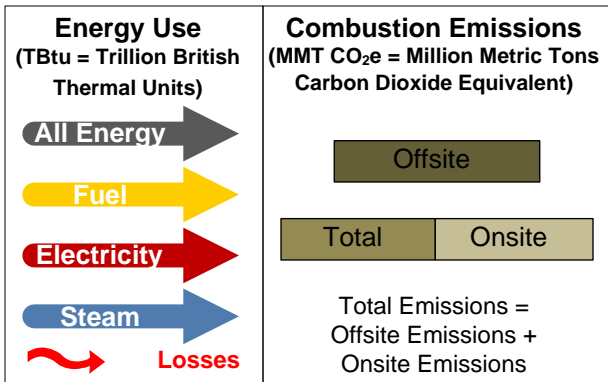
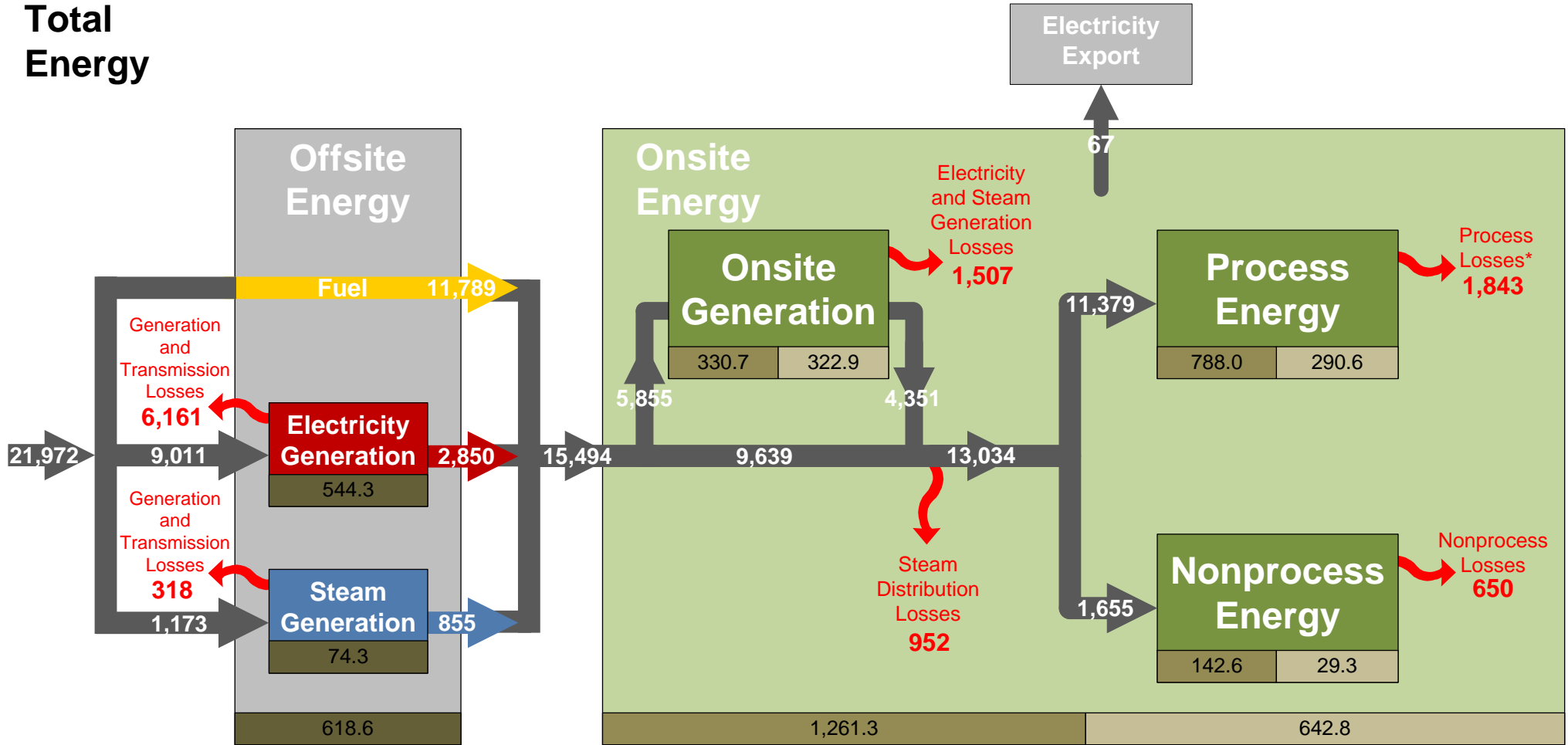


Manufacturing Energy and Carbon Footprint
Sector: All Manufacturing (NAICS 31-33)

Total Primary Energy Use: 21,972 TBtu
Total Combustion Emissions: 1,261 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: All Manufacturing (NAICS 31-33)

Onsite Energy Use: **15,494 TBtu**
 Onsite Combustion Emissions: **643 MMT CO₂e**

Onsite Energy

Onsite Generation

Conventional Boilers
 122.8 | 114.9

CHP/ Cogeneration
 206.0 | 206.0

Other Electricity Generation*
 1.9 | 1.9

330.7 | 322.9

Steam Generation Losses **1,299**
 Electricity Generation Losses **208**

Process Energy

Process Heating
 376.2 | 261.3

Process Cooling and Refrigeration
 43.3 | 1.9

Other Process Uses
 25.4 | 11.2

Electro-Chemical
 39.3 | 0.0

Machine Drive
 303.7 | 16.2

Machine-Driven Systems

Pumps	628
Fans	347
Compressed Air	400
Materials Handling	309
Materials Processing	570
Other Systems	109
Total	788.0
Onsite	290.6

Nonprocess Energy

Facility HVAC
 81.0 | 22.3

Facility Lighting
 37.8 | 0.0

Other Facility Support
 13.3 | 1.8

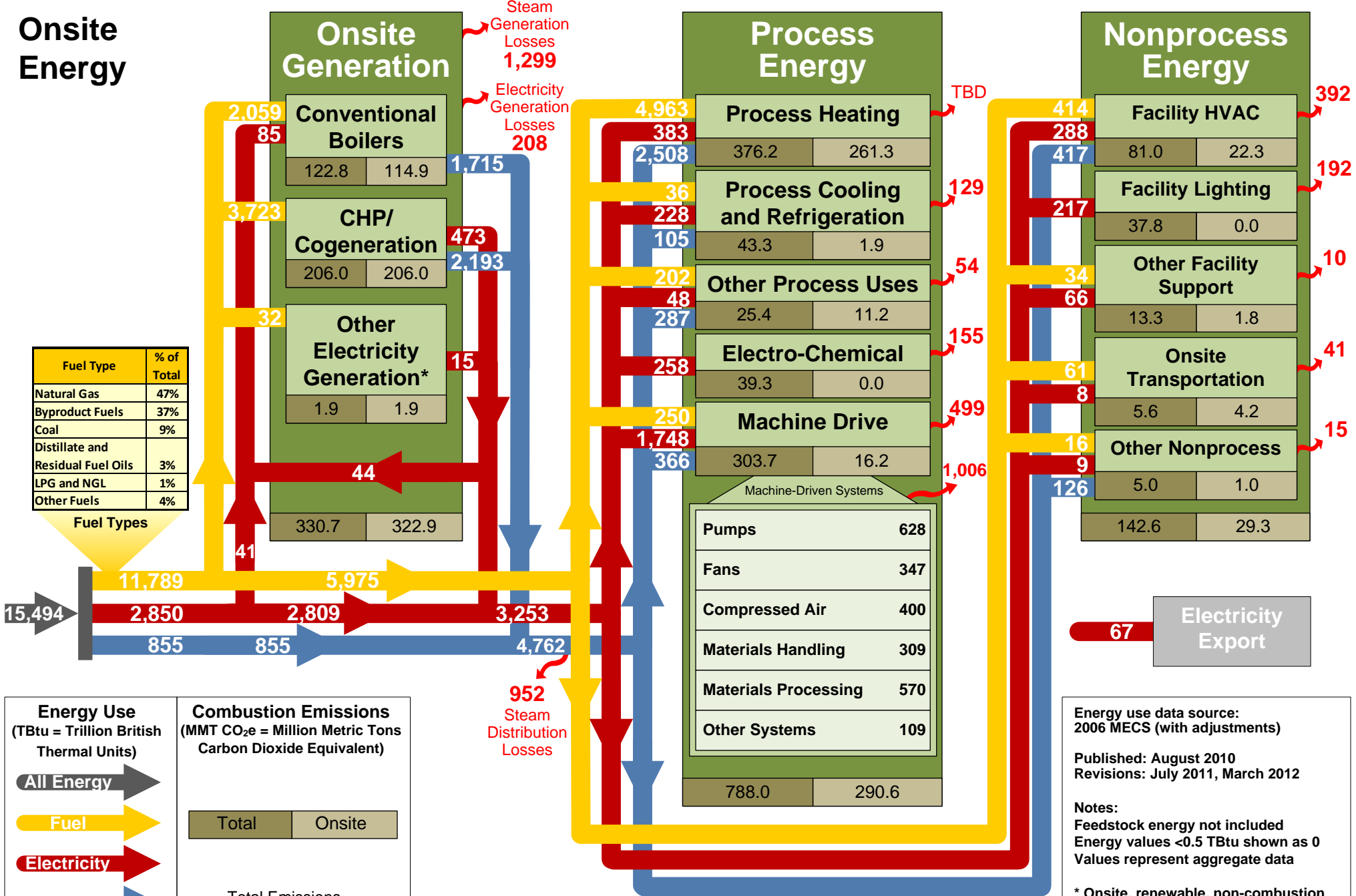
Onsite Transportation
 5.6 | 4.2

Other Nonprocess
 5.0 | 1.0

142.6 | 29.3

Electricity Export
 67

Fuel Type	% of Total
Natural Gas	47%
Byproduct Fuels	37%
Coal	9%
Distillate and Residual Fuel Oils	3%
LPG and NGL	1%
Other Fuels	4%



Energy Use (TBtu = Trillion British Thermal Units)	Combustion Emissions (MMT CO ₂ e = Million Metric Tons Carbon Dioxide Equivalent)
All Energy	Total Onsite
Fuel	
Electricity	
Steam	
Losses	

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 4 TBtu