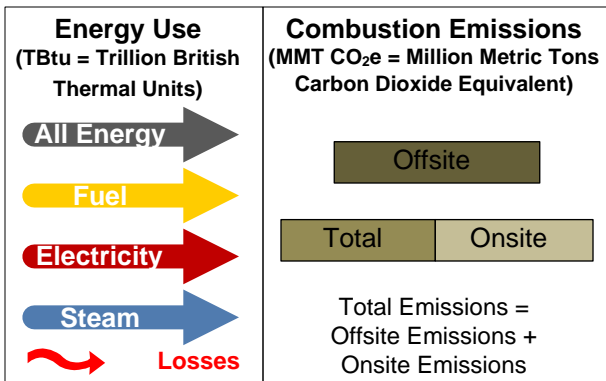
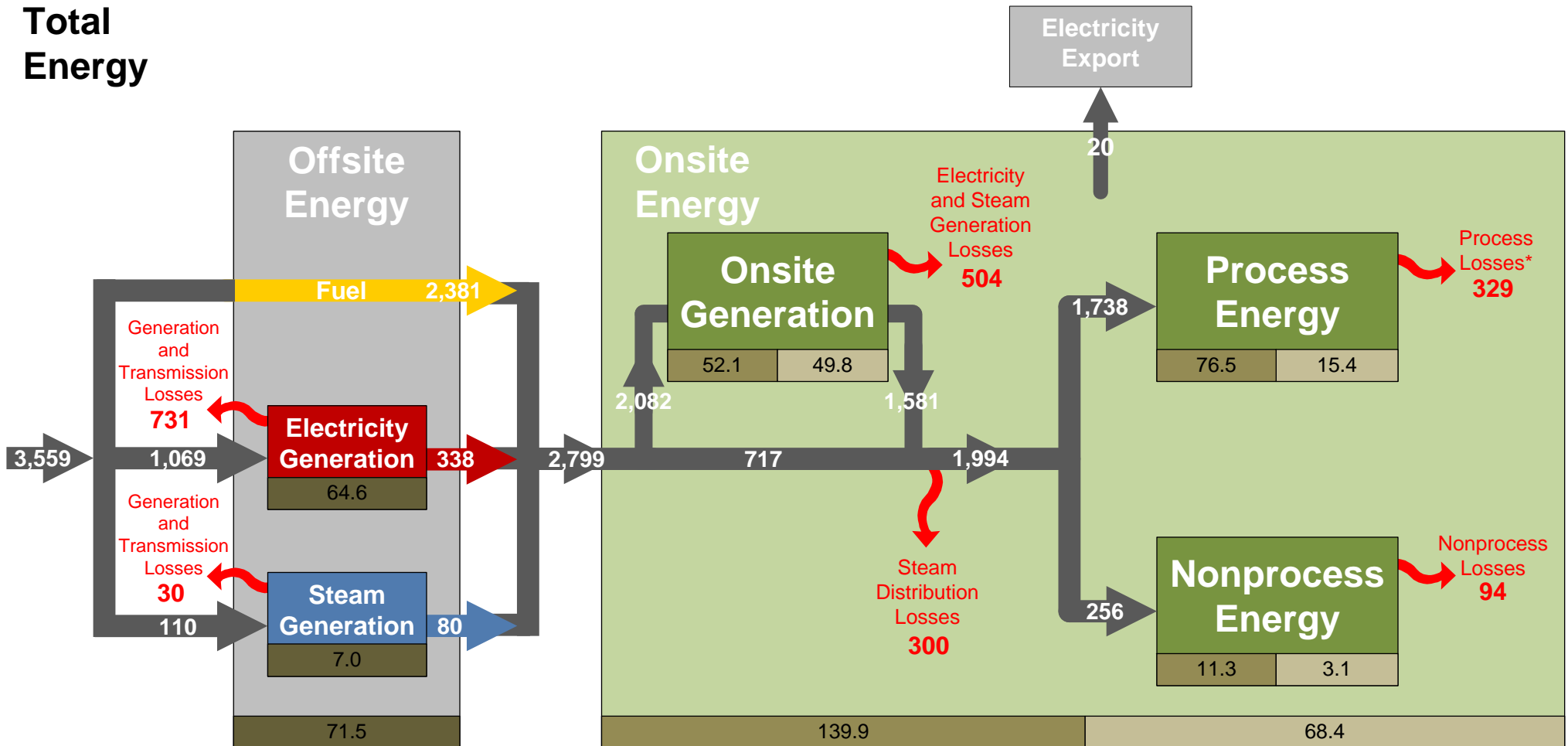


Manufacturing Energy and Carbon Footprint

Sector: Forest Products (NAICS 321, 322)

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

Total Energy



Energy use data source: 2006 MECS (with adjustments)
 Published: August 2010
 Revisions: July 2011, March 2012
 Notes: Feedstock energy not included
 Energy values <0.5 TBtu shown as 0
 Values represent aggregate data

* Process heating losses are not included, but will be estimated in a future revision.

Manufacturing Energy and Carbon Footprint

Sector: Forest Products (NAICS 321, 322)

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

Onsite Energy

Onsite Generation

Conventional Boilers
 13.0 | 10.7

CHP/ Cogeneration
 38.9 | 38.9

Other Electricity Generation*
 0.2 | 0.2

52.1 | 49.8

Steam Generation Losses **447**
 Electricity Generation Losses **57**

Process Energy

Process Heating
 21.5 | 13.6

Process Cooling and Refrigeration
 1.2 | 0.1

Other Process Uses
 1.3 | 0.4

Electro-Chemical
 0.6 | 0.0

Machine Drive
 51.8 | 1.3

Machine-Driven Systems

Pumps	173
Fans	109
Compressed Air	25
Materials Handling	41
Materials Processing	117
Other Systems	58
<hr/>	
	76.5
	15.4

Nonprocess Energy

Facility HVAC
 5.0 | 1.3

Facility Lighting
 3.3 | 0.0

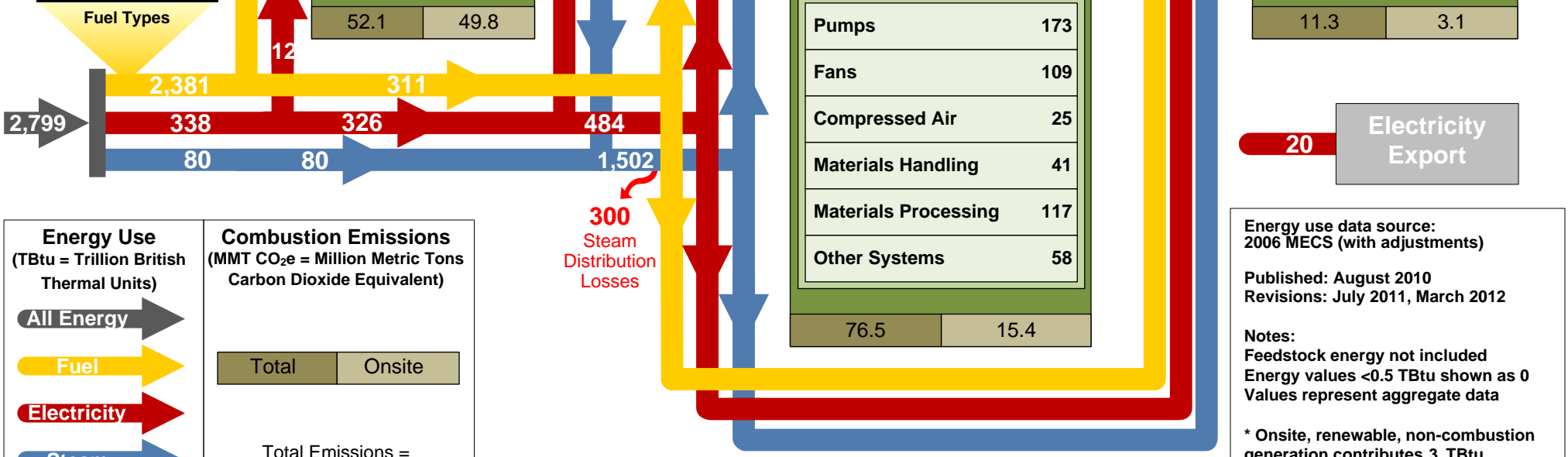
Other Facility Support
 0.9 | 0.1

Onsite Transportation
 1.8 | 1.6

Other Nonprocess
 0.4 | 0.1

11.3 | 3.1

Fuel Type	% of Total
Pulping Liquor or Black Liquor (byproduct fuel)	35%
Biomass	24%
Natural Gas	23%
Coal	10%
Distillate and Residual Fuel Oils	5%
Waste Oils/Tars and Waste Materials (byproduct fuel)	1%
Petroleum Coke (byproduct fuel)	1%
LPG and NGL	<0.5%
Other Fuels	<0.5%



Energy Use
(TBtu = Trillion British Thermal Units)

- All Energy
- Fuel
- Electricity
- Steam
- Losses

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

	Total	Onsite
Total Emissions = Offsite Emissions + Onsite Emissions		

Energy use data source: 2006 MECS (with adjustments)
 Published: August 2010
 Revisions: July 2011, March 2012

Notes:
 Feedstock energy not included
 Energy values <0.5 TBtu shown as 0
 Values represent aggregate data

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