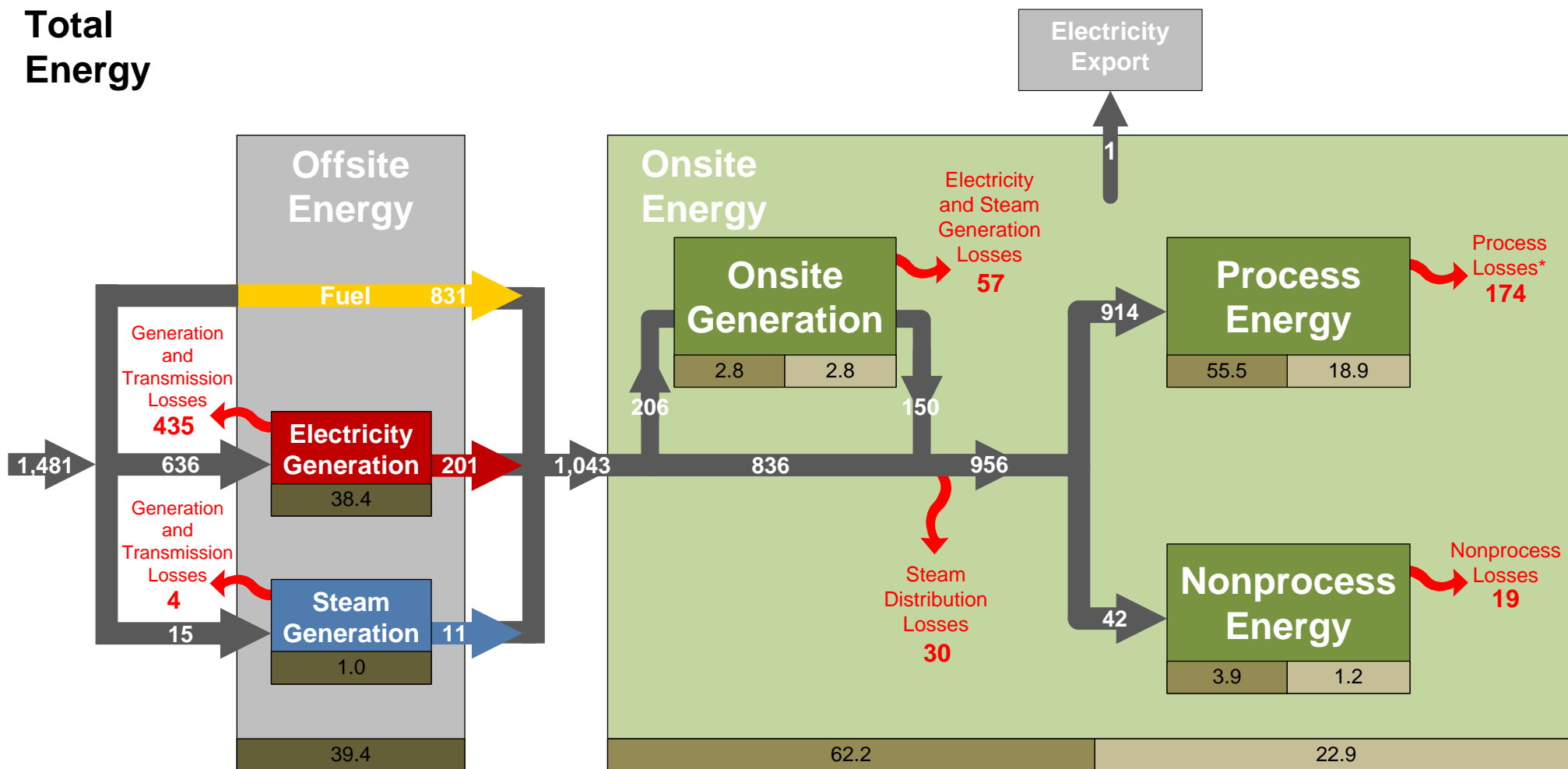


Manufacturing Energy and Carbon Footprint

Sector: Iron and Steel (NAICS 3311,3312)

Total Primary Energy Use: 1,481 TBtu
Total Combustion Emissions: 62 MMT CO₂e

Total Energy



Energy Use (TBtu)	All Energy
	Fuel
	Electricity
	Steam
	Losses
Combustion Emissions (MMT CO ₂ e)	Offsite
	Onsite
	Total
Total = Onsite + Offsite	

* Exhaust losses from process heating are not estimated

Data source: 2006 MECS

Published: August 2010, revised December 2010

Units: TBtu = Trillion British Thermal Units

MMT CO₂e = Million Metric Tons Carbon Dioxide Equivalent

Notes: Feedstock energy not included

Energy values <0.5 TBtu shown as 0

Prepared for the Industrial Technologies Program (ITP) by Energetics Incorporated

Manufacturing Energy and Carbon Footprint

Sector: Iron and Steel (NAICS 3311,3312)

Onsite Energy Use: 1,043 TBtu
Onsite Combustion Emissions: 23 MMT CO₂e

Onsite Energy

Onsite Generation

Steam Generation 48
Electricity Generation 8

Conventional Boilers

1.2 1.2

CHP/Cogeneration

1.6 1.6

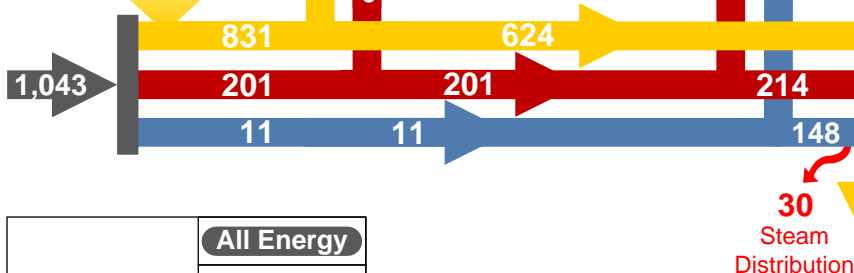
Other Electricity Generation**

0.0 0.0

2.8 2.8

Fuel Type	% of Total
Natural Gas	43%
Coke and Breeze	22%
Blast Furnace/ Coke Oven Gases (byproduct)	29%
Distillate and Residual Fuel Oils	3%
Coal	2%
LPG and NGL	<0.5%
Other Fuels	2%

Fuel Types



Energy Use (TBtu)	All Energy
	Fuel
	Electricity
	Steam
Combustion Emissions (MMT CO ₂ e)	Losses
	Offsite
	Onsite
	Total
Total = Onsite + Offsite	

* Exhaust losses from process heating are not estimated

** Onsite, renewable, non-combustion generation contributes 0 TBtu

Data source: 2006 MECS

Published: August 2010, revised December 2010

Units:

TBtu = Trillion British Thermal Units

MMT CO₂e = Million Metric Tons Carbon Dioxide Equivalent

Feedstock energy not included

Energy values <0.5 TBtu shown as 0

Process Energy

Exhaust Losses*

Process Heating

34.5 17.3

Process Cooling and Refrigeration

0.2 0.0

Other Process Uses

1.5 1.4

Electro-Chemical

1.7 0.0

Machine Drive

17.6 0.3

Machine-Driven Systems

Pumps	10
Fans	18
Compressed Air	17
Materials Handling	55
Materials Processing	15
Other Systems	2

55.5 18.9

Nonprocess Energy

Facility HVAC

2.1 0.9

Facility Lighting

1.3 0.0

Other Facility Support

0.2 0.1

Onsite Transportation

0.2 0.2

Other Nonprocess

0.0 0.0

3.9 1.2

Electricity Export