Total Primary Energy, 2010

- **Total Primary Energy Use:** 3,542 TBtu
- **Total Combustion Emissions:** 241 MMT CO$_2$e

### Energy Use Breakdown

#### Offsite Energy
- **Total:** 3,542
- **Fuel:** 2,873
- **Generation and Transmission Losses:** 308

#### Onsite Energy
- **Electricity Generation:** 26.7
- ** Steam Generation:** 13.2
- **Electrical Losses:** 153
- **Steam Distribution Losses:** 150

#### Process Energy
- **Total:** 2,734
- **Electricity and Steam Generation Losses:** 234
- **Steam Distribution Losses:** 150

#### Nonprocess Energy
- **Total:** 240.8
- **Fuel:** 3.2
- **Electricity Export:** 17

**Energy Use Data Source:** 2010 EIA MECS (with adjustments)

**Last Revised:** February 2014

**Notes:**
- Sector-wide aggregate data for year 2010
- Energy values rounded to nearest whole number
- Feedstock energy not included
- Offsite generation shown on net basis (purchases, sales, and transfers accounted for)

Prepared for the U.S. Department of Energy, Advanced Manufacturing Office by Energetics Incorporated
Manufacturing Energy and Carbon Footprint
Sector: Petroleum Refining (NAICS 324110)

Onsite Energy, 2010

Onsite Energy Use: 3,176 TBtu
Onsite Combustion Emissions: 201 MMT CO$_2$e

Fuel Types
- Still Gas (byproduct fuel): 46.9%
- Natural Gas: 29.9%
- Petroleum Coke (byproduct fuel): 19.2%
- Distillate and Residual Fuel Oils: 0.9%
- LPG and NGL: 0.9%
- Coal: < 0.1%
- Other Fuels: 2.2%

Energy (TBtu = Trillion British Thermal Units)
- Fuel
- Electricity
- Steam
- Combined
- Losses

Combustion Emissions (MMT CO$_2$e = Million Metric Tons Carbon Dioxide Equivalent)
- Total
- Onsite

Total Emissions = Offsite Emissions + Onsite Emissions

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