

# The Digital Marketplace

Overview

# Table of Contents

- The Problem
- Software
- Investments to Date
- The Solution: the Digital Marketplace
  - Working Forest Planner
  - Forest Industry Directory
  - Offtaker Portal
- Next Steps

# The Problem

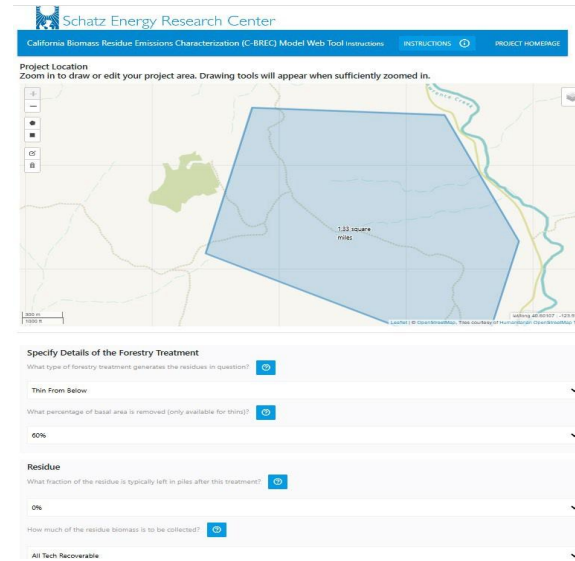
*Multiple tools have been developed to aid in business development, policy, and landscape strategy for wood utilization in California;*

*Additionally, key information on the forest industry, contractor pool, and steps in developing a forest management plan are missing for professional and non- professional audiences;*

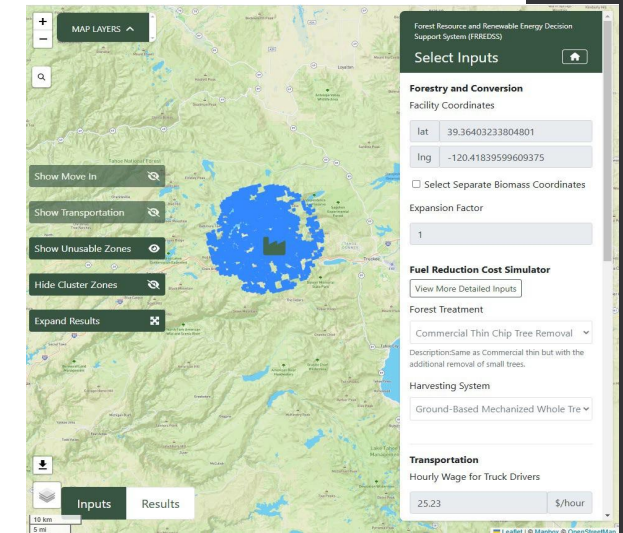
*Integrating existing tools and filling in key information gaps across the forest industry will help improve communication, data exchange, and ideally enable more active participation in forest management across the state.*

# Software

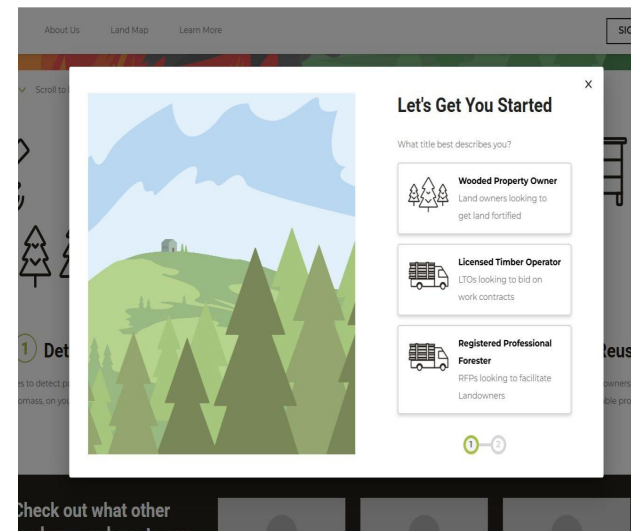
- Schatz Energy Research Center's California Biomass Residue Emissions Characterization (C-BREC), a statewide post-treatment vegetation analysis and corresponding counter-factual analysis to account for GHG and air pollutant emissions from biomass conversion systems.
- UC Davis Forest Resources and Renewable Energy Decision Support System (FRREDSS) is a multi-criteria feedstock supply optimization model to calculate preliminary site assessments for bioprocessing facilities over a 20-year period.
- CalPoly San Luis Obispo Working Forest Planner (formerly "Resilient Sierra") integration platform to harmonize tools, and support small landowner forest management process.
- Loamist proprietary software to support real-time track of biomass markets through an "offtaker" portal.



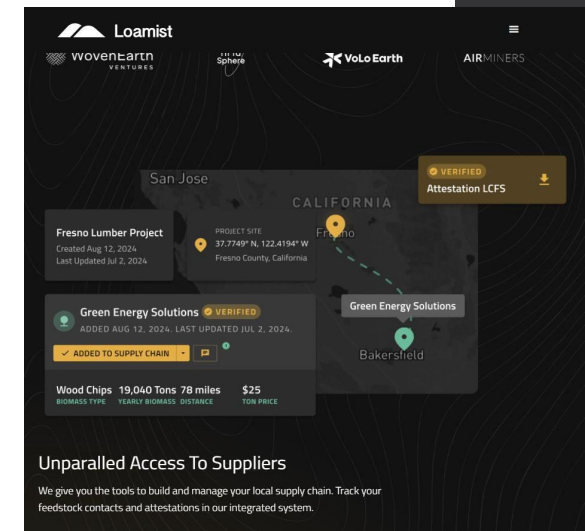
<https://schatzcenter.org/cbrec/>



<https://forestdss.ucdavis.edu/pages/home>



<https://test.rs.calpoly.io/>



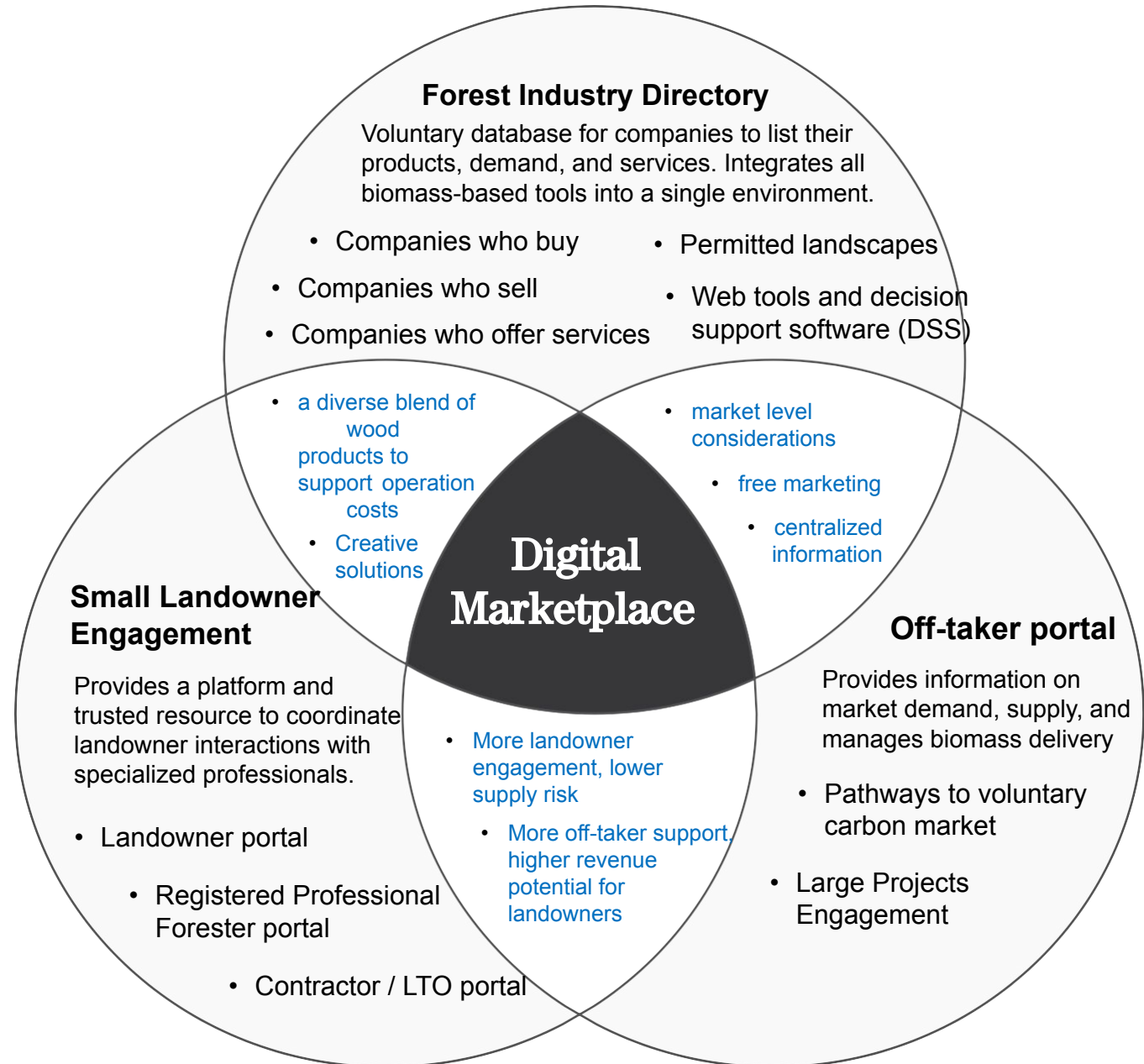
<https://www.loamist.com/>

# Investments

- **Project Funding:** \$1,523,686
- **Project Managers:** Governor's Office for Land Use and Climate Innovation (LCI) and the Watershed Research and Training Center (WRTC) – \$78,280
- **Project Partners:**
  - UC Davis (FRREDSS) – \$238,500
  - Cal Poly Humboldt (C-BREC) – \$314,000
  - Cal Poly San Luis Obispo, Amazon Web Services, ScaleCapacity Inc. (The Digital Marketplace: Working Forest Planner & Forest Industry Directory) – \$457,796
  - Spatial Informatics Group
    - Biomass pile quantification app – \$40,500
    - NEPA/CEQA permitted landscapes (with Ascent Environmental) – \$51,510
  - Loamist (Offtaker Portal, Chain of Custody) – \$204,600

# The Solution

- Helping landowners find contact information on forestry consultants & contractors; improve data transmission between parties; and develop an online presence for contractors;
- Increasing awareness of potential buyers for primary and secondary products at all scales and localities;
- Helping secondary/value-added firms (molding, millwork, furniture and cabinetmakers) find sources of lumber, panel products, and other raw materials;
- Enabling entrepreneurs and architects to find the suppliers and partners they need to commercialize a product/project;
- Providing the general public with information on local producers of lumber, custom cabinets, boughs for wreaths, and much more.



# Working Forest Planner

Small Landowner Engagement

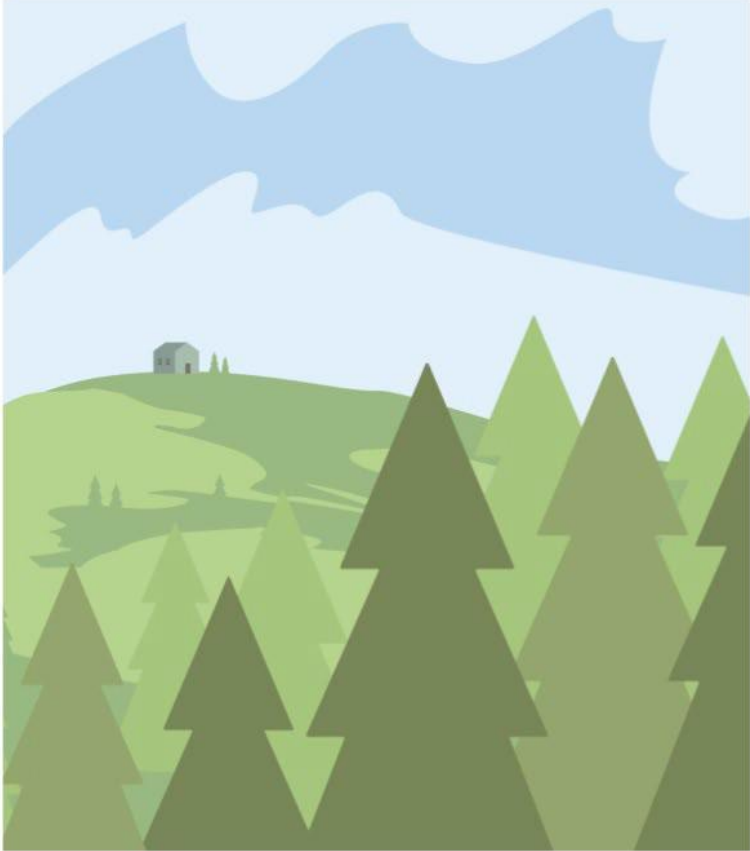
# Goal

## **Motivation:**

*New tools can improve small landowner education and data exchange with RPFs; RPFs could benefit from comprehensive list of contractors;*




## **The Solution:**

*Support the small, non-industrial forest planning and implementation process by facilitating data, resources, and communication sharing between the landowner, RPF, and LTO*



### Let's Get You Started

What title best describes you?

-  **Wooded Property Owner**  
Land owners looking to get land fortified
-  **Licensed Timber Operator**  
LTOs looking to bid on work contracts
-  **Registered Professional Forester**  
RFPs looking to facilitate Landowners

1 — 2



# Landowner Portal

- **Objective:** to enable forest management projects on small, non-industrial private forestlands through a data and resource sharing digital interface.
- **Intended Audience:** small, non-industrial private landowners, especially those participating in the UC Cooperative Extension Forest Stewardship Workshops.
- **Features**
  - Step-by-step process for landowners to engage RPF,
  - Custom analysis of property based on address/APN (based on CFIP and EQIP requirements),
  - Identification and solicitation of RPF by proximity to landowner,
  - Share GPS points, lines, polygons, and images important for management planning,
  - Initiate, or cultivate, a management history digital archive.

# Registered Professional Forester Portal

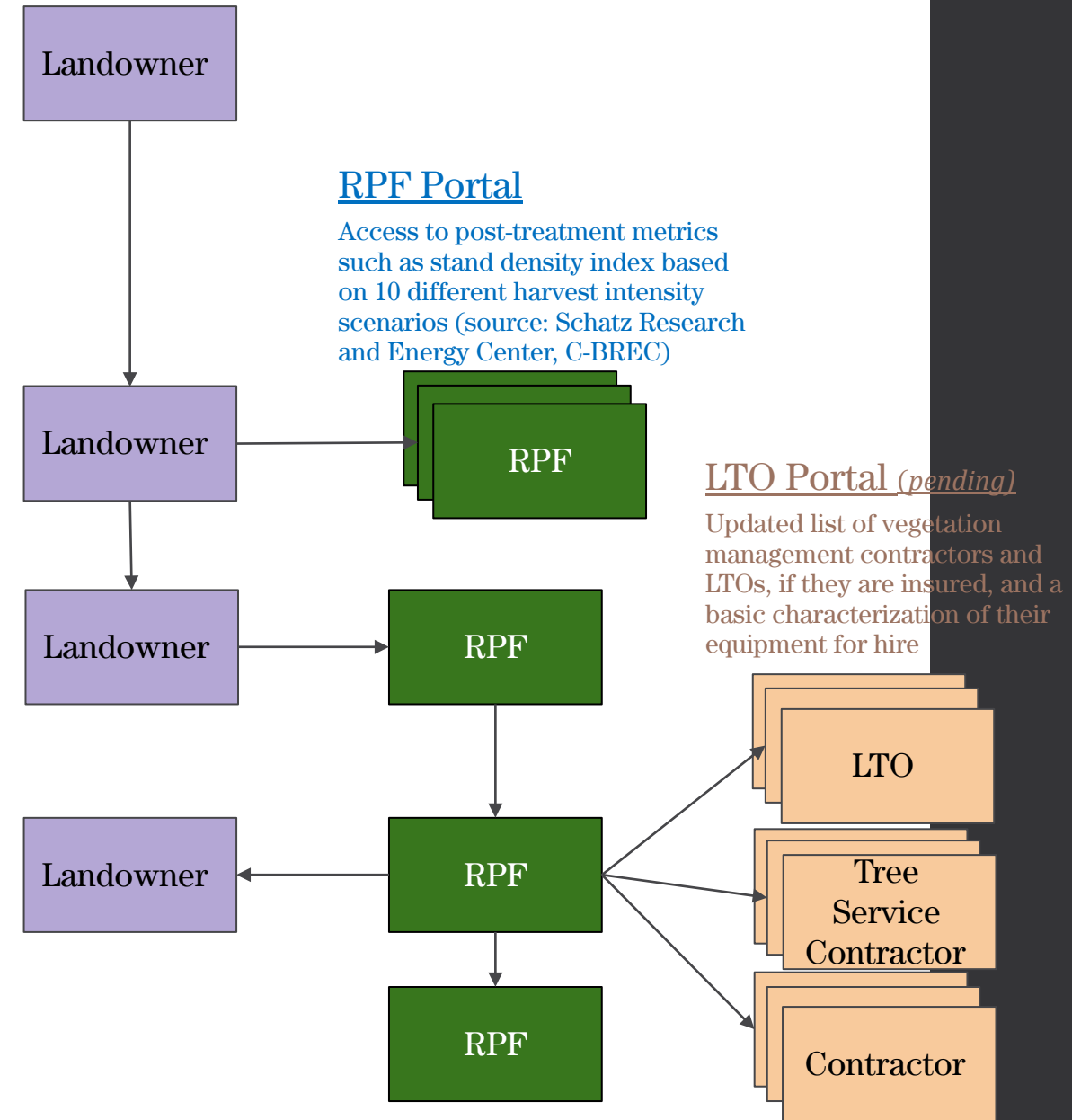
- **Objective:** to facilitate forest management projects on small, non-industrial private forestlands through a data and resource sharing digital interface
- **Intended Audience:** consulting foresters engaged in non-industrial forest management
- **Features**
  - Step-by-step process for landowners to engage RPF,
  - Custom analysis of property (based on CFIP and EQIP requirements),
  - Identification and solicitation of RPF by proximity to landowner,
  - Share GPS points, lines, polygons, and images important for management planning,
  - Initiate, or cultivate, a management history digital archive,
  - Access to post-treatment metrics such as stand density index based on 10 different harvest intensity scenarios (source: C-BREC)

# Licensed Timber Operator Portal

- **Objective:** to enable forest management projects on small, non-industrial lands through a data and resource sharing digital interface.
- **Intended Audience:** vegetation management contractors (LTOs or Tree Service) to list their availability within a specific region, and RPFs to have a more complete list of available contractors to send bids to.
- **Features**
  - Separate, but complementary to Forest Industry Directory,
  - Database manager for contractors to volunteer their information, including:
    - Licensed
    - Insured
    - Types of treatment (timber harvest, fuels rearrangement, road work, prescribed fire)
    - Types of equipment (tree climbing, light equip, heavy equip)

# Landowner Step-by-Step Process

1. **Sign up**
2. **Custom Analysis** – Pre-populated information on your “Property Fact Sheet”
  - a. Based on the CA Cooperative Forest Management Plan (mgmt. history, APN, slope, vehicle access, etc.)
  - b. Estimate volume of biomass within property (based on C-BREC);
3. **Invite RPF** – Choose from list of local consulting foresters to support plan development and contract oversight;
4. **Contract with RPF** – Select forestry outfit that best fits your needs
  - a. Ability to share GPS data (.kml/.kmz) from Avenza (or similar) through portal;
5. **Planning and Property Treatment** – RPF leads and oversees projects;
6. **Project Follow up** – RPF closes project status on the Working Forest Planner



# Forest Industry Directory

Facilitating cooperation and creativity in California wood markets and  
forest industry

# Goal

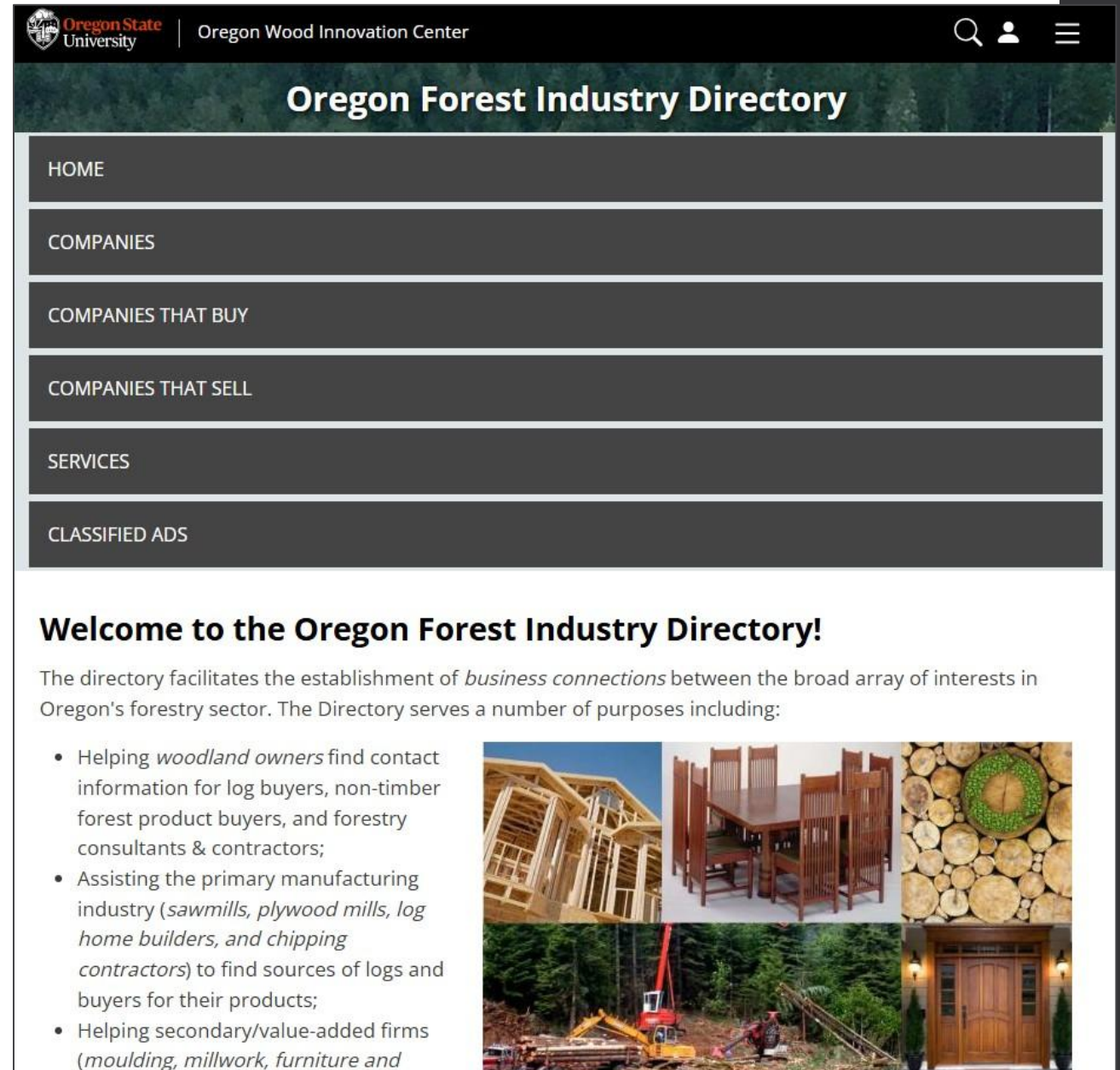
## Motivation

*While large wood product markets facilitate the forest economy, an abundance of small scale markets exist at the local level and have the ability to grow with more awareness. Making products and services readily searchable, cooperation and collaboration becomes easier*

## Solution

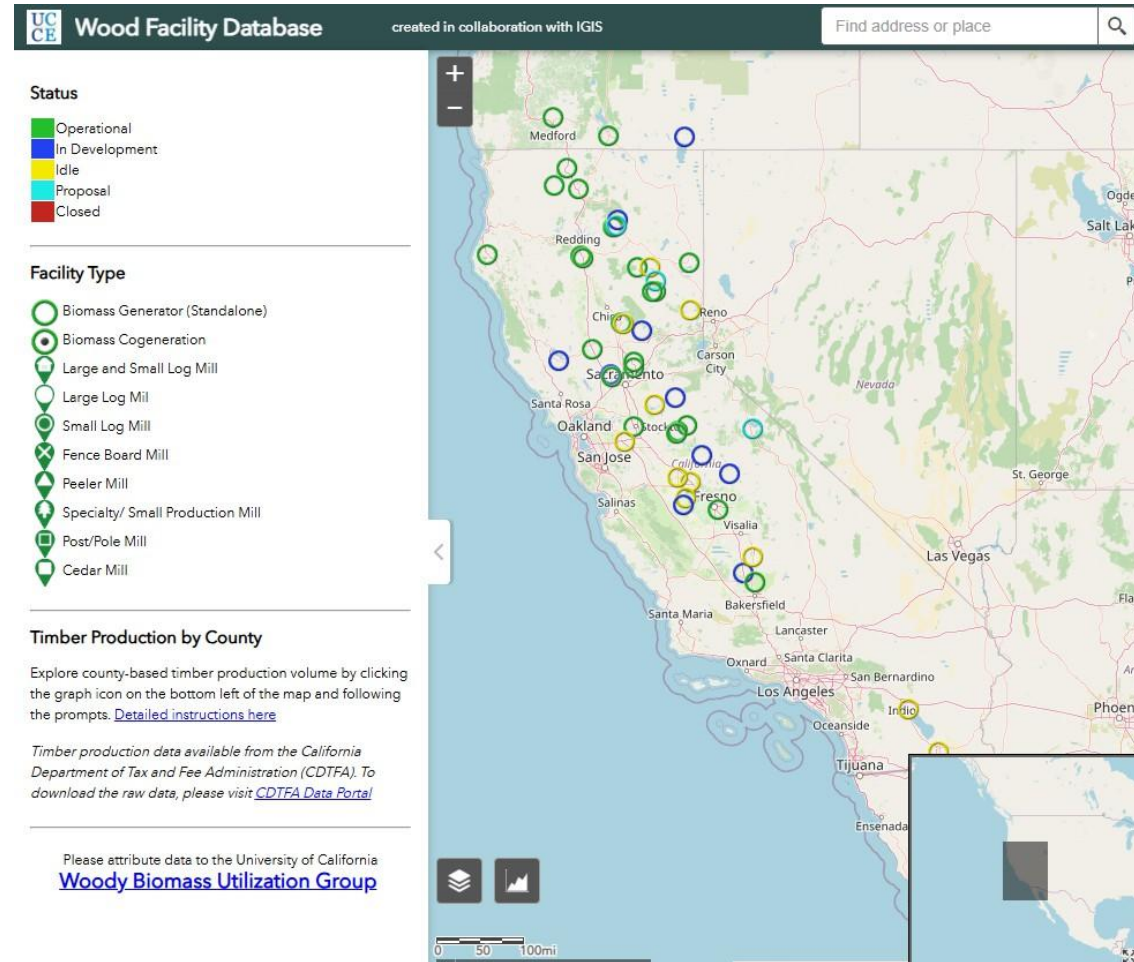
*Replicate the Forest Industry Directory from other states and create a voluntary database for companies to list their products, demand, services, and equipment;*

*Complement the UC ANR wood product and biomass facilities database to highlight the various wood markets operating at a more local scale.*



# UC ANR facility database

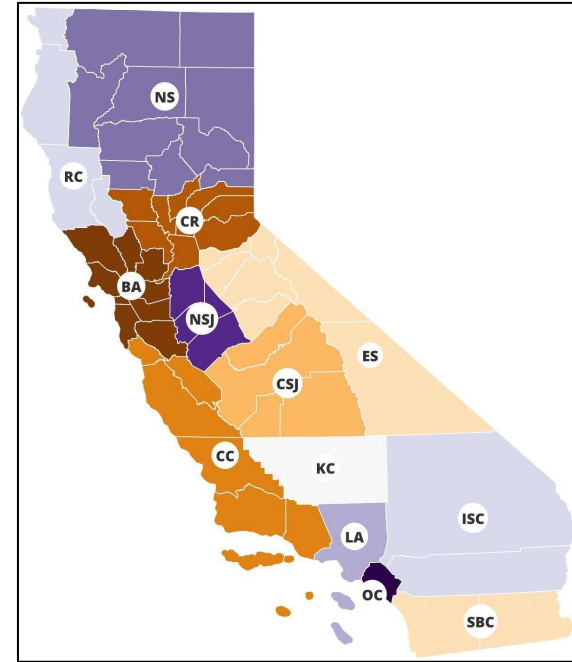
- Current information on capacity, development, and status of facilities;
- Minimum annual consumption threshold
  - Sawmill – 0.5 MMBF log,
  - Biomass – 2,500 green tons, or 8,750 cubic yards;
- Has a limited number of wood product options to represent.





# Companies that Buy and Sell

- Over 50 timber-based, non-timber, and special forest products available;
- Distinct regions are based on California Jobs First designations, in recognition of its potential utility for GoBiz;
- Assisting the primary manufacturing industry to find sources of logs and buyers for their products;
- Helping secondary/value-added firms find sources of lumber, panel products, and other raw materials;
- Enabling entrepreneurs and architects to find the suppliers and partners they need to commercialize a product/project.



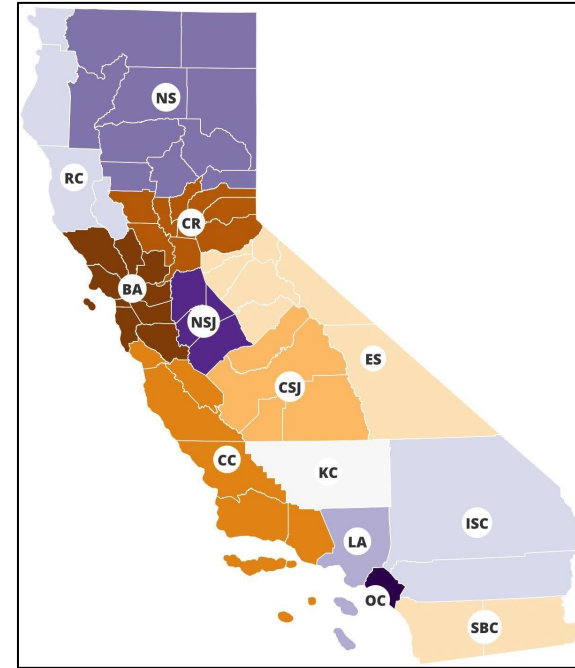
DILBERT





# Companies that provide Services

- Over 70 types of professional, contractor, or legal services available for companies to select from;
- Provides professionals and general public with information on what and where services can be accessed;
- Services are separated into (1) Forestry, and (2) Manufacturing / Secondary manufacturing services.
  - e.g. land management planning, vs. custom sawmilling;
- 50 types of equipment options to select;
- A description box at the bottom for companies to explain the details of their services or equipment models, if they prefer.



source: <https://www.flickr.com/photos/blmoregon/28694211688/in/album-72157627139800278/>

# Offtaker Portal

Detail



# Loamist

## The Biomass Platform



Andy Miller  
Co-Founder & CEO

Jan 2025

[www.loamist.com](http://www.loamist.com)







**Andy Miller**  
CEO & Co-founder



**Pete Christensen**  
COO & Co-founder



**Chelsea Samuelson**  
Head of Operations





Loamist

# The Biomass Platform

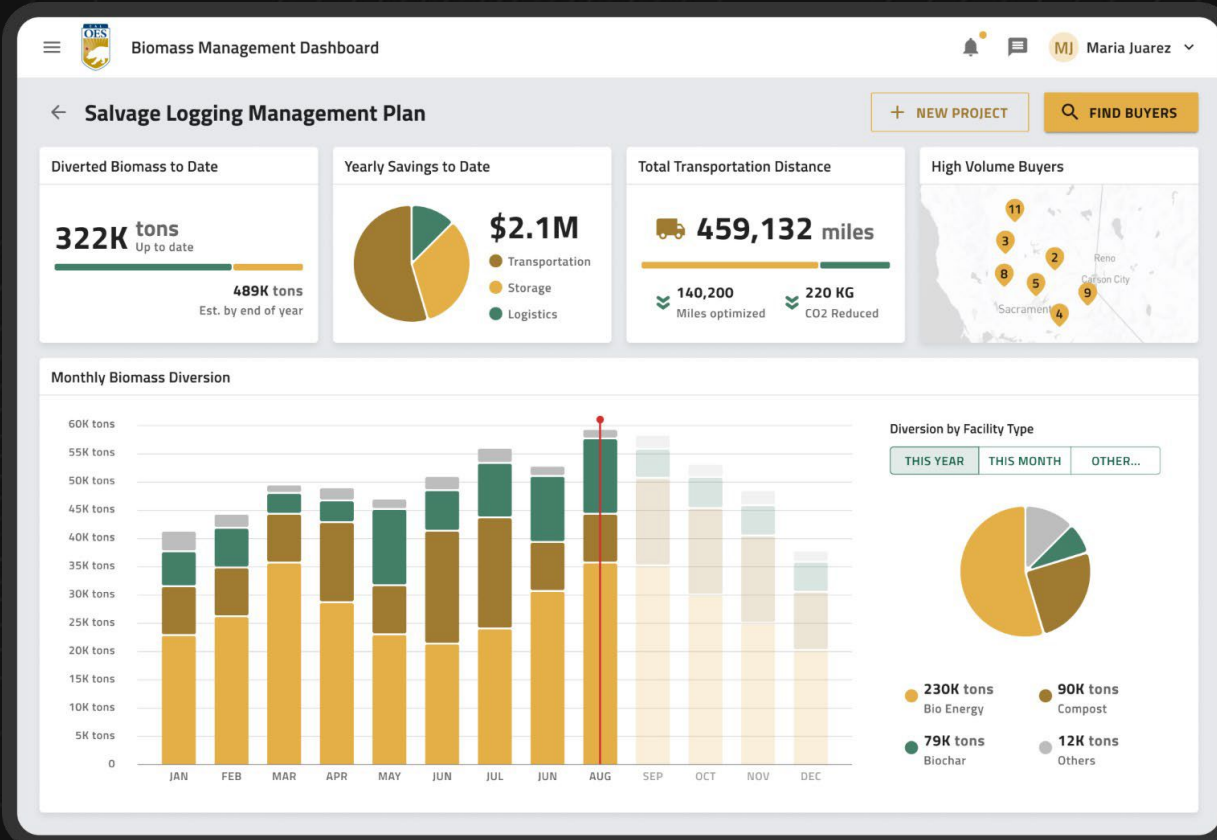
Measure

Coordinate

Transact

# Measure, Coordinate, Transact

**Measure** - For land managers, we track and quantify where the biomass goes and how much it costs.

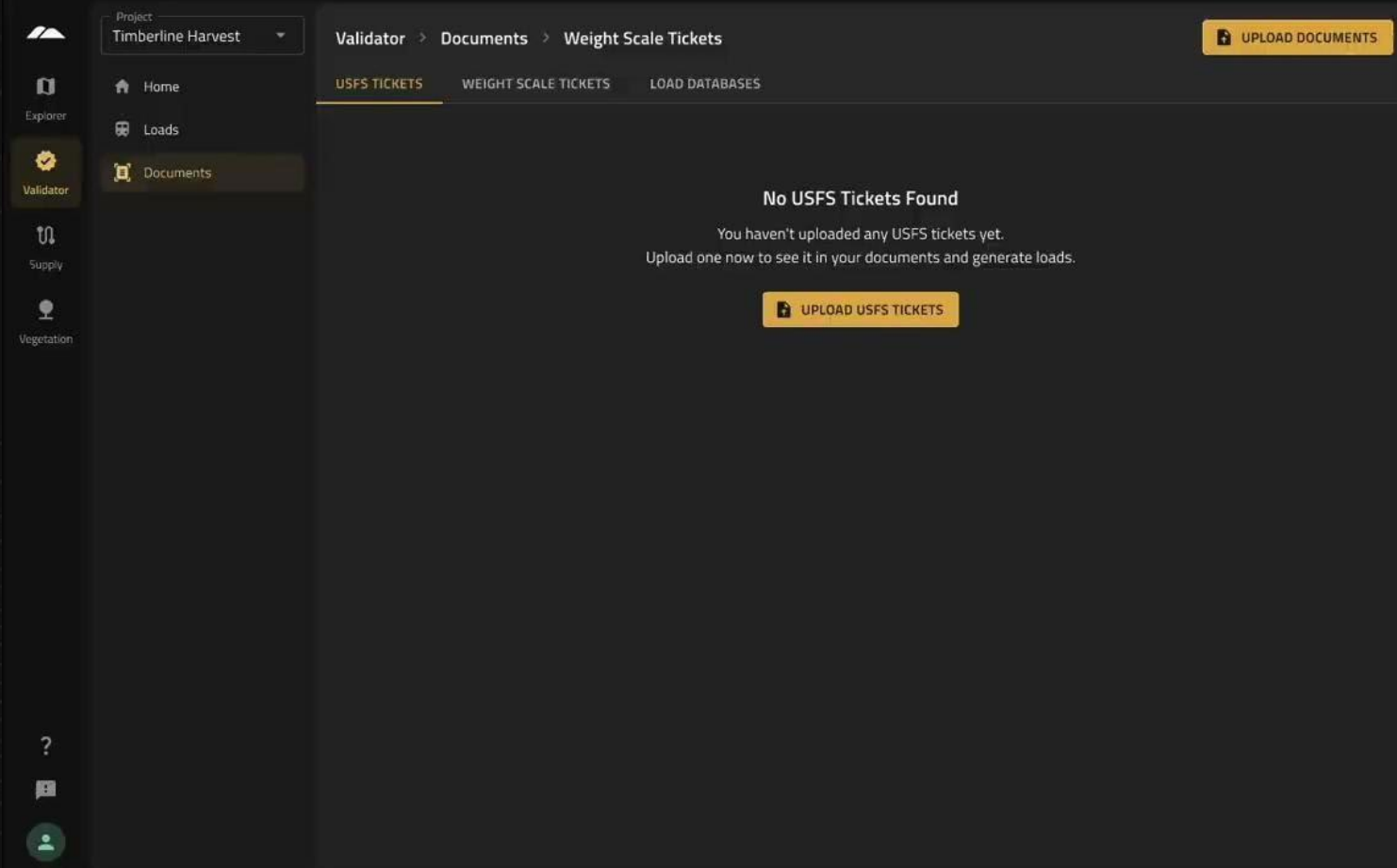


- Truck miles, labor hours, tip fees.
- Meet compliance requirements.
- Establish baseline to optimize for fire risk, safety, and transportation.





# VALIDATOR - Supply-Chain Audit and Chain of Custody software

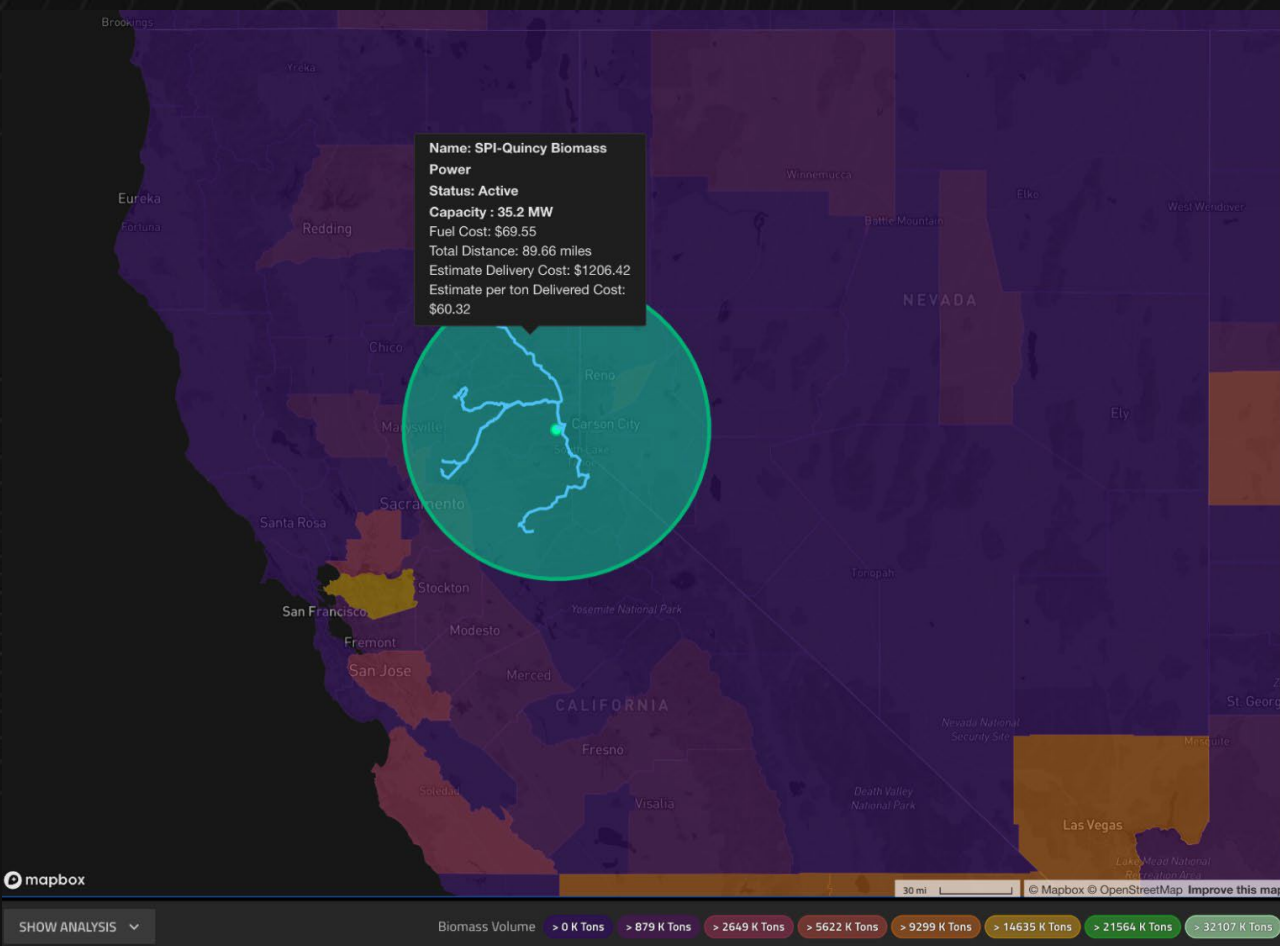


- Transportation Subsidies
- CoC for regulated Markets (LCFS / RFS / Carbon Markets)
- Certificates of Compliance



# Measure, **Coordinate**, Transact

**Coordinate** - Geospatial analysis to support project CapEx / OpEx modeling



- Instant Feedstock analysis
- Transportation Analysis
- Local Market Analysis
- FIA Growth : Removals Analysis
- Pricing Estimates



# Measure, Coordinate, **Transact**

**Transact** - Offtakers identify and procure material where it is and will be

34 Offtake Options in a 200 mile radius

☐ Show only contacted

**Loamist** **Composting** **REQUEST DATA**

**Jack L. Spence, Inc. Compost Facility**

8.29miles 1.18gal  
DISTANCE ESTIMATED FUEL

**Loamist** **Composting** **REQUEST DATA**

**Green Solutions & More**

13.42miles 1.92gal  
DISTANCE ESTIMATED FUEL

**Google** **Composting** **(530) 701-9700**

**Mushroom Adventures**  
11107 CA-70, Marysville, CA 95901, USA

17.00miles 2.43gal  
DISTANCE ESTIMATED FUEL

**Contacted**

**Loamist** **Composting** **REQUEST DATA**

**Recology Ostrom Organics**

21.27miles 3.04gal  
DISTANCE ESTIMATED FUEL

**Composting** **MORE INFO**

**Pacific Wood Recycling Chipping&Grinding**

- Supply aggregation
- Options
- Spot purchases
- Long term offtake

**Coming 2025**

# THE END

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Next Steps

# Next Steps

- Ongoing maintenance and validation of information;
- Forest Industry Directory
  - Feature refinement and outreach campaign to get critical mass;
- Working Forest Planner
  - Trial runs with participating Landowners, RPFs, LTOs process,
  - Integrate contract databases being developed;
- Offtaker Portal.

# Thank you

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