

# Commission to Study the Economic, Environmental and Energy Benefits of the Maine Biomass Industry

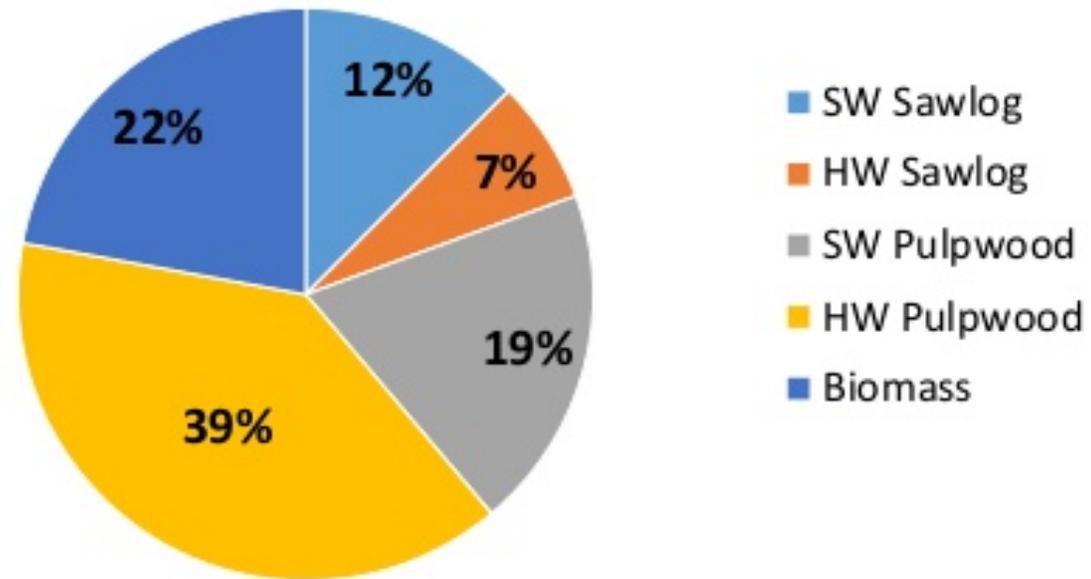
## **Task Force Meeting Dates**

- **Tuesday, August 2, 2016 from 9:30 am - 3:30 pm**  
**Room 216 Cross State Office Building in Augusta**

# Sources of Biomass

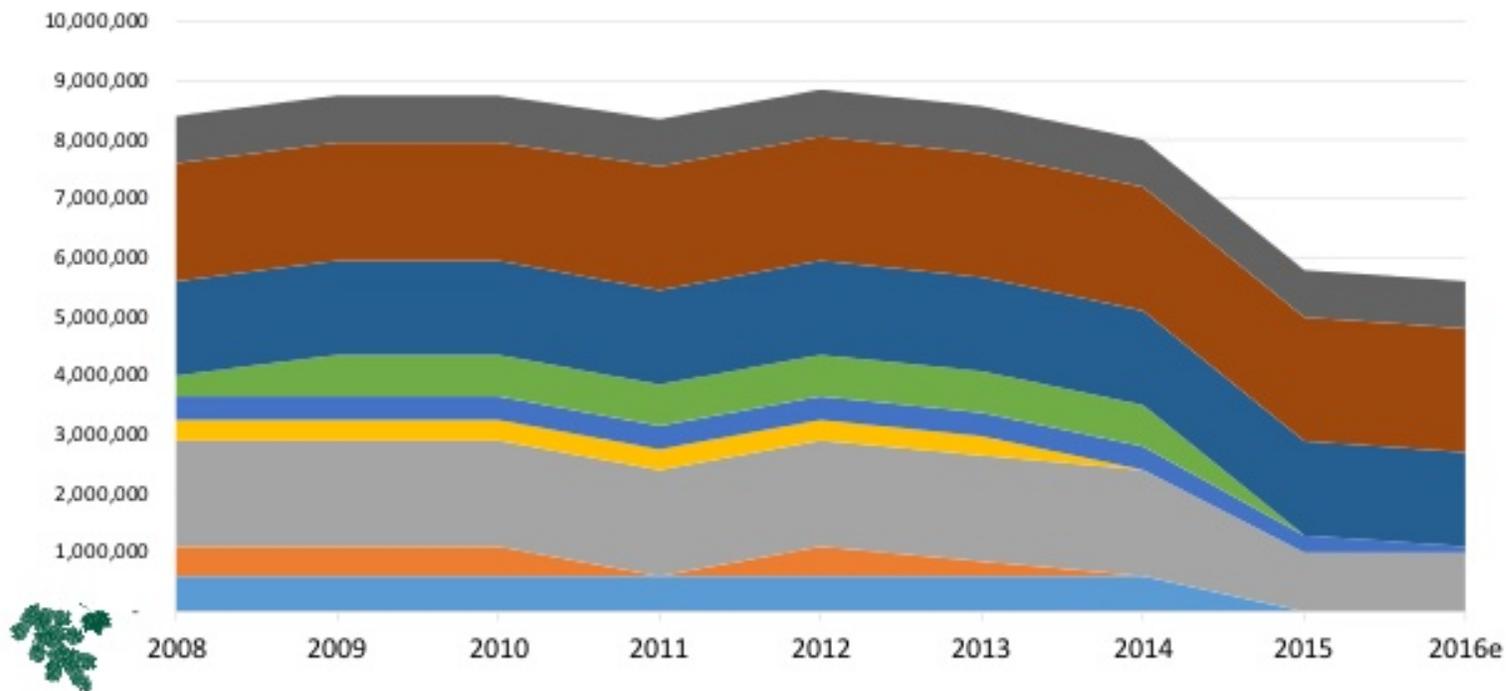
## Maine Timber Harvest by Product

Data Source: MFS Wood Processor Report, 2014  
All data converted to tons by INRS



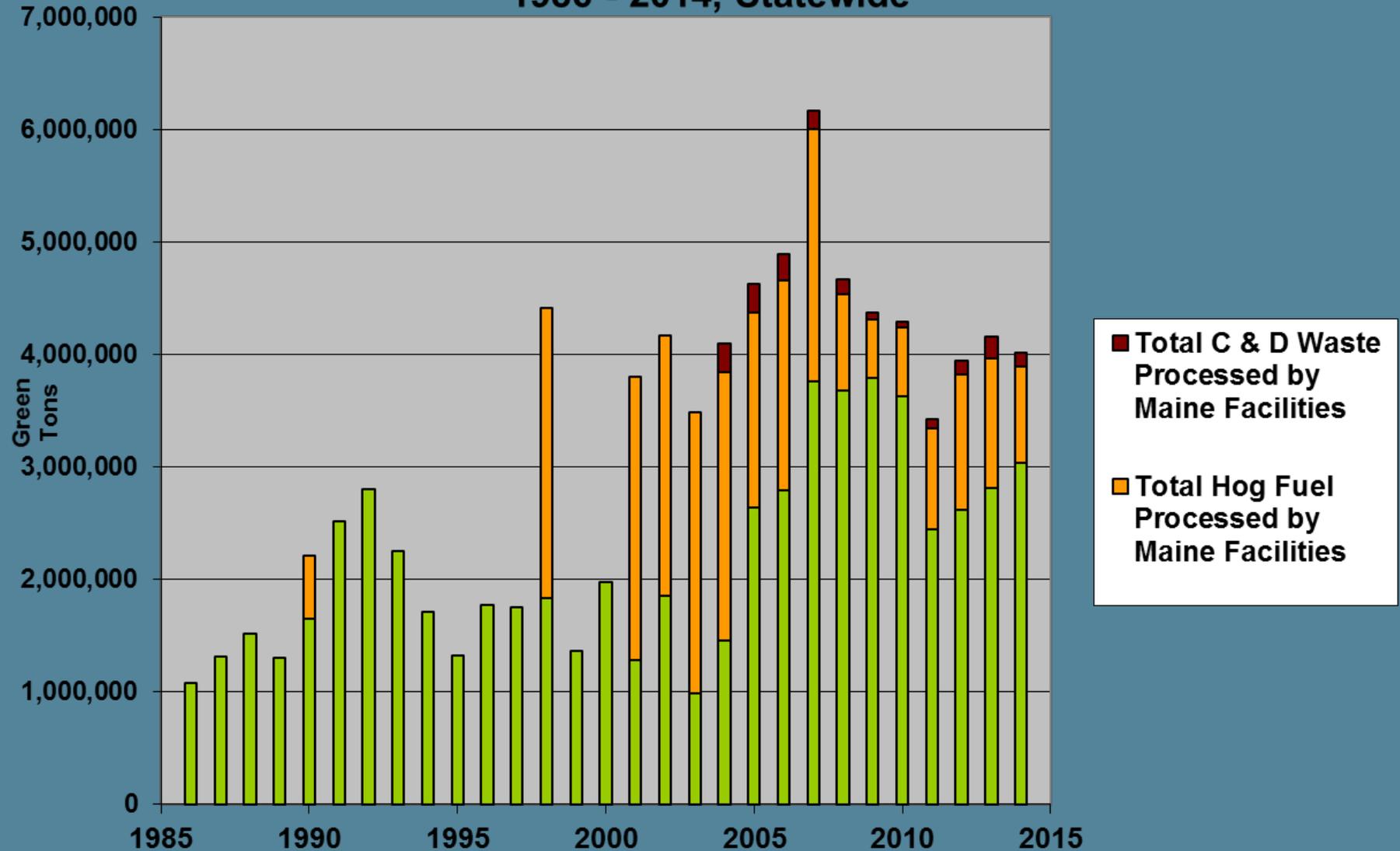
## Estimated Pulpwood Consumption by Maine Pulp Mills

Estimates Based Upon INRS Data



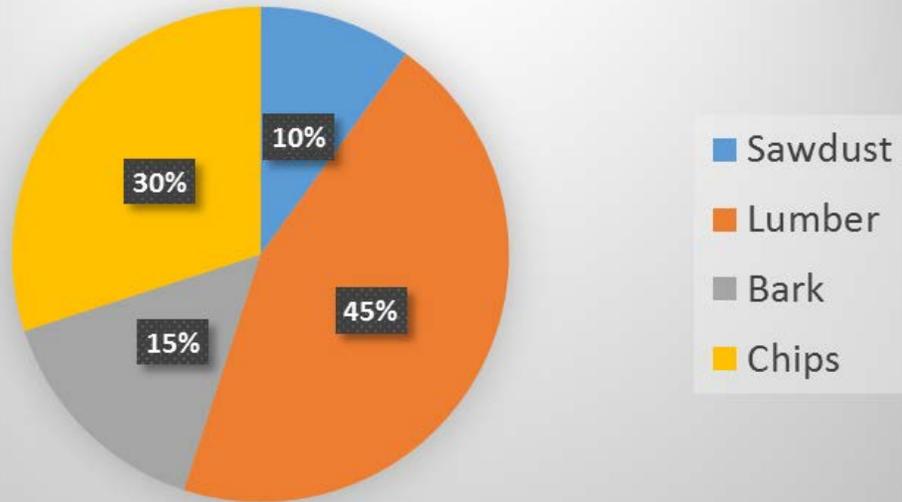


# Volume contribution of three fuel types to electricity generation, 1986 - 2014, Statewide

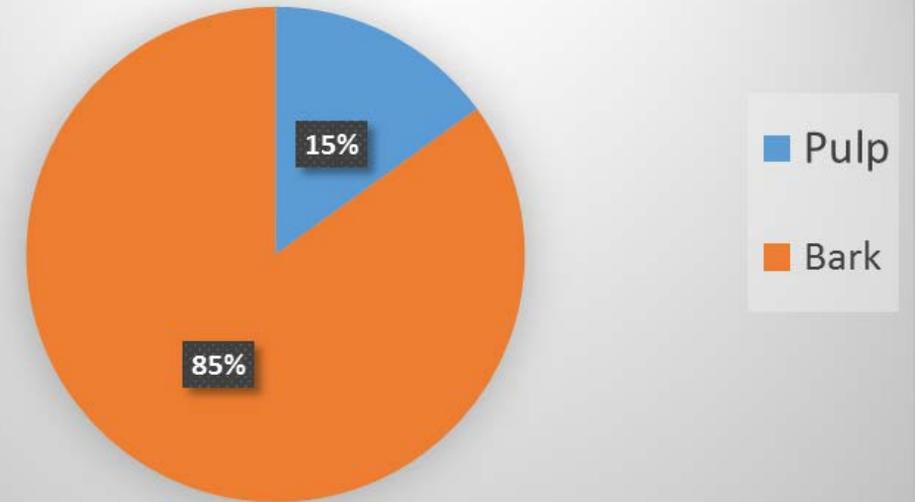


▶ Sawmill and pulp mill processed components

Sawmills



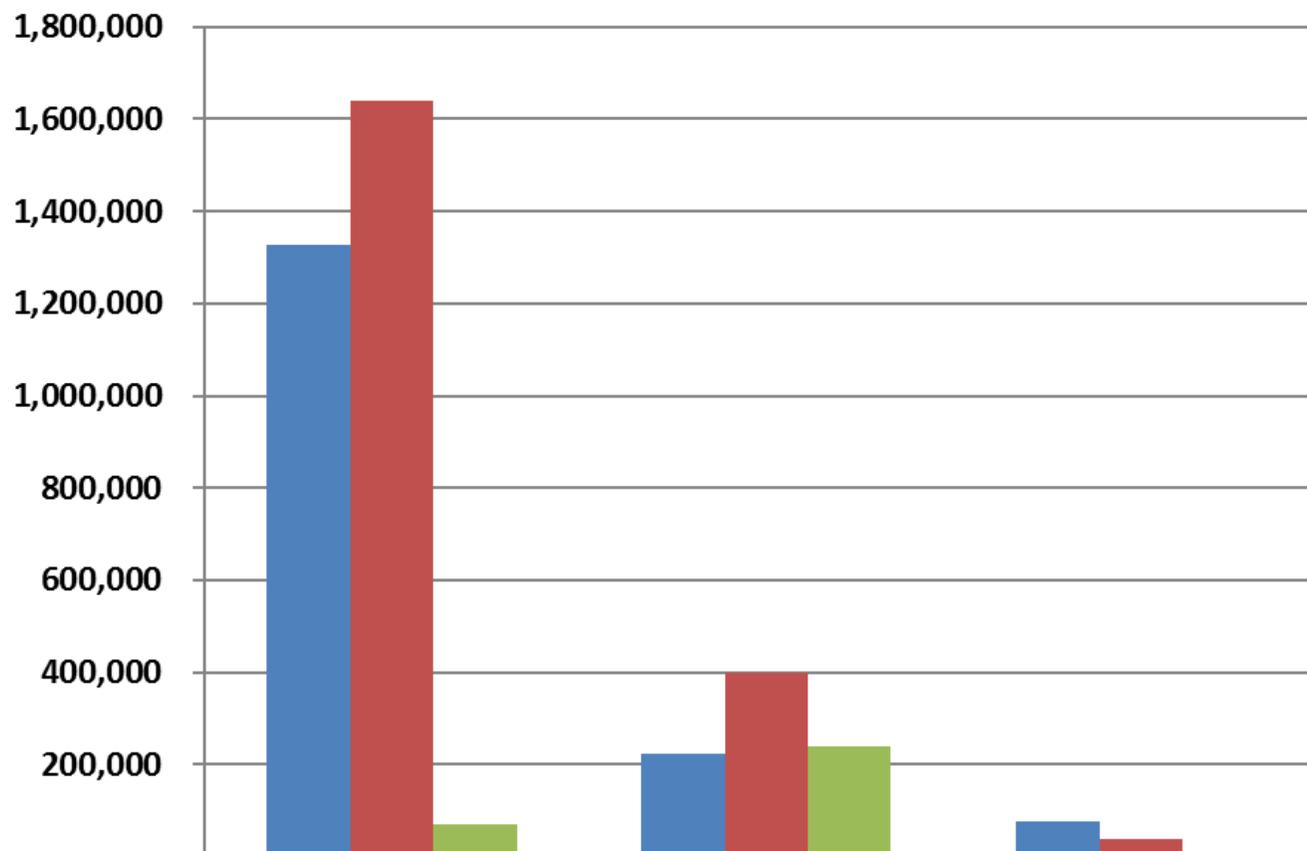
Pulp Mills



# Estimated Biomass produced in Maine



## 2014 consumption of various woody materials for energy generation, MFS Wood Processor Report



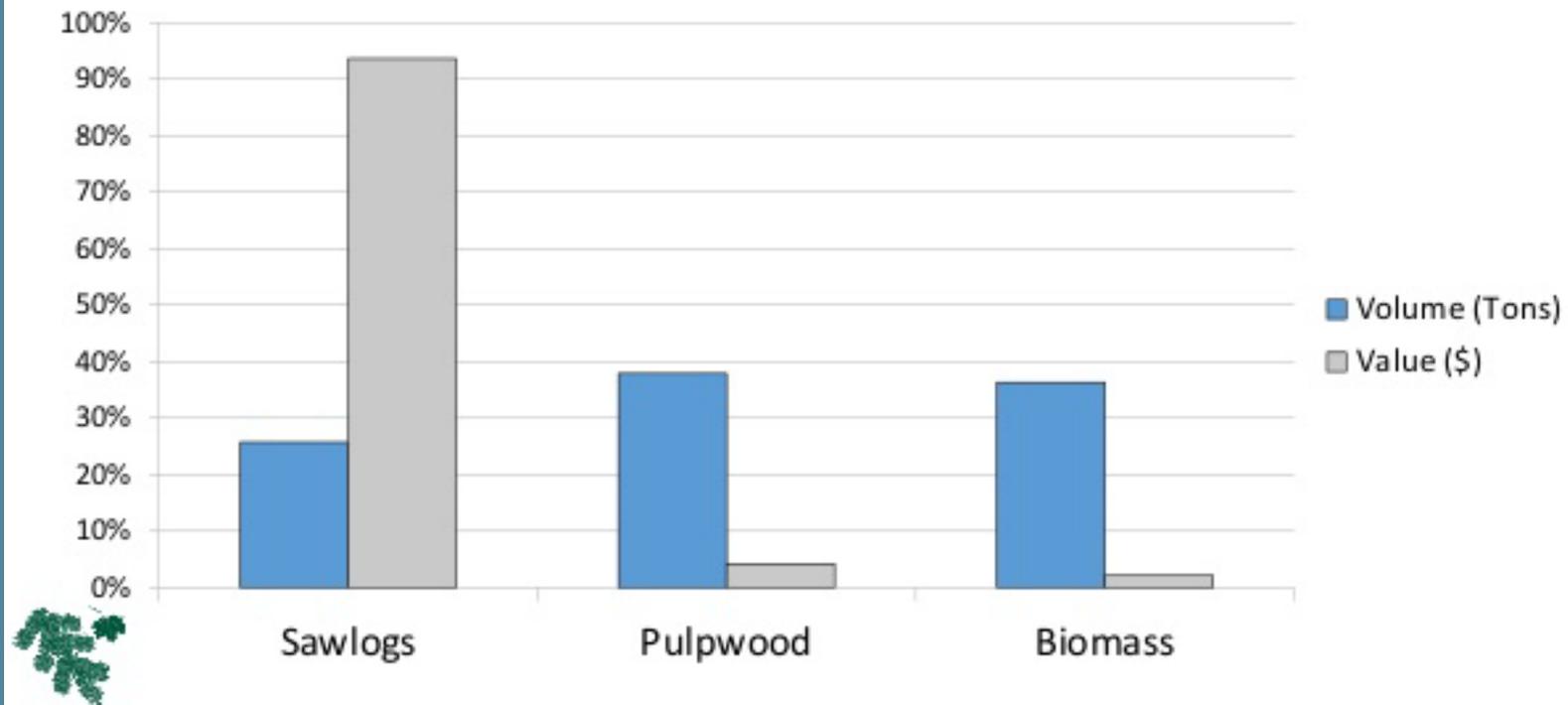
	Biomass Chips	Hog Fuel	C&D Waste
<span style="color: blue;">■</span> Pulp Mills	1,325,902	221,509	75,578
<span style="color: red;">■</span> Wood-to-Energy Facility	1,640,934	398,420	38,842
<span style="color: green;">■</span> Misc. Consumption (Sawmills, Bark Mulch)	68,313	239,989	1

# VALUE OF BIOMASS

Markets for all the components of the tree are critical, and shortages are in low grade markets (softwood pulp and biomass).

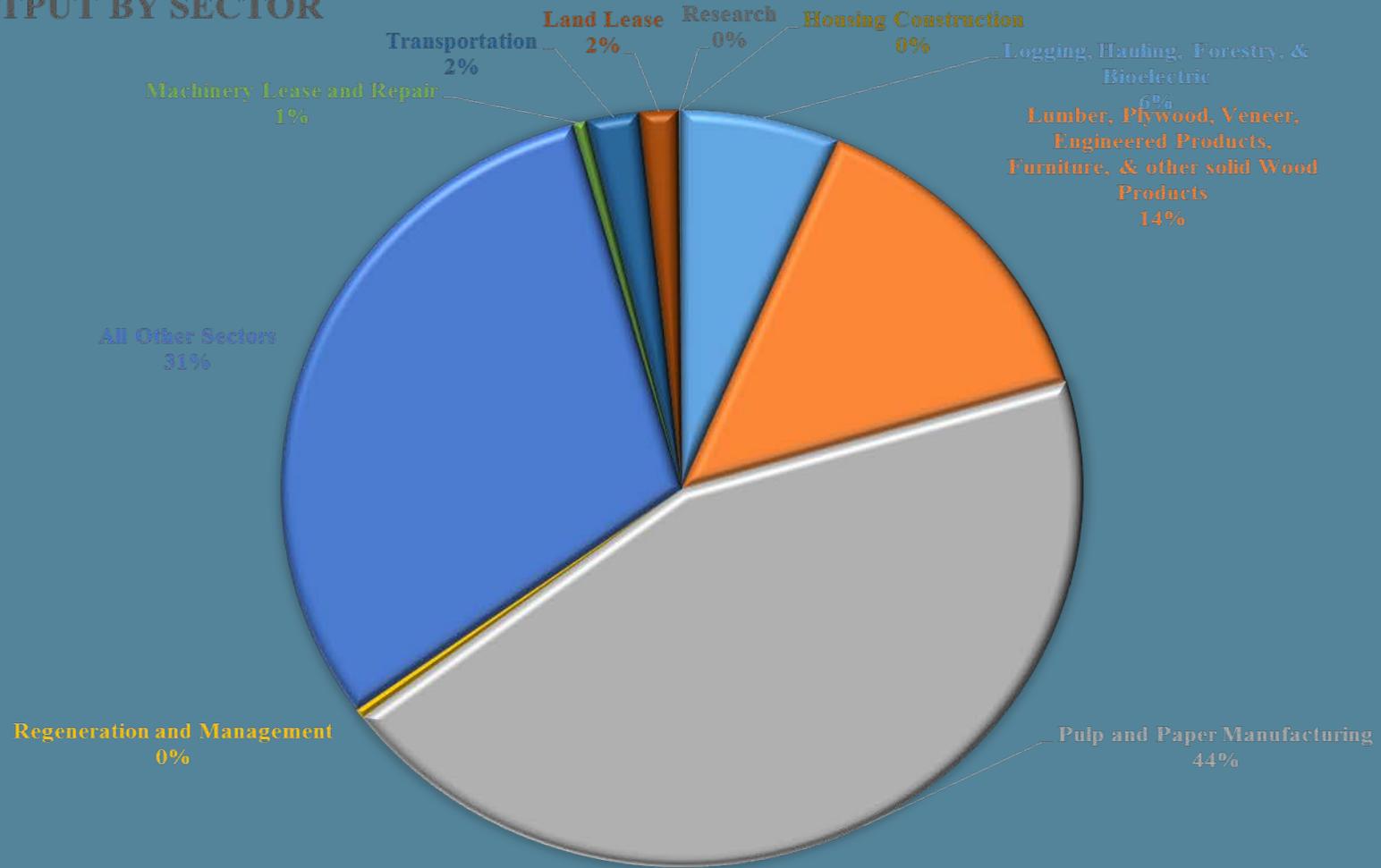
### Volume and Value to Landowner of Products from a Timber Harvest

North East State Foresters 2013



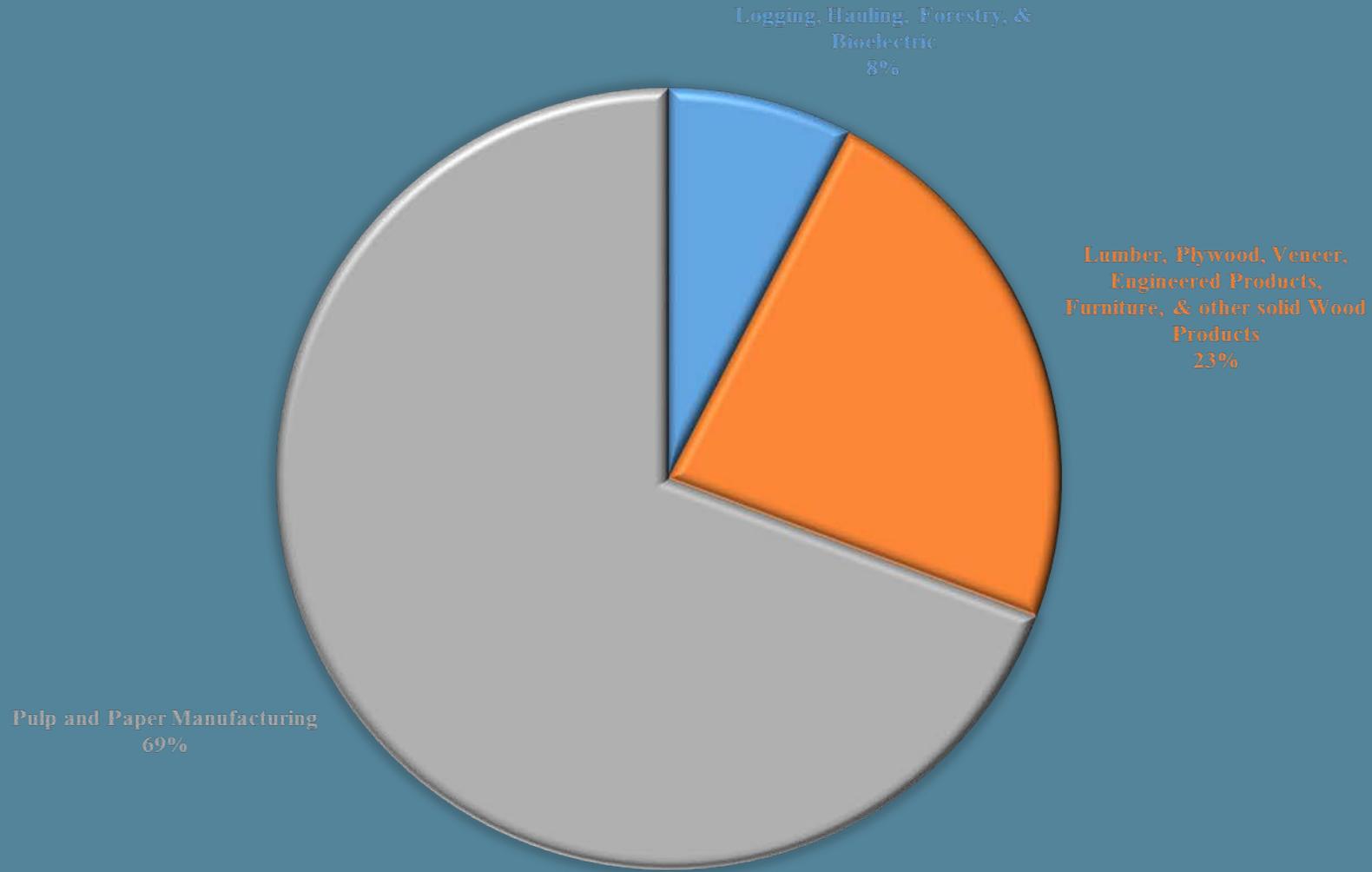
# 2014 Results: Pulp & Paper still dominant

## 2014 OUTPUT BY SECTOR



# 2014 Results: Pulp & Paper still dominant

## 2014 OUTPUT IMPACT BY FPI SECTOR



# Addressing Biomass Electricity

	Employment		Labor Income		Value Added		Output	
<b>Total Impact</b>	578		\$30,184,935		\$99,197,070		\$188,190,044	
	Direct	I&I	Direct	I&I	Direct	I&I	Direct	I&I
<b>Biomass Electricity</b>	128	451	\$7,875,244	\$22,309,691	\$66,013,365	\$33,183,705	\$118,231,747	\$69,958,297

## Multipliers

Output: 1.592

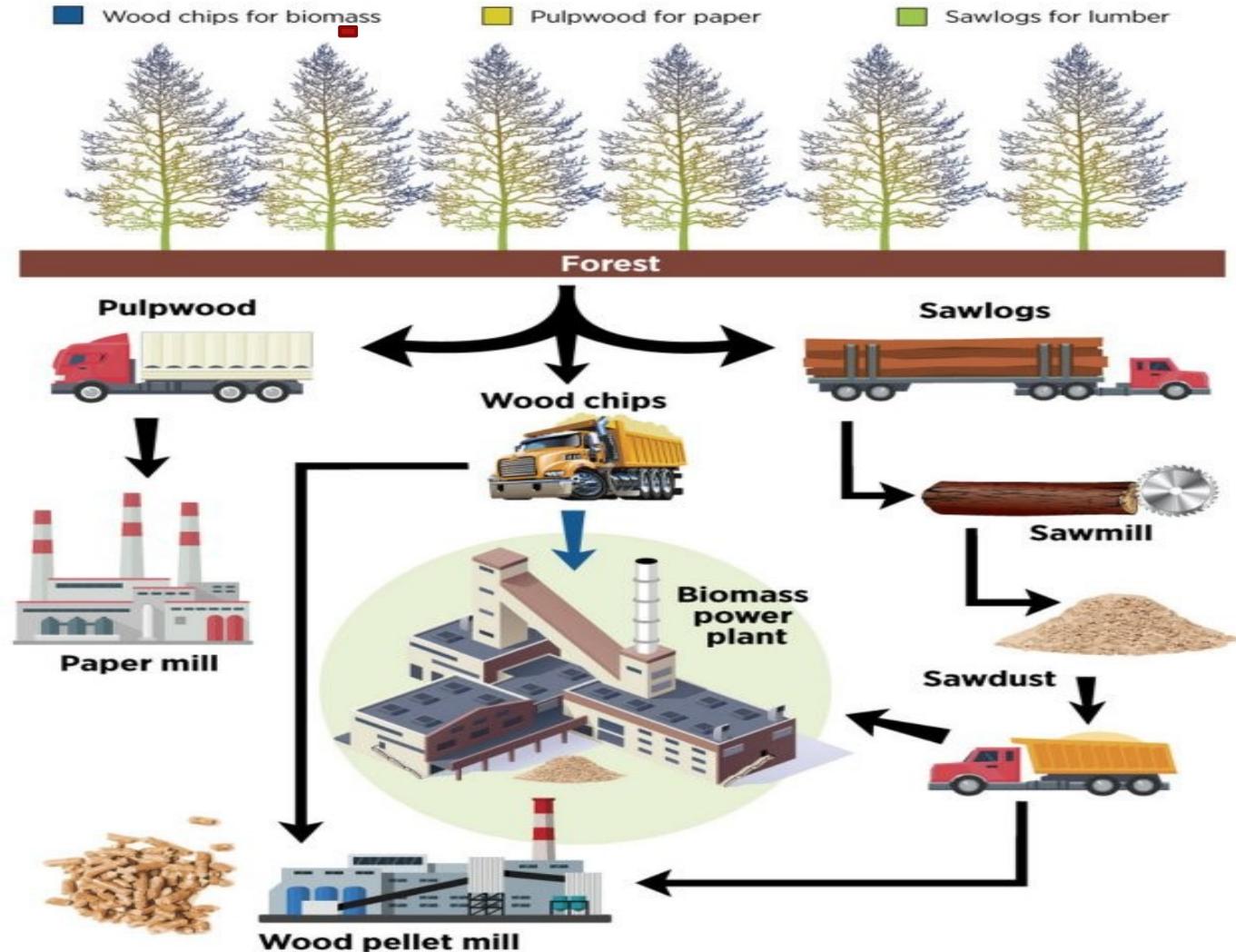
Employment: 4.516

2014 data Draft results

# Preserving the supply chain.

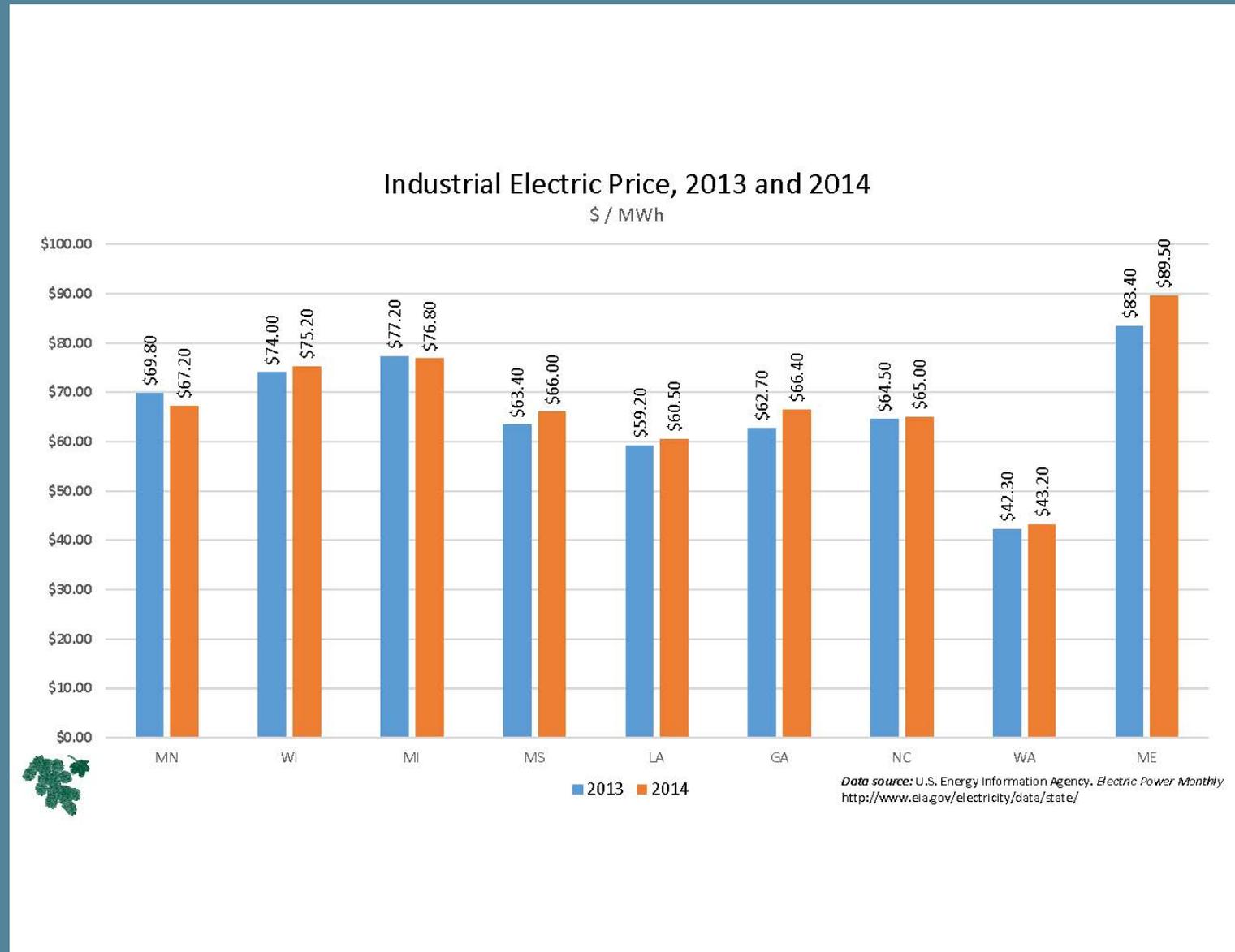
## From forest to biomass power

Biomass plants generate 25 percent of the state's electricity and are critical to Maine's forest products industry. The plants burn low-grade wood from forestry operations, such as limbs and tops, which are converted to wood chips, as well as wood waste from sawmills, including sawdust. Wood chips are also used at plants that make wood pellets to heat homes and businesses.

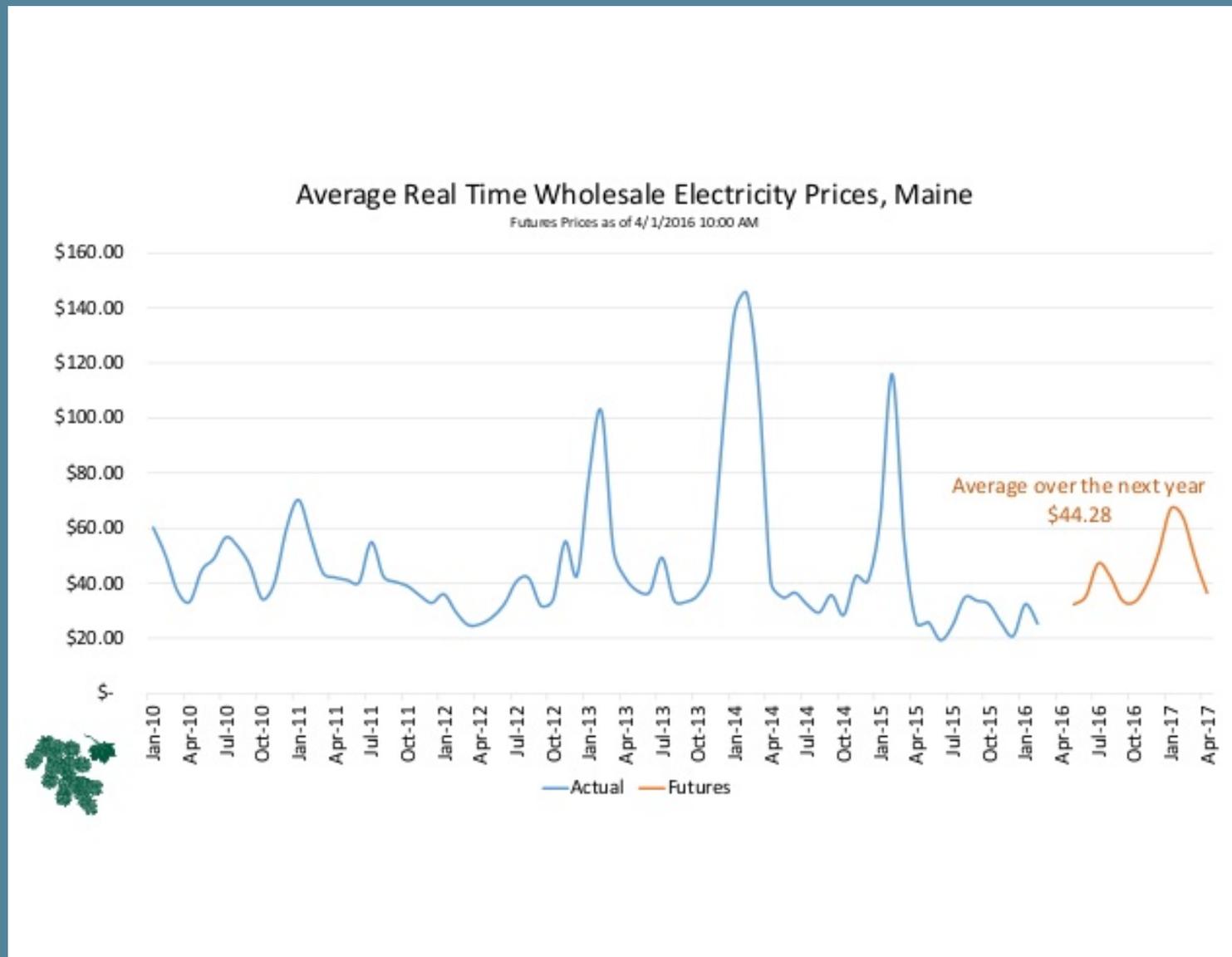


# COST OF ENERGY

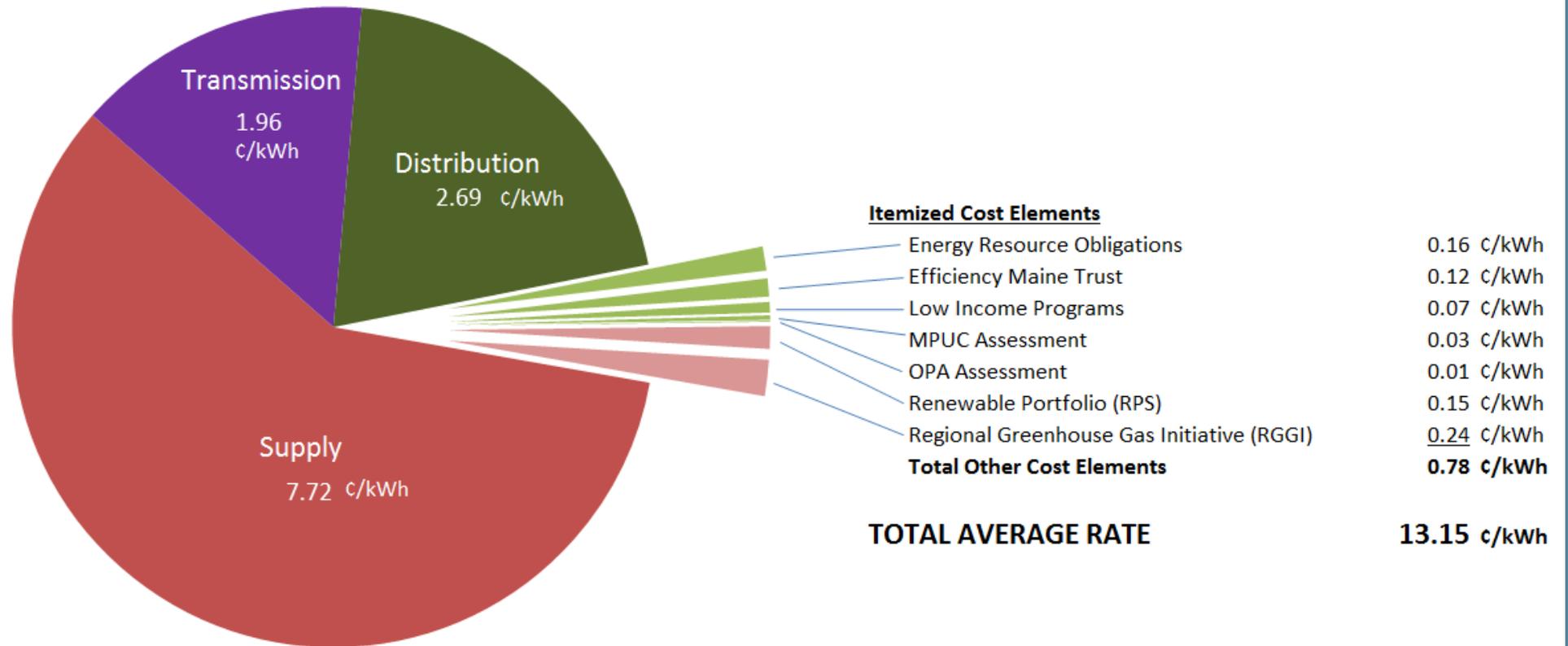
# Cost of energy critically important to industry



# Cost of energy critically important to industry



# 2014 Average Prices by Component Central Maine Power Company Customers



\* - Rates represent the average rates over all rate classes. Not all compents apply to all rate classes.

# BIOMASS LEGISLATIVE HISTORY

# 2000 LD 2551: An Act to Implement Recommendations of the Committee on sawmill biomass

- ▶ biomass plants were non competitive in a declining price market for oil and immediately following electricity market restructuring.
- ▶ 1.3 tons biomass, 875 tons hog fuel.
- ▶ Set income tax credit to allow sawmills to deliver wood fuel to biomass facilities for the cost of transportation.
- ▶ “win-win situation, that is, sawmills will not have a costly disposal problem, although they may lose current income stream; biomass power plants gain an edge in lower production costs; and the Maine economy benefits by retaining and expanding wood product based manufacturing jobs and businesses.”



# Plan for a transition to modern efficiencies and distributed energy models

HP0719, LD 1044, item 1, 124th Maine State Legislature  
An Act To Promote Cogeneration of Energy at Maine Sawmills

## SUMMARY

This bill allows a group of manufacturing facilities, including at least one sawmill, to petition the Public Utilities Commission to designate the area surrounding the facilities as a Pine Tree Energy Zone. Within a designated Pine Tree Energy Zone, the bill provides an exemption from the statutory requirements for the construction of transmission lines in the public way for a person who constructs a private transmission line to transmit electricity generated by a cogeneration facility located at a sawmill in the zone. The bill also directs the Public Utilities Commission to amend its rules governing net energy billing to allow sawmills located in Pine Tree Energy Zones to elect net energy billing for a cogeneration facility with an installed capacity of up to 10 megawatts.

# Plan for a transition to modern efficiencies and distributed energy models

Upgrade existing biomass plants to greater efficiencies and Combined heat and power applications.

- ▶ Create energy campuses for 40 MW facilities and attract manufacturing businesses to these sites.
- ▶ Invest in technologies to meet changing renewable energy requirements.

Encourage development of smaller CHP applications connected to public & private institutions and wood manufacturers.

- ▶ Proposed Robbins Lumber mill combined with new 8MW CHP biomass boiler matching sawmill electric demand & thermal steam for dry kilns.
- ▶ Linkletter Pellet mill combined with new 8 MW CHP biomass boiler combining electric demand with thermal pellet manufacturing process.

