as well as industry leaders and non-profit entities in the region will be convened by the OPR Pilot team to review and consider these four model JPA approaches to feedstock aggregation, to determine whether this region would benefit from such an entity and if the establishment of such an entity would be collaboratively supported.

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