

# Summary of Interview Notes

This summary represents insights from 30 partners interviewed by NCRP across multiple counties regarding biomass utilization and strategy. These perspectives reinforce recurring challenges and introduce additional historical context regarding biomass utilization in Northern California. The major themes shaping the region's biomass landscape include infrastructure decline, market instability, policy and regulatory challenges, tribal perspectives, transportation barriers, and workforce constraints.

The following integrated themes reflect the historical evolution of biomass utilization in the region:

## 1. Decline of the Wood Products Industry and Market Instability

- Northern California once had a strong timber economy, but mill closures, declining infrastructure, and industry consolidation have drastically reduced wood-processing capacity.
- The Mendocino Redwood Company (MRC) experimented with integrating sub-commercial feedstock into timber harvesting, but high costs and transportation challenges made these efforts unsustainable without subsidies.
- Many small mills and biomass facilities have shut down, with Scotia, North Fork, and Blue Lake among the plants no longer accepting external feedstock.
- Market demand has been inconsistent, with fire-damaged wood needing to be harvested within 2-3 years to be viable, but Forest Service delays often make post-fire salvage infeasible.
- Efforts to develop wood product businesses (e.g., juniper wood utilization for fence posts, compressed wood products, biochar, and pellets) have been limited by market uncertainty and lack of investment.
- Despite high demand for wood pellets from France and other international buyers, the region lacks sufficient processing infrastructure to scale up production.

## 2. Infrastructure Loss and Transportation Barriers

- Many former sawmills and biomass plants have closed, leaving large amounts of unprocessed biomass in forests with no cost-effective way to transport or process it.
- Pelletization and biochar production have been explored as alternatives, but transportation remains a critical cost barrier.
- Many rural areas lack access to large chip trucks due to winding, unmaintained roads, making hauling biomass to centralized facilities impractical.
- While mobile processing solutions (e.g., portable mills, pelletizers, curtain burners) have been proposed to reduce transportation needs, they remain costly and underdeveloped.
- Some stakeholders have explored barge and short-shore shipping as a solution for biomass transport, particularly for export markets, but these ideas are still in early feasibility stages.

- In Siskiyou County, an attempt to develop green waste disposal and biomass collection sites was launched, but funding and logistical hurdles stalled progress.

### 3. Tribal Involvement and Policy Barriers

- Biomass utilization remains a contentious issue on tribal lands, with tribes preferring tribally determined projects over outside-led initiatives.
- The Karuk Tribe attempted to develop a 5MW cogeneration plant but abandoned the project due to concerns about non-tribal control and decision-making authority.
- Tribes have expressed interest in sustainable firewood and biomass processing, but federal land leasing restrictions and bureaucratic delays make long-term planning difficult.
- Many tribal partners, particularly the Karuk, Hoopa, and Yurok Tribes, have substantial funding available but lack workforce capacity to execute biomass initiatives.
- Traditional fire management practices, such as low-intensity prescribed burns, have been historically underutilized due to restrictive state and federal fire policies.

### 4. Fire Risk, Biomass Accumulation, and Vegetation Management

- Decades of fire suppression and lack of active forest management have led to massive biomass accumulation, increasing wildfire risks.
- The Karuk Tribe's Fireshed Model (2005) proposed community-driven fire resilience buffers, but these efforts failed to gain long-term traction.
- Many fuel reduction projects lack maintenance funding, leading to reaccumulation of hazardous fuels within just a few years.
- Permitting and regulatory complexity slows down biomass removal efforts, making it hard for landowners to conduct fuel reduction treatments efficiently.
- Some landowners have explored grazing as a tool for fuel reduction, but regulatory limitations and a lack of infrastructure for managed grazing programs have prevented wide scale adoption.

### 5. Emerging Biomass Technologies and Markets

- Various new biomass products and technologies have been tested, including:
  - Compressed wood panels for fire-resistant building materials.
  - Pellet production for export markets, though infrastructure remains insufficient.
  - Curtain burners and small-scale bioenergy units, but with limited grid integration.
  - Cross-laminated timber (CLT) and alternative wood construction materials, requiring further market development.
- While interest in small-scale biomass energy solutions is growing, securing long-term feedstock supply and financial viability remains a challenge.
- Many California companies are interested in biomass insulation, siding, and engineered wood products, but struggle to navigate California's regulatory and permitting landscape.

## 6. Need for a Coordinated Regional Biomass Strategy

- Past biomass initiatives have suffered from poor coordination, fragmented funding sources, and lack of a unified regional strategy.
- Fire Safe Councils (FSCs) and Resource Conservation Districts (RCDs) have worked in silos, making cross-county collaboration difficult.
- Some stakeholders have proposed a centralized entity to aggregate and process biomass, but securing financial investment and long-term operational stability remains a challenge.
- Sonoma and Mendocino counties have begun developing regional biomass utilization roundtables to bring stakeholders together, but progress has been slow.

## 7. Other Challenges and Considerations in Biomass Utilization

Beyond infrastructure, market instability, policy barriers, fire risk, and workforce shortages, several additional factors have shaped the history of biomass utilization in Northern California.

- Regulatory restrictions complicate small-scale biomass businesses. In Siskiyou County, firewood businesses have been shut down due to Williamson Act restrictions, which prohibit commercial activity on certain private lands.
- Public misunderstanding of biomass utilization remains a barrier. Many residents don't distinguish between pile burning, biochar production, and controlled burns, leading to misconceptions about air quality and emissions.
- Workforce training gaps limit industry growth. Crews trained in forestry and fire mitigation are in high demand, but lack of training programs for chainsaw work, climbing, and fire suppression prevents further expansion.
- New biomass solutions remain underexplored. Some stakeholders believe that certain forest biomass materials could be used as livestock feed, but no feasibility studies have been conducted. Similarly, small-scale biomass power units for emergency energy generation could provide value but remain undeveloped.
- Better regional coordination is needed to avoid duplicated efforts. Different counties and organizations are working on similar biomass projects but lack communication, leading to missed opportunities for collaboration.
- Landowner participation remains inconsistent. While some regions have seen an increase in willingness to engage in fuel reduction projects, other areas—particularly those with cannabis growers or privacy concerns—struggle to secure participation.

These additional considerations highlight the complexity of biomass utilization efforts and the need for clear communication, policy reform, and better coordination to ensure a viable and sustainable future for the industry.

## Conclusion: Addressing Historical Challenges for Future Success

Over several decades, biomass utilization in Northern California has been shaped by economic, regulatory, and logistical challenges. Many past efforts have failed due to:

- Market instability and lack of investment in long-term processing infrastructure.

- Transportation and infrastructure bottlenecks preventing cost-effective biomass removal.
- Regulatory and permitting challenges delaying project implementation.
- Limited workforce capacity, especially in rural and tribal communities.
- Fragmented regional collaboration between counties, tribes, and industry.

To move forward, stakeholders must align efforts, invest in sustainable infrastructure, and create a coordinated multi-county biomass strategy. By learning from past failures and leveraging emerging technologies, Northern California can develop a resilient biomass economy that supports both wildfire prevention and economic development.