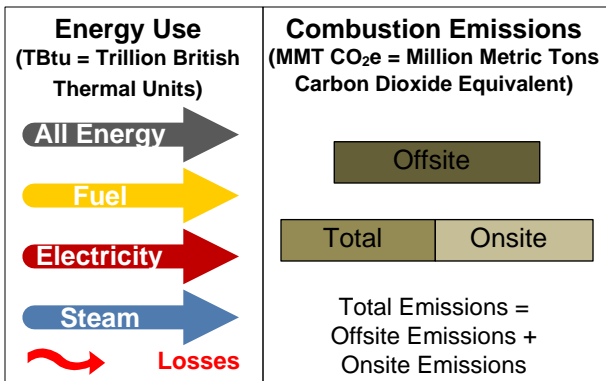
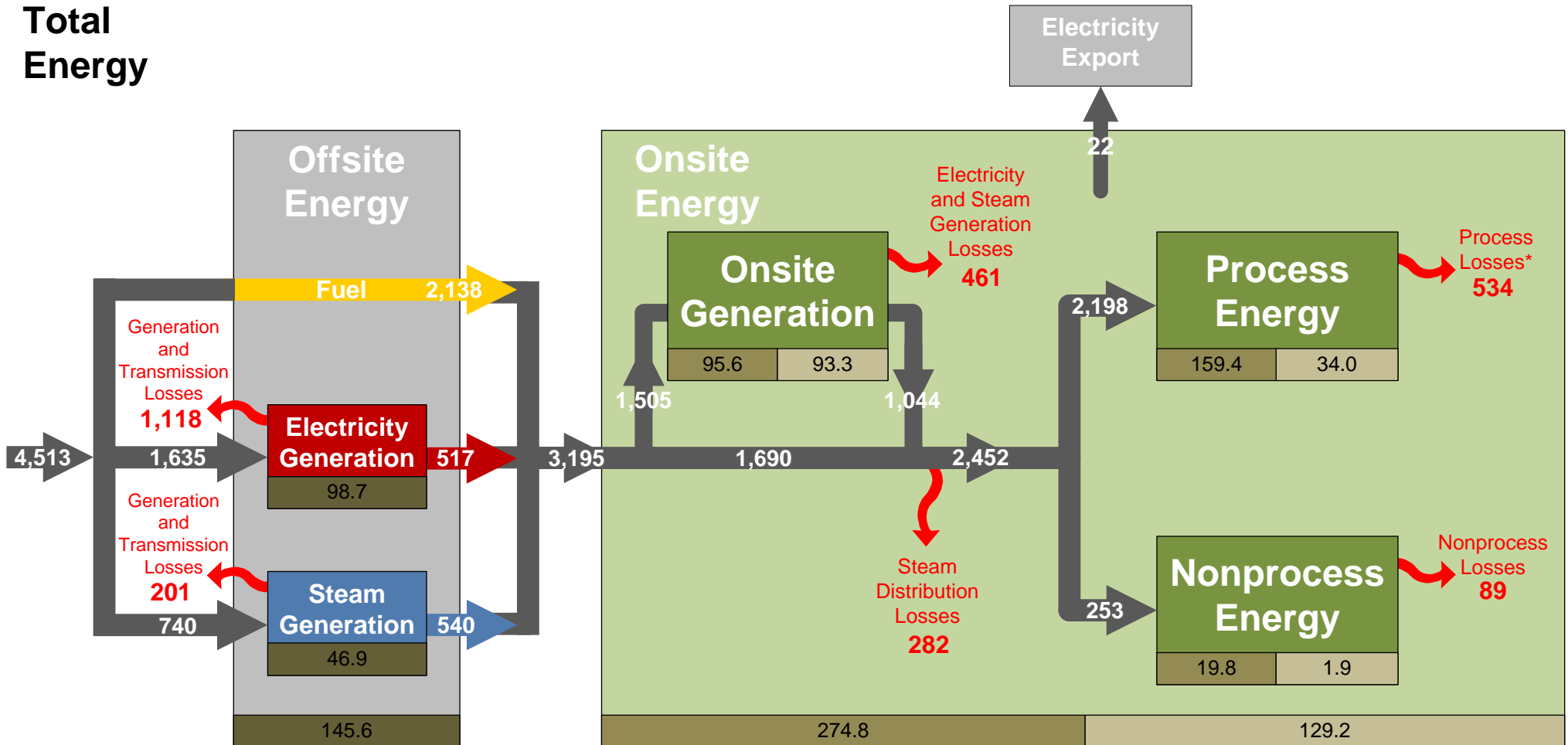


Manufacturing Energy and Carbon Footprint

Sector: Chemicals (NAICS 325)

Total Primary Energy Use: 4,513 TBtu
 Total Combustion Emissions: 275 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: Chemicals (NAICS 325)

Onsite Energy Use: **3,195 TBtu**
 Onsite Combustion Emissions: **129 MMT CO₂e**

Onsite Energy

Onsite Generation

Conventional Boilers
 34.9 | 32.6

CHP/ Cogeneration
 60.5 | 60.5

Other Electricity Generation*
 0.2 | 0.2

95.6 | 93.3

Steam Generation Losses **351**
 Electricity Generation Losses **109**

Process Energy

Process Heating
 63.0 | 27.0

Process Cooling and Refrigeration
 10.7 | 0.9

Other Process Uses
 7.1 | 2.5

Electro-Chemical
 9.4 | 0.0

Machine Drive
 69.3 | 3.7

Machine-Driven Systems

Pumps	165
Fans	75
Compressed Air	176
Materials Handling	9
Materials Processing	150
Other Systems	11

159.4 | 34.0

Nonprocess Energy

Facility HVAC
 11.8 | 1.3

Facility Lighting
 3.8 | 0.0

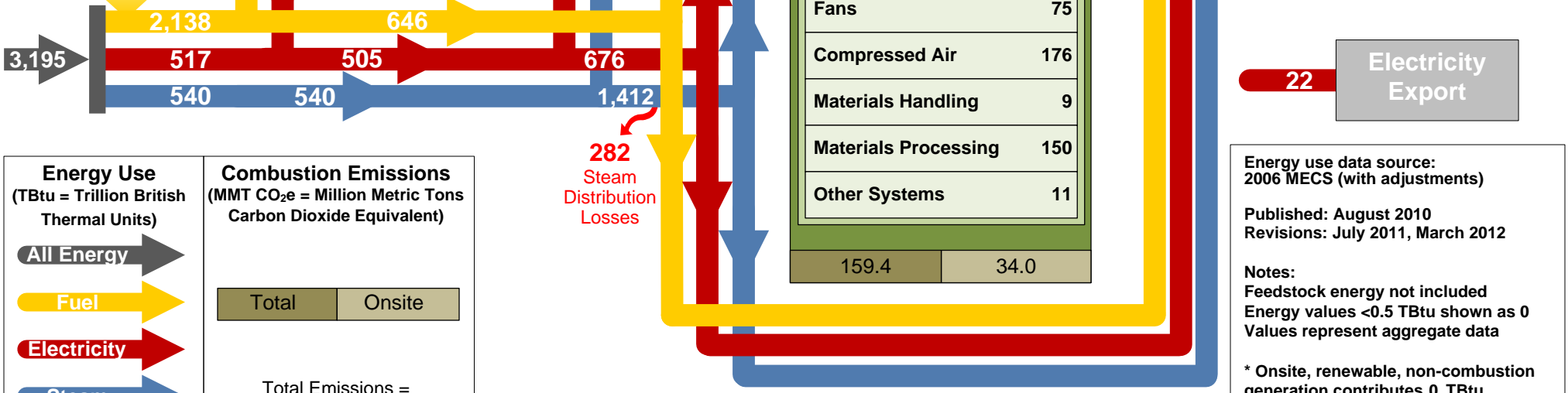
Other Facility Support
 1.6 | 0.1

Onsite Transportation
 0.2 | 0.2

Other Nonprocess
 2.3 | 0.3

19.8 | 1.9

Fuel Type	% of Total
Natural Gas	66%
Waste Gas (byproduct fuel)	22%
Coal	8%
Distillate and Residual Fuel Oils	2%
LPG and NGL	< 0.5%
Other Fuels	2%



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 0 TBtu