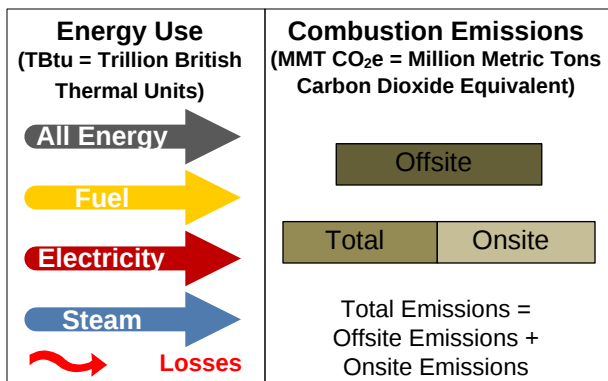
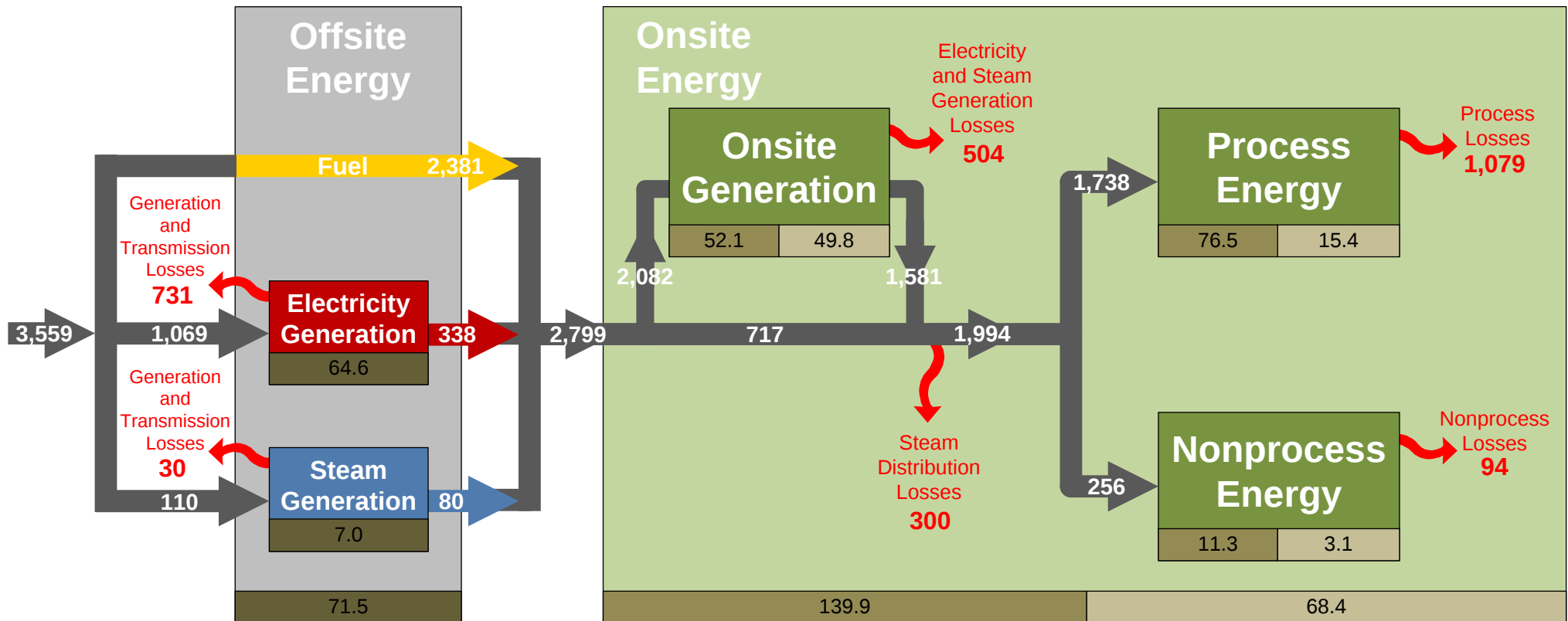


Manufacturing Energy and Carbon Footprint

Sector: Forest Products (NAICS 321, 322)

Total Primary Energy Use: 3,559 TBtu
Total Combustion Emissions: 140 MMT CO₂e

Total Energy



20 Electricity Export

Energy use data source: 2006 MECS (with adjustments)
Last Revised: October 2012
Notes: Feedstock energy not included
Energy values <0.5 TBtu shown as 0
Values represent aggregate data
Offsite generation shown on net basis

Onsite Energy Use: 2,799 TBtu
Onsite Combustion Emissions: 68 MMT CO₂e

Onsite Generation

Conventional Boilers

CHP/ Cogeneration

Other Electricity Generation*	
0.2	0.2

Process Energy

Process Heating

Process Cooling and Refrigeration

Other Process Uses

Electro-Chemical	
0.6	0.0

Machine Drive

Machine-Driven Systems	
Pumps	173
Fans	109
Compressed Air	25
Materials Handling	41
Materials Processing	117
Other Systems	58

76.5	15.4
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Nonprocess Energy

Facility HVAC	
5.0	1.3

Facility Lighting	
33	00

Other Facility Support

Onsite Transportation

1.8	1.6

0.4	0.1
11.3	3.1

Electricity Export

Notes:
Feedstock energy not included
Energy values <0.5 TBtu shown as 0
Values represent aggregate data
Offsite generation shown on net basis

* Onsite, renewable, non-combustion generation contributes 3 TBtu

Combustion Emissions
(MMT CO₂e = Million Metric Tons
Carbon Dioxide Equivalent)

Fuel

Electricity

Steam

Losses

Total	Onsite
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$$\text{Total Emissions} = \text{Offsite Emissions} + \text{Onsite Emissions}$$

Prepared for the Advanced Manufacturing Office (AMO) by Energetics Incorporated