Manufacturing Energy and Carbon Footprint
Sector: Petroleum Refining (NAICS 324110)

Onsite Energy Use:
- Total: 3,231 TBtu
- Onsite Combustion Emissions: 210 MMT CO₂eq

Onsite Generation
- Conventional Boilers: 32.4%
- CHP/Cogeneration: 31.7%
- Other Electricity Generation*: 0.6%

Process Energy
- Process Heating: 143.5 TBtu
- Process Cooling and Refrigeration: 1.7 MBtu
- Other Process Uses: 4.4 MBtu
- Electro-Chemical: 0.0 MBtu
- Machine Drive: 26.4 MBtu
  - Pumps: 179 MBtu
  - Fans: 29 MBtu
  - Compressed Air: 46 MBtu
  - Materials Handling: 8 MBtu
  - Materials Processing: 34 MBtu
  - Other Systems: 6 MBtu

Nonprocess Energy
- Facility HVAC: 1.7 MBtu
- Facility Lighting: 0.6 MBtu
- Other Facility Support: 0.4 MBtu
- Onsite Transportation: 0.1 MBtu
- Other Nonprocess: 0.2 MBtu

Energy Use data source:
2006 MECS (with adjustments)
Last Revised: October 2012

Notes:
- Feedstock energy not included
- Energy values <0.5 TBtu shown as 0
- Values represent aggregate data
- Offsite generation shown on net basis
- * Onsite, renewable, non-combustion generation contributes 0 TBtu

Prepared for the Advanced Manufacturing Office (AMO) by Energetics Incorporated