

California – Status of the Forest Industry:

*“The Forest Products and Biomass
Energy Industries in California”*

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Presentation Outline

California Forest Products Infrastructure –

History – 1990 - Present

Current Situation

Opportunities for Expansion

California Biomass Powerplant Industry

History – 1980 – Present

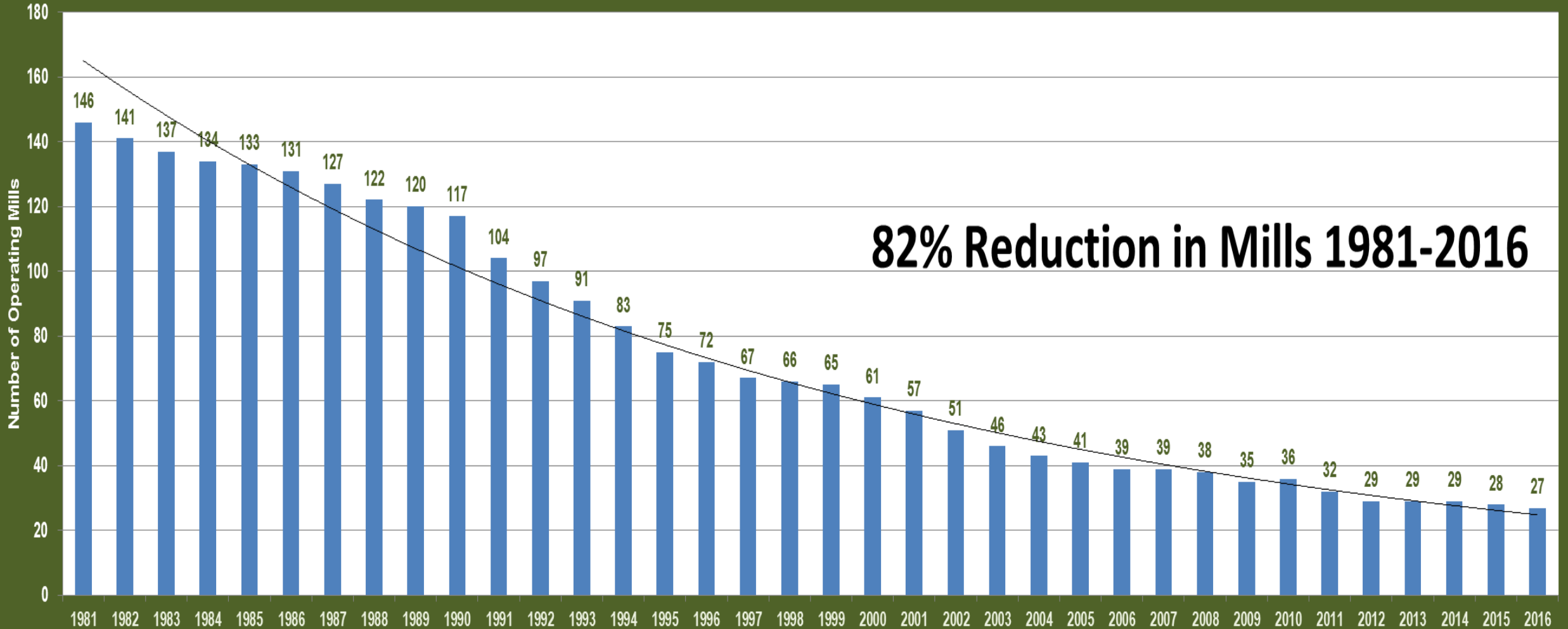
Current Situation

Future is Uncertain



Reduction of Sawmills in California

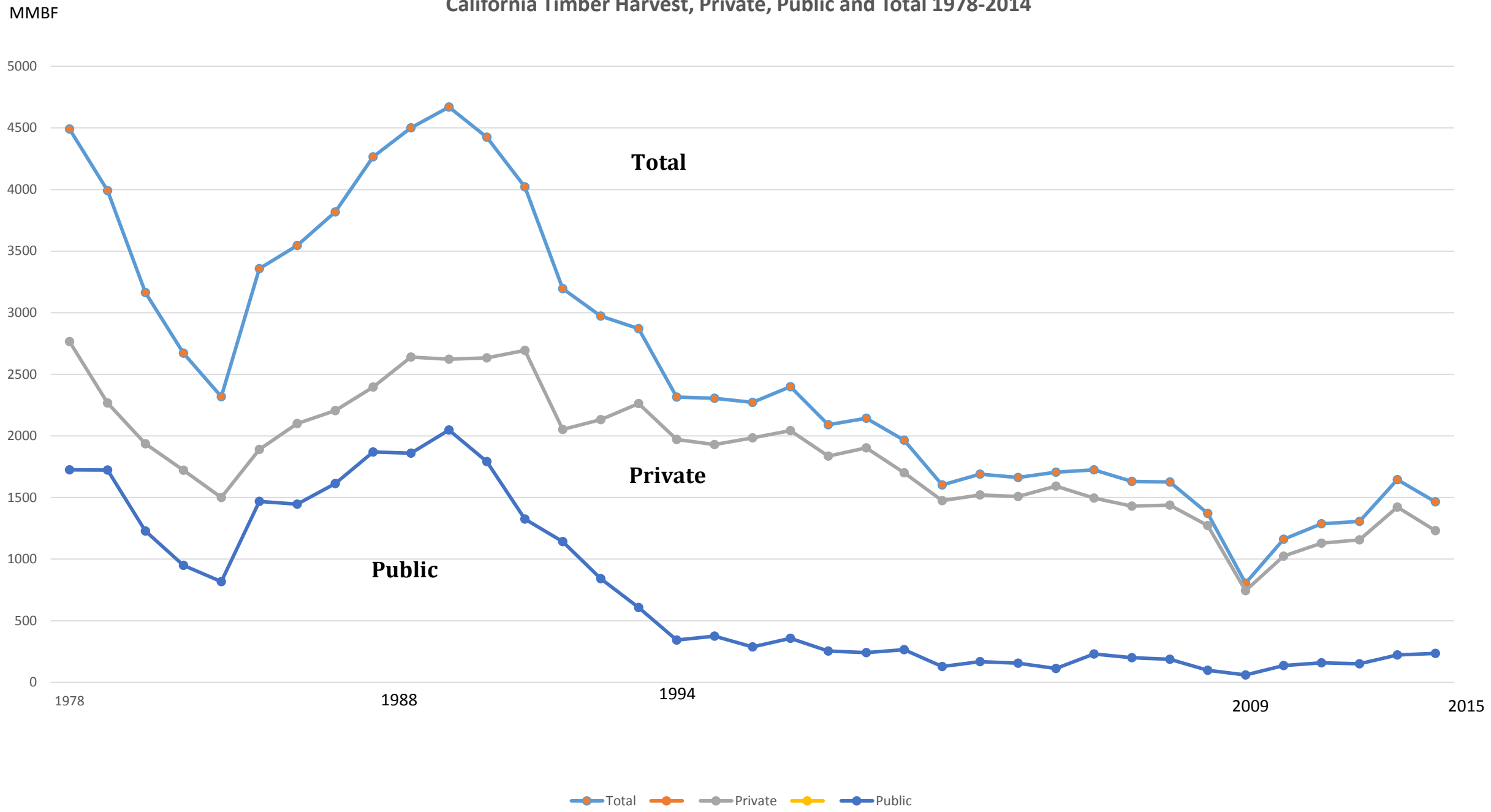
1990-2016 Calforests Mill Census Data



What's Left of the California Forest Products Infrastructure

- **24 Dimension Lumber Sawmills varying from 35 mmbf/year to 175 mmbf/year**
- **2 Veneer Mills million square feet**
- **1 Particle Board Plant**

California Timber Harvest, Private, Public and Total 1978-2014



Opportunities for Expansion

Recent Study (The Beck Group)

California Assessment of Wood Business Innovation

Opportunities and Markets

[https://www.nationalforests.org/who-we-are/regional-offices/california-program/california-assessment-of-wood-business.](https://www.nationalforests.org/who-we-are/regional-offices/california-program/california-assessment-of-wood-business)

- **Cross Laminated Timber**
- **SB1122 Three or less Megawatt Biomass Powerplants**
- **Oriented Strand Board Plant**
- **Sawmills and Veneer Mills (Long Term Supply Dependent)**

CLT (Cross Laminated Timber)



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CLT (Cross Laminated Timber)



Small Scale Biomass

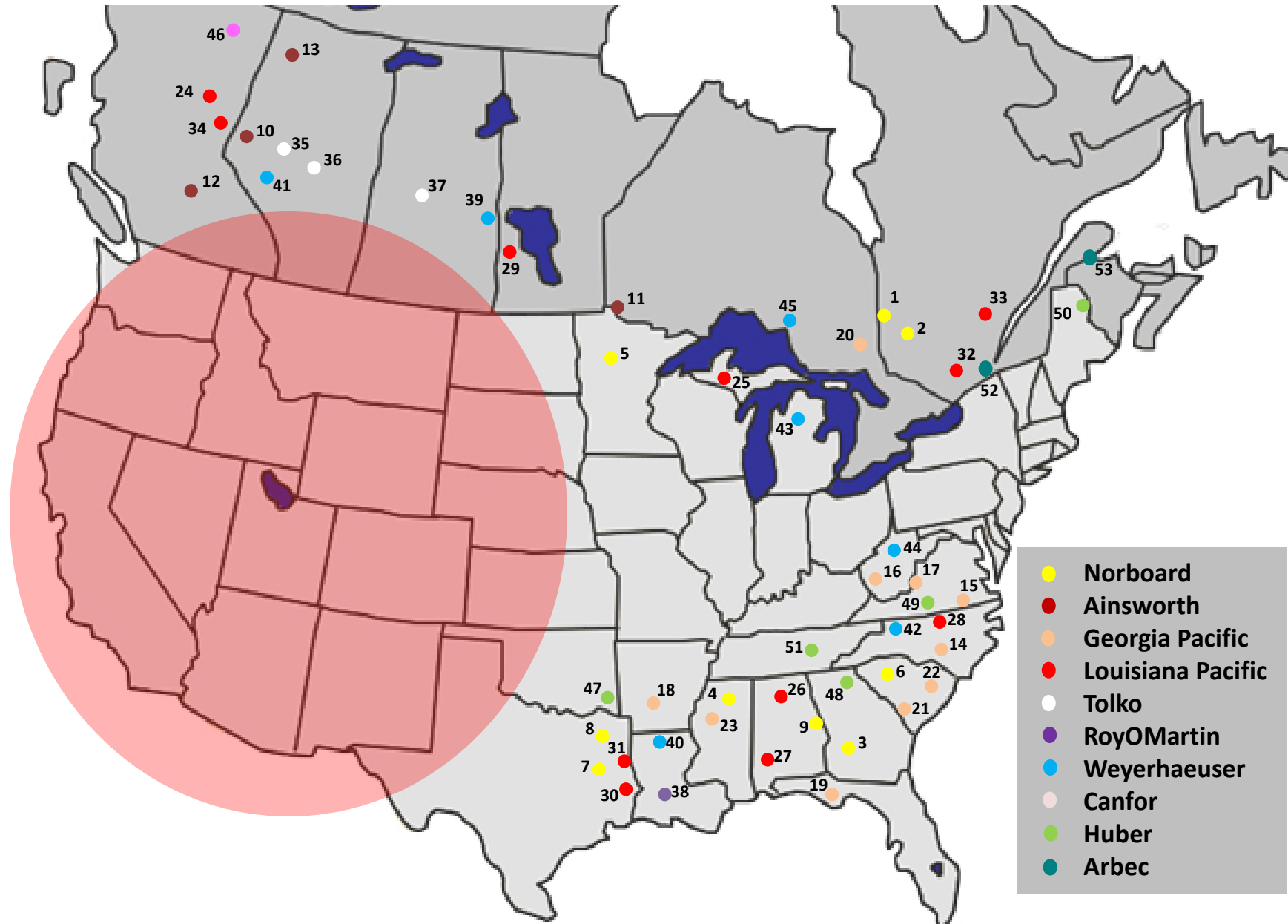


OSB Manufacturing



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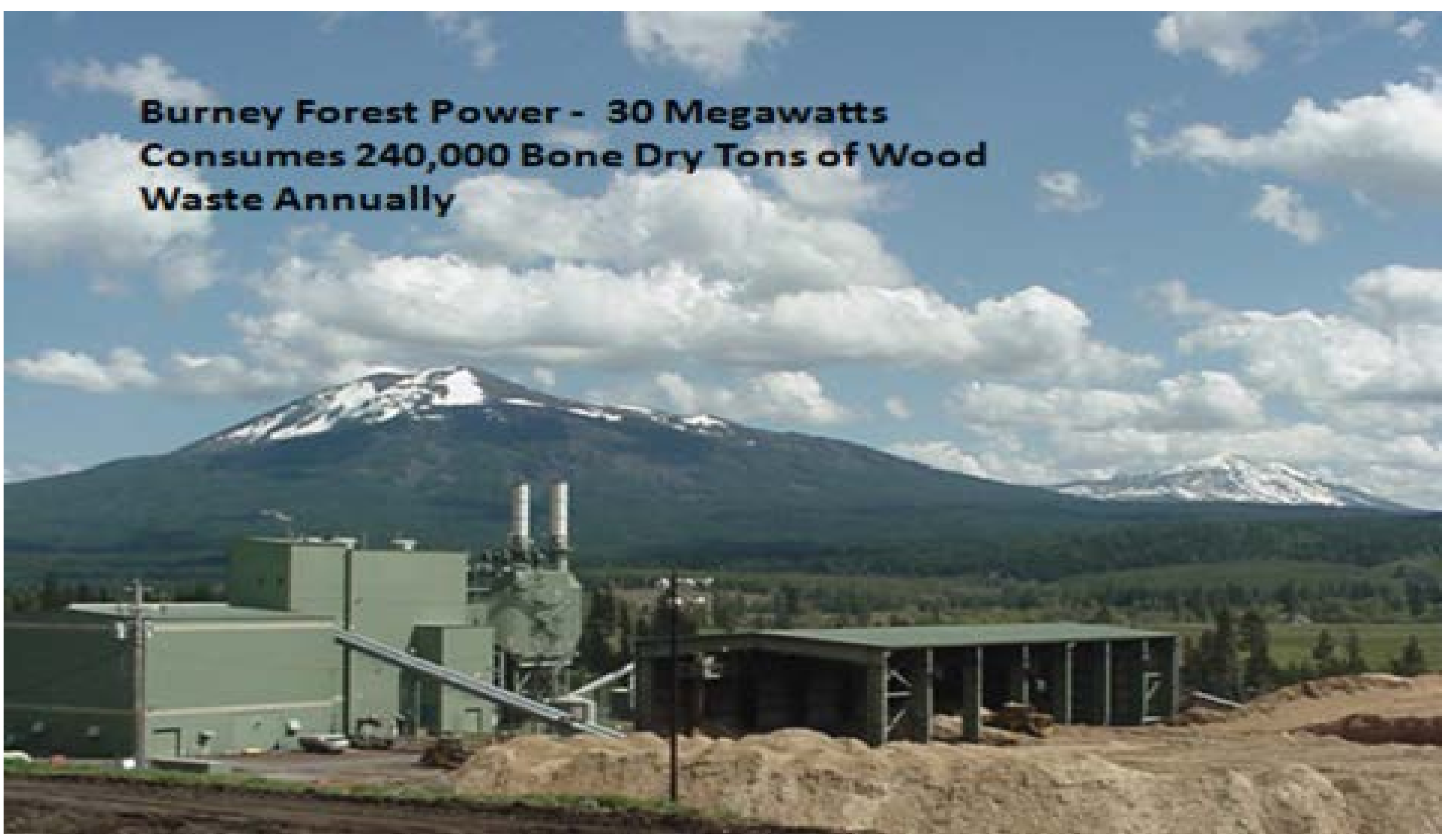
OSB – Transportation Cost Advantage



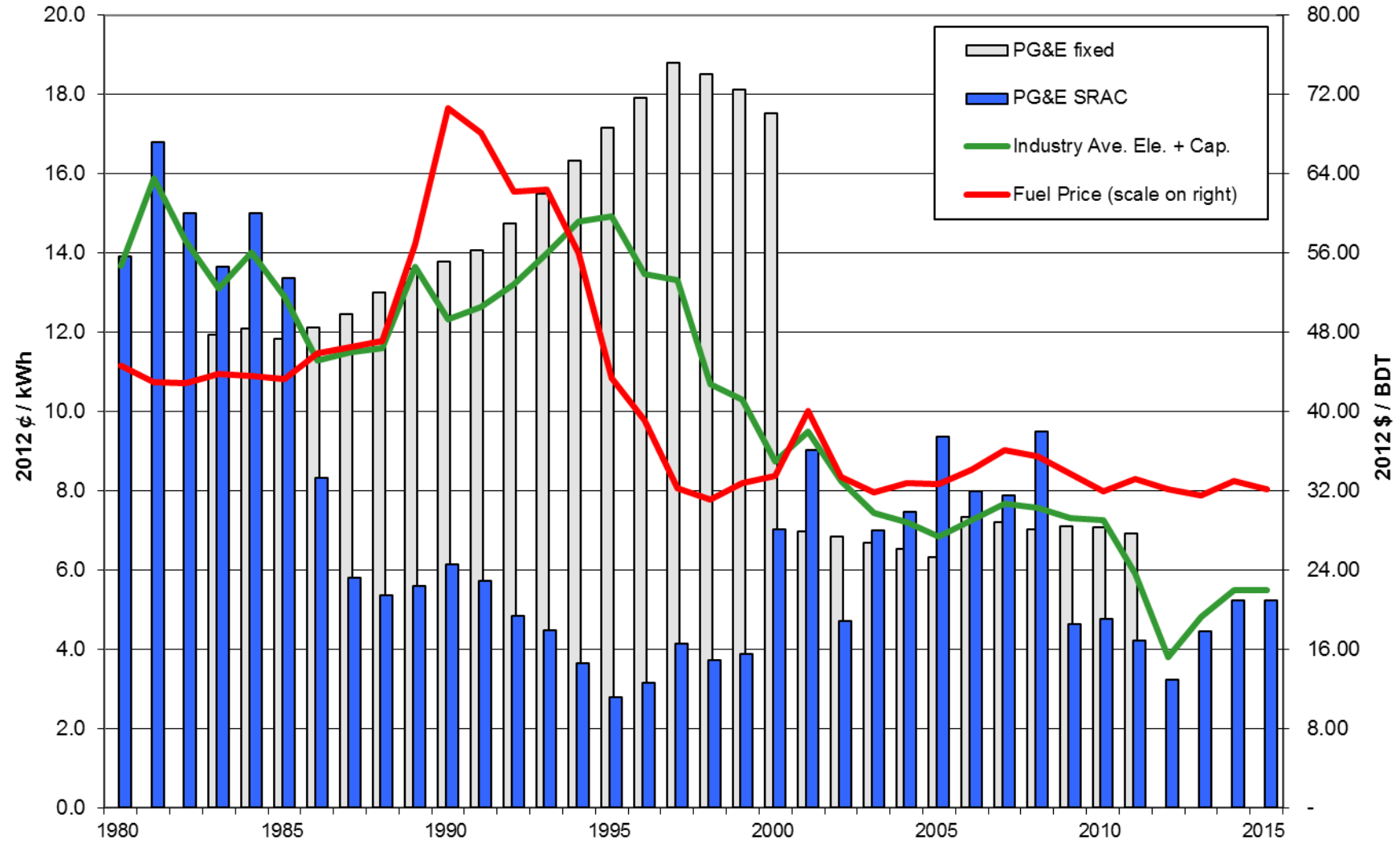
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California Biomass Powerplants: The Current Situation

**Burney Forest Power - 30 Megawatts
Consumes 240,000 Bone Dry Tons of Wood
Waste Annually**



California Wholesale Electricity and Biomass Fuels Prices



BIOMASS ENERGY: Producing Renewable Energy, While Lowering the Risk of Wildfire and Reducing Greenhouse Gases



Map available
at calforests.org

Approximately 30 mile radius: A rough representation of an economic haul distance without additional incentives to process and transport biomass waste from agricultural, industrial and in-woods sources.

Source: State of California, FROF Map; California Forestry Association (1/1/16)

Situation						
Owner	Plant Name	County	Net MW	Energy Price Expiration Date	Can Take Forest Mat'l	Operating Or Idle
Expiring Energy Price Contract in 2016						
Humboldt Redwood Co	Scotia	Humboldt	28	2016 April	Yes	Idle
Greenleaf Power	Honey Lake Power	Lassen	35.5	2016 July	Yes	Operating
IHI Power Generation	Rio Bravo Fresno	Fresno	24.3	2016 July	Yes	Operating
IHI Power Chinese Station	Chinese Station	Tuolumne	19.5	2016 July	Yes	Operating
IHI Power Generation	Rio Bravo Rocklin	Placer	24.4	2016 July	Yes	Operating
Wheelabrator Technologies	Wheelabrator Shasta	Shasta	58	2016 Aug	Yes	Operating
Energy Investors Fund	Burney Forest Power	Shasta	31	2016 Oct	Yes	Operating
Collins Pine	Collins Pine	Plumas	12	2016 May	Yes	Operating
Otoka Energy	Buena Vista	Amador	18.5	2016 Jan. 31	Yes	Operating

Expired Energy Price Contract Note – Normal one year process to new contract	Plant Name	County	Net MW		Take Forest Material	Operating or Idle
Covanta	Delano	Kern	50		Yes	Idle
Covanta	Mendota	Fresno	25		Yes	Idle
Covanta	Burney Mountain Power	Shasta	11		Yes	Idle
Covanta	Mount Lassen Power	Lassen	12		Yes	Idle
Community Recycling	Dinuba Power	Tulare	11		Yes	Idle
Community Recycling	Madera Power	Madera	33		Yes	Idle
EWP Renewable Corp	DG Fairhaven	Humboldt	18.75		Yes	Idle
Greenleaf Power	Tracy Biomass	San Joaquin	23		Yes	Idle

Other Operating Plants	Plant Name	County	Net MW		Take Forest Material	Operating or Idle
Sierra Pacific Industries	SPI Burney	Shasta	20		Yes	Operating
Sierra Pacific Industries	SPI Lincoln	Placer	19.2		Yes	Operating
Sierra Pacific Industries	SPI Quincy	Plumas	27.5		Yes	Operating
Sierra Pacific Industries	SPI Sonora	Tuolumne	7.5		Yes	Operating
Sierra Pacific Industries	SPI Anderson	Shasta	31.5		Yes	Operating
Akeida Capital	Chowchilla	Madera	10		Yes	Operating
Akeida Capital	El Nido	Merced	10		Yes	Operating
Greenleaf Power	Mecca	Riverside	47		Yes	Operating
Mt. Poso Co-Gen Co.	Mt. Poso	Kern	45		Yes	Operating
DTE Stockton	Stockton	San Joaquin	45		Yes	Operating
Roseburg Forest Prod.	Roseburg-Weed	Siskiyou	11		Yes	Operating
Wadham Energy	Williams	Colusa	25		Yes	Operating
DTE Energy	Woodland	Yolo	25		Yes	Operating

The Value of Biomass Power

Uncompensated (Ancillary) Benefits of Biomass Energy Production

	<u>Cents/kW-Hr</u>
Criteria Pollutants	4.3
Greenhouse Gas Reduction	5.9
Avoided Landfill	1.1
Timber Stand Improvement	0.1
Total	11.4



California Forest Infrastructure Summary

Forest Products Infrastructure

Sawmills/Veneer Mills – No Change; Long Term Supply-Driven

Cross-Laminated Timber substitutes for Steel and Concrete

Biomass Powerplants

Expiring Energy Price Contracts Leading to likely loss of 8 more Powerplants by October 2016

Leaving 14 Operating Powerplants

Questions?

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