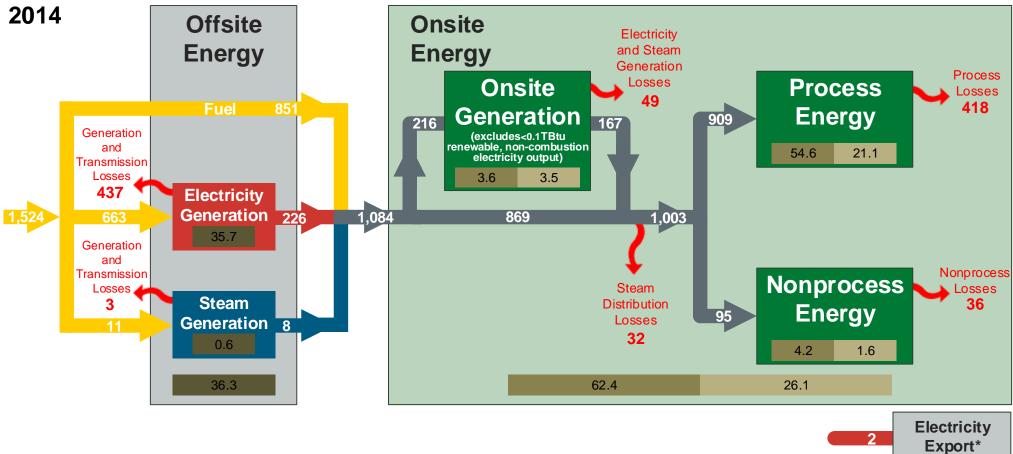
Primary Energy Use: 1,524 TBtu Total Combustion Emissions: 62 MMT CO₂e

Primary Energy,



| Energy (TBtu = Trillion British | • | Energy use 2014 EIA MECS (with adjustments). For full information on references, definitions, assumptions, and other sectors, visit: https://www.energy.gov/eere/amo/manufacturing-energy-and-carbon-footprints-2014-mecs |
|------------------------------------|---|--|
| Thermal Units) | Carbon Dioxide Equivalent) | Last Revised: September 2018 |
| Fuel Electricity | Offsite Total Onsite | Notes: Sector-wide aggregate data for year 2014; energy values rounded to nearest whole number Offsite generation shown on net basis (purchases, sales, and transfers accounted for) and includes onsite non-combustion renewable output * Electricity export refers to sales and transfers offsite of electricity to utilities and other entities Feedstock energy excluded from primary, offsite, and onsite energy values and included in Energy for All Purposes |
| Steam Combined | Total Emissions = | Energy for All Purposes estimated at 1,599 TBtu Includes primary energy plus net energy consumed for nonfuel purposes, including feedstock use |
| Losses | Offsite Emissions + Onsite Emissions | Page 1 of 2 |

Page 1 of 2 Prepared for the U.S. Department of Energy, Advanced Manufacturing Office by Energetics

Manufacturing Energy and Carbon Footprint 1.084 TBtu **Onsite Energy Use:** Onsite Combustion Emissions: Sector: Iron and Steel (NAICS 331110, 3312) 26 MMT CO₂e **Onsite Energy**, Onsite Nonprocess Process 2014 Generation Energy Energy 331 19 24 **Process Heating Facility HVAC** Conventional **Boilers** 77 36.4 18.1 2.1 0.9 48 1.4 1.3 **Process Cooling** 3 Facility Lighting 24 CHP/ and Refrigeration 1.1 0.0 12 Cogeneration 0.9 0.3 75 **Other Facility** 2 33 2.1 2.1 **Other Process Uses** Support 3.0 2.5 Other 0.5 0.2 % of Fuel Type 3 Total Electricity **Electro-Chemical Onsite** 3 Natural Gas 50% Generation Blast Furnace/ 0.8 0.0 Transportation (excludes<0.1TBtu Coke Oven Gases 27% renewable, (byproduct fuel) 0.4 0.4 non-combustion **Machine Drive** Coke and Breeze 17% electricity output) 4 Coal 2% Other 0.0 0.0 91 9 Pumps Distillate and Nonprocess < 1% Residual Fuel Oils 8 Other Fuels 2% 0.1 0.1 0 16 Fans **Fuel Types** 13 3.5 3.6 4.2 1.6 15 **Compressed Air** 11 Electricity 851 636 49 Materials Handling Export* 1.084 226 225 241 11 160 **13 Materials Processing** Energy use data source: 2014 EIA MECS (with adjustments); see page 1 of 2 for reference link Energy **Combustion Emissions** 32 Other Systems Last Revised: September 2018 (MMT CO₂e = Million Metric Tons (TBtu = Trillion British Steam Notes: Distribution Carbon Dioxide Equivalent) Thermal Units) 0.3 13.6 Sector-wide aggregate data for year 2014; Losses energy values and fuel type percentages Fue rounded to nearest whole number 54.6 21.1 Offsite generation shown on net basis Total Onsite Electricity

Total Emissions =

Offsite Emissions +

Onsite Emissions

Steam

Combined

Losses

(purchases, sales, and transfers accounted for) and includes onsite noncombustion renewable output

* Refers to sales and transfers offsite of electricity to utilities and other entities Feedstock energy excluded