

**Table 20. Total Delivered Industrial Energy Consumption, Projected vs. Actual**

|                                       | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>Projected</b><br>(quadrillion Btu) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| AEO 1994                              | 25.4 | 25.9 | 26.3 | 26.7 | 27.0 | 27.1 | 26.8 | 26.6 | 26.9 | 27.2 | 27.7 | 28.1 | 28.3 | 28.7 | 29.1 | 29.4 | 29.7 | 30.0 |      |      |      |      |      |      |      |      |      |
| AEO 1995                              |      | 26.2 | 26.3 | 26.5 | 27.0 | 27.3 | 26.9 | 26.6 | 26.8 | 27.1 | 27.5 | 27.9 | 28.2 | 28.4 | 28.7 | 29.0 | 29.3 | 29.6 |      |      |      |      |      |      |      |      |      |
| AEO 1996                              |      |      | 26.5 | 26.6 | 27.3 | 27.5 | 26.9 | 26.5 | 26.7 | 26.9 | 27.2 | 27.6 | 27.9 | 28.2 | 28.3 | 28.5 | 28.7 | 28.9 | 29.2 | 29.4 | 29.6 | 29.9 | 30.0 |      |      |      |      |
| AEO 1997                              |      |      |      | 26.2 | 26.5 | 26.9 | 26.7 | 26.6 | 26.8 | 27.1 | 27.4 | 27.8 | 28.0 | 28.4 | 28.7 | 28.9 | 29.0 | 29.2 | 29.4 | 29.5 | 29.7 | 29.9 | 30.1 |      |      |      |      |
| AEO 1998                              |      |      |      |      | 27.2 | 27.5 | 27.2 | 26.9 | 27.1 | 27.5 | 27.7 | 27.9 | 28.3 | 28.7 | 29.0 | 29.3 | 29.7 | 29.9 | 30.1 | 30.4 | 30.5 | 30.5 | 30.6 | 30.7 | 30.8 | 30.8 | 31.0 |
| AEO 1999                              |      |      |      |      |      | 26.7 | 26.4 | 26.4 | 26.8 | 27.1 | 27.3 | 27.5 | 27.9 | 28.3 | 28.6 | 28.9 | 29.2 | 29.5 | 29.7 | 30.0 | 30.2 | 30.5 | 30.9 | 31.1 | 31.4 | 31.7 | 31.9 |
| AEO 2000                              |      |      |      |      |      |      | 25.8 | 25.5 | 25.7 | 26.0 | 26.5 | 26.9 | 27.4 | 27.8 | 28.1 | 28.3 | 28.5 | 28.8 | 29.0 | 29.2 | 29.6 | 29.9 | 30.3 | 30.5 | 30.7 | 30.9 | 31.2 |
| AEO 2001                              |      |      |      |      |      |      |      | 25.8 | 26.2 | 26.6 | 27.0 | 27.3 | 27.7 | 28.1 | 28.5 | 28.8 | 29.1 | 29.4 | 29.7 | 30.0 | 30.4 | 30.7 | 31.2 | 31.5 | 31.9 | 32.2 | 32.6 |
| AEO 2002                              |      |      |      |      |      |      |      |      | 24.5 | 25.8 | 26.6 | 27.0 | 27.5 | 28.0 | 28.5 | 28.8 | 29.2 | 29.7 | 30.2 | 30.6 | 30.9 | 31.2 | 31.5 | 31.8 | 32.1 | 32.4 | 32.7 |
| AEO 2003                              |      |      |      |      |      |      |      |      |      | 25.5 | 25.9 | 26.2 | 26.4 | 26.7 | 27.2 | 27.6 | 28.1 | 28.8 | 29.3 | 29.8 | 30.2 | 30.5 | 30.8 | 31.1 | 31.4 | 31.8 | 32.2 |
| AEO 2004                              |      |      |      |      |      |      |      |      |      |      | 24.5 | 24.9 | 25.7 | 26.1 | 26.5 | 26.9 | 27.1 | 27.5 | 27.9 | 28.3 | 28.7 | 29.0 | 29.3 | 29.7 | 30.1 | 30.6 | 31.0 |
| AEO 2005                              |      |      |      |      |      |      |      |      |      |      |      | 25.5 | 25.9 | 26.2 | 26.4 | 26.9 | 27.2 | 27.3 | 27.6 | 27.8 | 27.9 | 28.2 | 28.3 | 28.5 | 28.8 | 29.2 | 29.4 |
| AEO 2006                              |      |      |      |      |      |      |      |      |      |      |      |      | 25.2 | 25.4 | 26.1 | 26.3 | 26.5 | 26.7 | 27.0 | 27.2 | 27.3 | 27.5 | 27.7 | 28.0 | 28.2 | 28.4 | 28.6 |
| AEO 2007                              |      |      |      |      |      |      |      |      |      |      |      |      |      | 25.3 | 25.5 | 25.8 | 26.1 | 26.3 | 26.5 | 26.6 | 26.7 | 26.9 | 27.0 | 27.1 | 27.2 | 27.3 | 27.6 |
| AEO 2008                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 25.2 | 25.8 | 25.3 | 25.8 | 26.2 | 26.2 | 26.2 | 26.2 | 26.3 | 26.4 | 26.4 | 26.5 | 26.5 |
| AEO 2009                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 25.1 | 23.3 | 22.8 | 23.5 | 23.9 | 24.3 | 24.2 | 23.9 | 23.9 | 23.9 | 23.9 | 24.0 |
| AEO 2010                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 22.2 | 22.3 | 23.0 | 23.8 | 24.2 | 24.6 | 24.8 | 24.9 | 25.0 | 25.1 | 25.3 |
| AEO 2011                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 23.1 | 24.2 | 25.0 | 26.0 | 26.2 | 26.7 | 26.8 | 26.9 | 27.0 | 27.1 |
| AEO 2012                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 23.8 | 23.8 | 23.1 | 23.7 | 24.0 | 24.2 | 24.2 | 24.3 | 24.4 |
| AEO 2013                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 24.3 | 23.8 | 24.0 | 24.9 | 25.5 | 26.0 | 26.4 | 26.7 |
| AEO 2014                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 23.8 | 24.2 | 25.3 | 26.0 | 26.5 | 27.0 | 27.3 |
| AEO 2015                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 24.7 | 25.2 | 25.9 | 26.2 | 26.6 | 27.1 |
| AEO 2016                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 24.5 | 24.3 | 24.7 | 25.1 | 25.8 |
| AEO 2017                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 24.6 | 25.0 | 25.8 | 26.4 |
| AEO 2018                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 24.8 | 25.6 | 26.4 |
| AEO 2019                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 26.0 | 26.4 |
| AEO 2020                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 26.3 |
| <b>Actual</b>                         | 25.1 | 25.8 | 26.2 | 26.9 | 27.2 | 26.8 | 26.6 | 26.5 | 25.2 | 25.2 | 25.0 | 25.9 | 24.9 | 25.0 | 24.9 | 24.0 | 21.9 | 23.6 | 23.8 | 24.1 | 24.6 | 24.6 | 24.5 | 25.0 | 25.2 | 26.2 | 26.4 |
| <b>Average Absolute Difference</b>    | 0.3  | 0.2  | 0.2  | 0.4  | 0.3  | 0.4  | 0.4  | 0.3  | 1.3  | 1.5  | 2.0  | 1.4  | 2.4  | 2.5  | 2.8  | 3.8  | 5.7  | 4.2  | 3.8  | 3.5  | 3.3  | 3.2  | 3.4  | 2.9  | 2.9  | 2.4  | 2.3  |

**Table 20. Total Delivered Industrial Energy Consumption, Projected vs. Actual (continued)**

**Projected vs. Actual**

(percent difference)

|                                     | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| AEO 1994                            |      | 1.4  | 0.3  | 0.5  | -1.0 | -0.9 | 1.1  | 0.7  | 0.5  | 6.8  | 8.1  | 10.7 | 8.4  | 13.9 | 14.8 | 16.9 | 22.6 | 35.7 | 27.2 |      |      |      |      |      |      |      |      |      |      |
| AEO 1995                            |      |      | 1.3  | 0.5  | -1.6 | -0.7 | 1.8  | 1.1  | 0.5  | 6.4  | 7.6  | 9.9  | 7.7  | 13.1 | 13.9 | 15.5 | 21.1 | 33.9 | 25.5 |      |      |      |      |      |      |      |      |      |      |
| AEO 1996                            |      |      |      | 1.4  | -1.2 | 0.3  | 2.7  | 1.3  | 0.1  | 5.9  | 7.0  | 9.0  | 6.6  | 12.1 | 12.7 | 13.8 | 19.0 | 31.3 | 22.6 | 22.5 | 22.1 | 20.4 | 21.2 | 22.5 |      |      |      |      |      |
| AEO 1997                            |      |      |      |      | -2.7 | -2.8 | 0.5  | 0.4  | 0.4  | 6.3  | 7.5  | 9.8  | 7.2  | 12.6 | 13.7 | 15.4 | 20.4 | 32.6 | 23.8 | 23.4 | 22.6 | 20.8 | 21.6 | 22.7 |      |      |      |      |      |
| AEO 1998                            |      |      |      |      |      | 0.1  | 2.6  | 2.6  | 1.7  | 7.7  | 9.1  | 10.7 | 7.9  | 13.7 | 14.9 | 16.7 | 22.4 | 35.5 | 26.8 | 26.6 | 26.0 | 23.7 | 23.8 | 24.9 | 22.6 | 22.3 | 17.6 | 17.3 |      |
| AEO 1999                            |      |      |      |      |      |      | -0.1 | -0.6 | 0.0  | 6.5  | 7.8  | 9.3  | 6.3  | 12.0 | 13.1 | 15.0 | 20.5 | 33.4 | 25.1 | 24.8 | 24.5 | 22.8 | 24.0 | 26.1 | 24.4 | 24.7 | 20.7 | 20.7 |      |
| AEO 2000                            |      |      |      |      |      |      |      | -2.8 | -3.5 | 2.0  | 3.3  | 6.0  | 4.0  | 10.1 | 11.2 | 12.9 | 18.2 | 30.3 | 22.1 | 21.6 | 21.3 | 20.1 | 21.5 | 23.7 | 21.8 | 22.1 | 18.0 | 18.4 |      |
| AEO 2001                            |      |      |      |      |      |      |      |      | -2.5 | 3.9  | 5.6  | 8.2  | 5.5  | 11.1 | 12.4 | 14.5 | 20.1 | 32.9 | 24.8 | 24.7 | 24.4 | 23.4 | 24.8 | 27.2 | 26.1 | 26.7 | 22.8 | 23.4 |      |
| AEO 2002                            |      |      |      |      |      |      |      |      |      | -2.6 | 2.6  | 6.5  | 4.4  | 10.5 | 11.9 | 14.4 | 20.0 | 33.4 | 25.8 | 27.0 | 26.9 | 25.5 | 26.7 | 28.7 | 27.3 | 27.7 | 23.7 | 24.1 |      |
| AEO 2003                            |      |      |      |      |      |      |      |      |      |      | 1.1  | 3.8  | 1.4  | 5.9  | 7.0  | 9.4  | 15.3 | 28.6 | 21.9 | 23.2 | 23.7 | 22.5 | 24.0 | 25.9 | 24.3 | 24.9 | 21.3 | 22.2 |      |
| AEO 2004                            |      |      |      |      |      |      |      |      |      |      |      | -1.9 | -3.7 | 3.3  | 4.7  | 6.7  | 12.1 | 23.9 | 16.7 | 17.3 | 17.3 | 16.6 | 17.8 | 19.7 | 18.6 | 19.6 | 16.5 | 17.4 |      |
| AEO 2005                            |      |      |      |      |      |      |      |      |      |      |      |      | -1.5 | 4.1  | 5.1  | 6.3  | 12.0 | 24.2 | 15.9 | 15.9 | 15.3 | 13.4 | 14.3 | 15.4 | 13.8 | 14.6 | 11.2 | 11.5 |      |
| AEO 2006                            |      |      |      |      |      |      |      |      |      |      |      |      |      | 1.1  | 1.5  | 4.9  | 9.7  | 21.0 | 13.1 | 13.2 | 12.7 | 11.0 | 11.6 | 13.2 | 11.8 | 11.9 | 8.2  | 8.3  |      |
| AEO 2007                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1.4  | 2.7  | 7.7  | 19.2 | 11.6 | 11.3 | 10.5 | 8.6  | 9.2  | 10.1 | 8.4  | 8.1  | 4.2  | 4.5  |      |
| AEO 2008                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1.4  | 7.7  | 15.7 | 9.4  | 10.0 | 8.8  | 6.3  | 6.3  | 7.4  | 5.4  | 5.1  | 1.1  | 0.6  |      |
| AEO 2009                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 4.7  | 6.6  | -3.4 | -1.4 | -0.8 | -1.5 | -1.9 | -2.3 | -4.6 | -5.1 | -8.8 | -9.1 |      |
| AEO 2010                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1.7  | -5.5 | -3.4 | -1.2 | -1.6 | -0.2 | 1.1  | -0.6 | -0.7 | -4.3 | -4.2 |      |
| AEO 2011                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -2.1 | 1.6  | 3.9  | 5.8  | 6.4  | 9.2  | 7.3  | 7.1  | 3.0  | 2.8  |      |
| AEO 2012                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -0.2 | -1.3 | -6.0 | -3.7 | -2.2 | -3.2 | -3.8 | -7.4 | -7.4 |      |
| AEO 2013                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0.7  | -3.4 | -2.6 | 1.7  | -1.9 | 3.2  | 0.6  | 1.2  |      |
| AEO 2014                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -3.1 | -1.7 | 3.2  | 3.8  | 5.5  | 2.8  | 3.6  |
| AEO 2015                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0.4  | 3.0  | 3.5  | 4.0  | 1.5  | 2.6  |
| AEO 2016                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 0.0  | -2.7 | -1.8 | -4.2 | -2.2 |
| AEO 2017                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -1.8 | -0.8 | -1.6 | 0.2  |
| AEO 2018                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -1.5 | -2.3 | 0.1  |
| AEO 2019                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -0.9 | 0.1  |
| AEO 2020                            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | -0.2 |
| Average Absolute Percent Difference |      | 1.4  | 0.8  | 0.8  | 1.6  | 1.0  | 1.5  | 1.4  | 1.2  | 5.3  | 6.0  | 7.8  | 5.4  | 9.5  | 9.9  | 11.1 | 15.9 | 25.9 | 18.0 | 15.8 | 14.7 | 13.5 | 13.2 | 13.8 | 11.7 | 11.5 | 9.2  | 8.8  |      |

Sources: Projections: *Annual Energy Outlook*, Reference Case Projections, Various Editions.

Historical Data: U.S. Energy Information Administration open data API (<http://www.eia.gov/opa/data/>) (Washington, DC). Retrieved September 24, 2020. Series: TOTAL.TEICBUS.A & TOTAL.LOICBUS.A. Shading indicates overestimation (blue) or underestimation (green). Comparisons through AEO 2002 have been adjusted for the AER 2001 revision to industrial energy consumption that was not incorporated in the earlier projections.