

Table A6. Industrial sector key indicators and consumption

| Shipments, prices, and consumption | Reference case | | | | | | | Annual growth 2012-2040 (percent) |
|--|----------------|--------------|--------------|--------------|--------------|---------------|---------------|---|
| | 2011 | 2012 | 2020 | 2025 | 2030 | 2035 | 2040 | |
| Key indicators | | | | | | | | |
| Value of shipments (billion 2005 dollars) | | | | | | | | |
| Manufacturing | 4,370 | 4,525 | 5,735 | 6,467 | 7,148 | 7,784 | 8,443 | 2.3% |
| Agriculture, mining, and construction | 1,556 | 1,623 | 2,226 | 2,311 | 2,389 | 2,457 | 2,551 | 1.6% |
| Total | 5,926 | 6,147 | 7,960 | 8,778 | 9,537 | 10,241 | 10,994 | 2.1% |
| Energy prices | | | | | | | | |
| (2012 dollars per million Btu) | | | | | | | | |
| Propane | 22.63 | 21.09 | 20.64 | 22.06 | 23.27 | 24.73 | 25.84 | 0.7% |
| Motor gasoline | 23.19 | 17.52 | 25.56 | 27.34 | 28.51 | 30.36 | 32.62 | 2.2% |
| Distillate fuel oil | 27.04 | 27.41 | 22.22 | 24.45 | 26.11 | 27.97 | 29.92 | 0.3% |
| Residual fuel oil | 19.17 | 20.90 | 14.88 | 16.65 | 18.29 | 19.79 | 21.48 | 0.1% |
| Asphalt and road oil | 10.13 | 10.11 | 10.85 | 12.26 | 13.38 | 14.60 | 15.80 | 1.6% |
| Natural gas heat and power | 4.80 | 3.43 | 5.59 | 6.11 | 6.79 | 7.58 | 8.43 | 3.3% |
| Natural gas feedstocks | 5.41 | 4.16 | 6.01 | 6.55 | 7.21 | 7.96 | 8.78 | 2.7% |
| Metallurgical coal | 7.13 | 7.25 | 8.43 | 8.95 | 9.51 | 9.93 | 10.20 | 1.2% |
| Other industrial coal | 3.31 | 3.24 | 3.59 | 3.73 | 3.88 | 4.03 | 4.19 | 0.9% |
| Coal to liquids | -- | -- | -- | -- | -- | -- | -- | -- |
| Electricity | 20.35 | 19.50 | 20.77 | 21.08 | 21.99 | 22.91 | 24.05 | 0.8% |
| (nominal dollars per million Btu) | | | | | | | | |
| Propane | 22.24 | 21.09 | 23.38 | 27.18 | 31.32 | 36.84 | 42.83 | 2.6% |
| Motor gasoline | 22.79 | 17.52 | 28.95 | 33.68 | 38.37 | 45.22 | 54.08 | 4.1% |
| Distillate fuel oil | 26.56 | 27.41 | 25.17 | 30.12 | 35.15 | 41.66 | 49.61 | 2.1% |
| Residual fuel oil | 18.84 | 20.90 | 16.85 | 20.51 | 24.62 | 29.47 | 35.61 | 1.9% |
| Asphalt and road oil | 9.95 | 10.11 | 12.29 | 15.10 | 18.02 | 21.75 | 26.20 | 3.5% |
| Natural gas heat and power | 4.72 | 3.43 | 6.33 | 7.53 | 9.14 | 11.29 | 13.98 | 5.1% |
| Natural gas feedstocks | 5.32 | 4.16 | 6.81 | 8.07 | 9.70 | 11.86 | 14.56 | 4.6% |
| Metallurgical coal | 7.01 | 7.25 | 9.55 | 11.03 | 12.81 | 14.80 | 16.91 | 3.1% |
| Other industrial coal | 3.25 | 3.24 | 4.07 | 4.59 | 5.23 | 6.00 | 6.95 | 2.8% |
| Coal to liquids | -- | -- | -- | -- | -- | -- | -- | -- |
| Electricity | 19.99 | 19.50 | 23.52 | 25.96 | 29.60 | 34.13 | 39.88 | 2.6% |
| Energy consumption (quadrillion Btu)¹ | | | | | | | | |
| Industrial consumption excluding refining | | | | | | | | |
| Propane heat and power | 0.13 | 0.08 | 0.15 | 0.16 | 0.16 | 0.15 | 0.15 | 2.2% |
| Liquefied petroleum gas and other feedstocks ² .. | 2.12 | 2.16 | 2.75 | 2.89 | 2.89 | 2.81 | 2.75 | 0.9% |
| Motor gasoline | 0.26 | 0.26 | 0.30 | 0.30 | 0.30 | 0.29 | 0.29 | 0.4% |
| Distillate fuel oil | 1.24 | 1.19 | 1.40 | 1.41 | 1.41 | 1.41 | 1.42 | 0.6% |
| Residual fuel oil | 0.13 | 0.10 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 1.5% |
| Petrochemical feedstocks | 0.88 | 0.75 | 1.27 | 1.52 | 1.62 | 1.62 | 1.59 | 2.7% |
| Petroleum coke | 0.12 | 0.15 | 0.16 | 0.16 | 0.16 | 0.15 | 0.16 | 0.1% |
| Asphalt and road oil | 0.86 | 0.83 | 1.13 | 1.16 | 1.21 | 1.26 | 1.32 | 1.7% |
| Miscellaneous petroleum ³ | 0.45 | 0.56 | 0.47 | 0.51 | 0.54 | 0.55 | 0.57 | 0.0% |
| Petroleum and other liquids subtotal | 6.18 | 6.09 | 7.76 | 8.25 | 8.43 | 8.41 | 8.41 | 1.2% |
| Natural gas heat and power | 5.14 | 5.22 | 5.79 | 6.05 | 6.18 | 6.26 | 6.35 | 0.7% |
| Natural gas feedstocks | 0.53 | 0.58 | 0.68 | 0.71 | 0.70 | 0.69 | 0.68 | 0.5% |
| Lease and plant fuel ⁴ | 1.35 | 1.45 | 1.77 | 1.99 | 2.16 | 2.29 | 2.41 | 1.8% |
| Natural gas subtotal | 7.03 | 7.25 | 8.25 | 8.74 | 9.04 | 9.24 | 9.43 | 0.9% |
| Metallurgical coal and coke ⁵ | 0.58 | 0.55 | 0.58 | 0.57 | 0.52 | 0.46 | 0.42 | -0.9% |
| Other industrial coal | 0.95 | 0.93 | 0.99 | 1.00 | 1.00 | 1.00 | 1.01 | 0.3% |
| Coal subtotal | 1.52 | 1.48 | 1.57 | 1.57 | 1.52 | 1.45 | 1.44 | -0.1% |
| Renewables ⁶ | 1.49 | 1.48 | 1.74 | 1.88 | 2.01 | 2.13 | 2.28 | 1.6% |
| Purchased electricity | 3.18 | 3.15 | 3.87 | 4.11 | 4.17 | 4.16 | 4.18 | 1.0% |
| Delivered energy | 19.40 | 19.45 | 23.18 | 24.56 | 25.17 | 25.39 | 25.73 | 1.0% |
| Electricity related losses | 6.64 | 6.50 | 7.71 | 8.06 | 8.02 | 7.86 | 7.80 | 0.7% |
| Total | 26.04 | 25.95 | 30.90 | 32.61 | 33.19 | 33.25 | 33.53 | 0.9% |

Table A6. Industrial sector key indicators and consumption (continued)

| Shipments, prices, and consumption | Reference case | | | | | | | Annual growth 2012-2040 (percent) |
|--|----------------|--------------|--------------|--------------|--------------|--------------|--------------|---|
| | 2011 | 2012 | 2020 | 2025 | 2030 | 2035 | 2040 | |
| Refining consumption | | | | | | | | |
| Liquefied petroleum gas heat and power ² | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Distillate fuel oil..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Residual fuel oil..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Petroleum coke..... | 0.53 | 0.54 | 0.45 | 0.41 | 0.40 | 0.39 | 0.40 | -1.1% |
| Still gas..... | 1.40 | 1.41 | 1.35 | 1.29 | 1.28 | 1.28 | 1.30 | -0.3% |
| Miscellaneous petroleum ³ | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Petroleum and other liquids subtotal..... | 1.95 | 1.97 | 1.80 | 1.70 | 1.67 | 1.67 | 1.69 | -0.5% |
| Natural gas heat and power..... | 1.09 | 1.19 | 1.43 | 1.48 | 1.47 | 1.47 | 1.48 | 0.8% |
| Natural gas feedstocks..... | 0.29 | 0.30 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.6% |
| Natural-gas-to-liquids heat and power..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Natural gas subtotal..... | 1.38 | 1.50 | 1.79 | 1.84 | 1.83 | 1.83 | 1.85 | 0.8% |
| Other industrial coal..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Coal-to-liquids heat and power..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Coal subtotal..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Biofuels heat and coproducts..... | 0.46 | 0.52 | 0.76 | 0.79 | 0.79 | 0.79 | 0.79 | 1.5% |
| Purchased electricity..... | 0.20 | 0.20 | 0.17 | 0.17 | 0.16 | 0.16 | 0.16 | -0.7% |
| Delivered energy | 4.00 | 4.18 | 4.52 | 4.49 | 4.45 | 4.45 | 4.49 | 0.3% |
| Electricity related losses..... | 0.42 | 0.40 | 0.34 | 0.32 | 0.31 | 0.30 | 0.30 | -1.0% |
| Total | 4.42 | 4.59 | 4.86 | 4.82 | 4.76 | 4.76 | 4.79 | 0.2% |
| Total industrial sector consumption | | | | | | | | |
| Liquefied petroleum gas heat and power ² | 0.13 | 0.09 | 0.15 | 0.16 | 0.16 | 0.15 | 0.15 | 1.9% |
| Liquefied petroleum gas and other feedstocks ² .. | 2.12 | 2.16 | 2.75 | 2.89 | 2.89 | 2.81 | 2.75 | 0.9% |
| Motor gasoline..... | 0.26 | 0.26 | 0.30 | 0.30 | 0.30 | 0.29 | 0.29 | 0.4% |
| Distillate fuel oil..... | 1.24 | 1.20 | 1.40 | 1.41 | 1.41 | 1.41 | 1.42 | 0.6% |
| Residual fuel oil..... | 0.13 | 0.10 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 1.4% |
| Petrochemical feedstocks..... | 0.88 | 0.75 | 1.27 | 1.52 | 1.62 | 1.62 | 1.59 | 2.7% |
| Petroleum coke..... | 0.65 | 0.69 | 0.61 | 0.57 | 0.56 | 0.55 | 0.56 | -0.8% |
| Asphalt and road oil..... | 0.86 | 0.83 | 1.13 | 1.16 | 1.21 | 1.26 | 1.32 | 1.7% |
| Still gas..... | 1.40 | 1.41 | 1.35 | 1.29 | 1.28 | 1.28 | 1.30 | -0.3% |
| Miscellaneous petroleum ³ | 0.46 | 0.57 | 0.47 | 0.51 | 0.54 | 0.55 | 0.57 | 0.0% |
| Petroleum and other liquids subtotal..... | 8.13 | 8.06 | 9.56 | 9.95 | 10.10 | 10.08 | 10.10 | 0.8% |
| Natural gas heat and power..... | 6.24 | 6.41 | 7.23 | 7.52 | 7.65 | 7.74 | 7.83 | 0.7% |
| Natural gas feedstocks..... | 0.82 | 0.88 | 1.04 | 1.07 | 1.06 | 1.05 | 1.04 | 0.6% |
| Natural-gas-to-liquids heat and power..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Lease and plant fuel ⁴ | 1.35 | 1.45 | 1.77 | 1.99 | 2.16 | 2.29 | 2.41 | 1.8% |
| Natural gas subtotal..... | 8.41 | 8.75 | 10.04 | 10.58 | 10.87 | 11.07 | 11.28 | 0.9% |
| Metallurgical coal and coke ⁵ | 0.58 | 0.55 | 0.58 | 0.57 | 0.52 | 0.46 | 0.42 | -0.9% |
| Other industrial coal..... | 0.95 | 0.93 | 0.99 | 1.00 | 1.00 | 1.00 | 1.01 | 0.3% |
| Coal-to-liquids heat and power..... | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -- |
| Coal subtotal..... | 1.53 | 1.48 | 1.57 | 1.57 | 1.52 | 1.45 | 1.44 | -0.1% |
| Biofuels heat and coproducts..... | 0.46 | 0.52 | 0.76 | 0.79 | 0.79 | 0.79 | 0.79 | 1.5% |
| Renewables ⁶ | 1.49 | 1.48 | 1.74 | 1.88 | 2.01 | 2.13 | 2.28 | 1.6% |
| Purchased electricity..... | 3.38 | 3.35 | 4.04 | 4.27 | 4.33 | 4.32 | 4.34 | 0.9% |
| Delivered energy | 23.40 | 23.63 | 27.71 | 29.05 | 29.62 | 29.84 | 30.22 | 0.9% |
| Electricity related losses..... | 7.06 | 6.91 | 8.05 | 8.38 | 8.33 | 8.16 | 8.10 | 0.6% |
| Total | 30.46 | 30.54 | 35.76 | 37.43 | 37.94 | 38.00 | 38.33 | 0.8% |

Table A6. Industrial sector key indicators and consumption (continued)

| Key indicators and consumption | Reference case | | | | | | | Annual growth 2012-2040 (percent) |
|--|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------------------|
| | 2011 | 2012 | 2020 | 2025 | 2030 | 2035 | 2040 | |
| Energy consumption per dollar of shipments (thousand Btu per 2005 dollar) | | | | | | | | |
| Petroleum and other liquids | 1.37 | 1.31 | 1.20 | 1.13 | 1.06 | 0.98 | 0.92 | -1.3% |
| Natural gas | 1.42 | 1.42 | 1.26 | 1.21 | 1.14 | 1.08 | 1.03 | -1.2% |
| Coal | 0.26 | 0.24 | 0.20 | 0.18 | 0.16 | 0.14 | 0.13 | -2.2% |
| Renewable fuels ⁵ | 0.33 | 0.33 | 0.31 | 0.30 | 0.29 | 0.29 | 0.28 | -0.5% |
| Purchased electricity | 0.57 | 0.54 | 0.51 | 0.49 | 0.45 | 0.42 | 0.40 | -1.1% |
| Delivered energy | 3.95 | 3.84 | 3.48 | 3.31 | 3.11 | 2.91 | 2.75 | -1.2% |
| Industrial combined heat and power¹ | | | | | | | | |
| Capacity (gigawatts) | 25.51 | 26.95 | 31.11 | 34.21 | 38.48 | 43.27 | 46.16 | 1.9% |
| Generation (billion kilowatthours) | 140.20 | 143.79 | 169.54 | 185.50 | 207.81 | 233.21 | 249.22 | 2.0% |

¹Includes combined heat and power plants that have a regulatory status, and small on-site generating systems.

²Includes ethane, natural gasoline, and refinery olefins.

³Includes lubricants and miscellaneous petroleum products.

⁴Represents natural gas used in well, field, and lease operations, in natural gas processing plant machinery, and for liquefaction in export facilities.

⁵Includes net coal coke imports.

⁶Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal waste, and other biomass sources.

Btu = British thermal unit.

-- = Not applicable.

Note: Includes estimated consumption for petroleum and other liquids. Totals may not equal sum of components due to independent rounding. Data for 2011 and 2012 are model results and may differ from official EIA data reports.

Sources: 2011 and 2012 prices for motor gasoline and distillate fuel oil are based on: U.S. Energy Information Administration (EIA), *Petroleum Marketing Monthly*, DOE/EIA-0380(2013/08) (Washington, DC, August 2013). 2011 and 2012 petrochemical feedstock and asphalt and road oil prices are based on: EIA, *State Energy Data Report 2011*, DOE/EIA-0214(2011) (Washington, DC, June 2013). 2011 and 2012 coal prices are based on: EIA, *Quarterly Coal Report, October-December 2012*, DOE/EIA-0121(2012/4Q) (Washington, DC, March 2013) and EIA, AEO2014 National Energy Modeling System run REF2014.D102413A. 2011 and 2012 electricity prices: EIA, *Monthly Energy Review*, DOE/EIA-0035(2013/09) (Washington, DC, September 2013). 2011 natural gas prices: EIA, *Natural Gas Annual 2011*, DOE/EIA-0131(2011) (Washington, DC, December 2012) and EIA, Office of Energy Analysis. 2012 natural gas prices: *Natural Gas Monthly*, DOE/EIA-0130(2013/06) (Washington, DC, June 2013) and EIA, Office of Energy Analysis. 2011 refining consumption values are based on: *Petroleum Supply Annual 2011*, DOE/EIA-0340(2011)/1 (Washington, DC, August 2012). 2012 refining consumption based on: *Petroleum Supply Annual 2012*, DOE/EIA-0340(2012)/1 (Washington, DC, September 2013). Other 2011 and 2012 consumption values are based on: EIA, *Monthly Energy Review*, DOE/EIA-0035(2013/09) (Washington, DC, September 2013). 2011 and 2012 shipments: IHS Global Insight, Global Insight Industry model, May 2013. Projections: EIA, AEO2014 National Energy Modeling System run REF2014.D102413A.