

**Table A5. Commercial sector key indicators and consumption**  
(quadrillion Btu per year, unless otherwise noted)

| Key indicators and consumption   | Reference case |             |             |             |             |              |              | Annual growth<br>2013-2040<br>(percent) |
|--|----------------|-------------|-------------|-------------|-------------|--------------|--------------|---|
|  | 2012           | 2013        | 2020        | 2025        | 2030        | 2035         | 2040         |   |
| <b>Key indicators</b>  |                |             |             |             |             |              |              |   |
| <b>Total floorspace (billion square feet)</b>                          |                |             |             |             |             |              |              |   |
| Surviving .....  | 80.8           | 81.4        | 86.9        | 92.0        | 96.4        | 100.9        | 106.6        | 1.0%                                    |
| New additions .....  | 1.6            | 1.5         | 2.1         | 2.0         | 2.0         | 2.3          | 2.4          | 1.9%                                    |
| <b>Total .....</b>   | <b>82.3</b>    | <b>82.8</b> | <b>89.0</b> | <b>94.1</b> | <b>98.4</b> | <b>103.2</b> | <b>109.1</b> | <b>1.0%</b>                             |
| <b>Energy consumption intensity<br/>(thousand Btu per square foot)</b> |                |             |             |             |             |              |              |   |
| Delivered energy consumption .....                                     | 99.8           | 104.9       | 100.0       | 96.3        | 95.4        | 94.2         | 92.8         | -0.5%                                   |
| Electricity related losses .....                                       | 112.3          | 113.7       | 108.7       | 105.1       | 103.0       | 101.1        | 99.0         | -0.5%                                   |
| Total energy consumption .....   | 212.1          | 218.6       | 208.7       | 201.4       | 198.4       | 195.3        | 191.8        | -0.5%                                   |
| <b>Delivered energy consumption by fuel</b>                            |                |             |             |             |             |              |              |   |
| <b>Purchased electricity</b>   |                |             |             |             |             |              |              |   |
| Space heating <sup>1</sup> .....                                       | 0.14           | 0.16        | 0.14        | 0.13        | 0.12        | 0.11         | 0.11         | -1.5%                                   |
| Space cooling <sup>1</sup> .....                                       | 0.57           | 0.49        | 0.53        | 0.53        | 0.54        | 0.55         | 0.56         | 0.5%                                    |
| Water heating <sup>1</sup> .....                                       | 0.09           | 0.09        | 0.09        | 0.09        | 0.08        | 0.08         | 0.08         | -0.6%                                   |
| Ventilation .....  | 0.51           | 0.52        | 0.54        | 0.55        | 0.56        | 0.57         | 0.58         | 0.4%                                    |
| Cooking .....  | 0.02           | 0.02        | 0.02        | 0.02        | 0.02        | 0.02         | 0.02         | -0.3%                                   |
| Lighting .....   | 0.92           | 0.91        | 0.87        | 0.85        | 0.84        | 0.81         | 0.80         | -0.5%                                   |
| Refrigeration .....  | 0.38           | 0.37        | 0.33        | 0.31        | 0.30        | 0.31         | 0.31         | -0.7%                                   |
| Office equipment (PC) .....  | 0.12           | 0.11        | 0.07        | 0.05        | 0.04        | 0.03         | 0.02         | -5.5%                                   |
| Office equipment (non-PC) .....  | 0.22           | 0.22        | 0.24        | 0.27        | 0.31        | 0.34         | 0.38         | 2.1%                                    |
| Other uses <sup>2</sup> .....  | 1.56           | 1.68        | 1.99        | 2.19        | 2.38        | 2.58         | 2.80         | 1.9%                                    |
| <b>Delivered energy .....</b>  | <b>4.53</b>    | <b>4.57</b> | <b>4.82</b> | <b>4.99</b> | <b>5.19</b> | <b>5.40</b>  | <b>5.66</b>  | <b>0.8%</b>                             |
| <b>Natural gas</b>   |                |             |             |             |             |              |              |   |
| Space heating <sup>1</sup> .....                                       | 1.51           | 1.86        | 1.69        | 1.62        | 1.58        | 1.51         | 1.41         | -1.0%                                   |
| Space cooling <sup>1</sup> .....                                       | 0.04           | 0.04        | 0.04        | 0.04        | 0.04        | 0.04         | 0.04         | 0.1%                                    |
| Water heating <sup>1</sup> .....                                       | 0.53           | 0.54        | 0.54        | 0.55        | 0.57        | 0.57         | 0.57         | 0.2%                                    |
| Cooking .....  | 0.20           | 0.20        | 0.21        | 0.22        | 0.23        | 0.24         | 0.25         | 0.8%                                    |
| Other uses <sup>3</sup> .....  | 0.69           | 0.74        | 0.81        | 0.87        | 1.01        | 1.21         | 1.44         | 2.5%                                    |
| <b>Delivered energy .....</b>  | <b>2.97</b>    | <b>3.37</b> | <b>3.30</b> | <b>3.29</b> | <b>3.43</b> | <b>3.57</b>  | <b>3.71</b>  | <b>0.4%</b>                             |
| <b>Distillate fuel oil</b>   |                |             |             |             |             |              |              |   |
| Space heating <sup>1</sup> .....                                       | 0.13           | 0.15        | 0.14        | 0.13        | 0.12        | 0.11         | 0.10         | -1.7%                                   |
| Water heating <sup>1</sup> .....                                       | 0.02           | 0.02        | 0.02        | 0.02        | 0.02        | 0.02         | 0.02         | -0.1%                                   |
| Other uses <sup>4</sup> .....  | 0.21           | 0.20        | 0.18        | 0.17        | 0.17        | 0.16         | 0.16         | -0.8%                                   |
| <b>Delivered energy .....</b>  | <b>0.36</b>    | <b>0.37</b> | <b>0.34</b> | <b>0.32</b> | <b>0.30</b> | <b>0.29</b>  | <b>0.27</b>  | <b>-1.1%</b>                            |
| Marketed renewables (biomass) .....                                    | 0.11           | 0.12        | 0.12        | 0.12        | 0.12        | 0.12         | 0.12         | 0.0%                                    |
| Other fuels <sup>5</sup> .....   | 0.26           | 0.26        | 0.33        | 0.34        | 0.34        | 0.35         | 0.35         | 1.1%                                    |
| <b>Delivered energy consumption by end use</b>                         |                |             |             |             |             |              |              |   |
| Space heating <sup>1</sup> .....                                       | 1.78           | 2.17        | 1.97        | 1.87        | 1.82        | 1.73         | 1.61         | -1.1%                                   |
| Space cooling <sup>1</sup> .....                                       | 0.62           | 0.53        | 0.57        | 0.57        | 0.57        | 0.58         | 0.59         | 0.4%                                    |
| Water heating <sup>1</sup> .....                                       | 0.64           | 0.65        | 0.65        | 0.65        | 0.67        | 0.67         | 0.67         | 0.1%                                    |
| Ventilation .....  | 0.51           | 0.52        | 0.54        | 0.55        | 0.56        | 0.57         | 0.58         | 0.4%                                    |
| Cooking .....  | 0.22           | 0.22        | 0.24        | 0.24        | 0.25        | 0.26         | 0.27         | 0.7%                                    |
| Lighting .....   | 0.92           | 0.91        | 0.87        | 0.85        | 0.84        | 0.81         | 0.80         | -0.5%                                   |
| Refrigeration .....  | 0.38           | 0.37        | 0.33        | 0.31        | 0.30        | 0.31         | 0.31         | -0.7%                                   |
| Office equipment (PC) .....  | 0.12           | 0.11        | 0.07        | 0.05        | 0.04        | 0.03         | 0.02         | -5.5%                                   |
| Office equipment (non-PC) .....  | 0.22           | 0.22        | 0.24        | 0.27        | 0.31        | 0.34         | 0.38         | 2.1%                                    |
| Other uses <sup>6</sup> .....  | 2.82           | 3.00        | 3.43        | 3.69        | 4.02        | 4.42         | 4.87         | 1.8%                                    |
| <b>Delivered energy .....</b>  | <b>8.22</b>    | <b>8.69</b> | <b>8.90</b> | <b>9.06</b> | <b>9.38</b> | <b>9.73</b>  | <b>10.12</b> | <b>0.6%</b>                             |

**Table A5. Commercial sector key indicators and consumption (continued)**  
(quadrillion Btu per year, unless otherwise noted)

| Key indicators and consumption                 | Reference case |              |              |              |              |              |              | Annual growth<br>2013-2040<br>(percent) |
|--|----------------|--------------|--------------|--------------|--------------|--------------|--------------|---|
|  | 2012           | 2013         | 2020         | 2025         | 2030         | 2035         | 2040         |   |
| <b>Electricity related losses</b> .....        | <b>9.24</b>    | <b>9.42</b>  | <b>9.68</b>  | <b>9.88</b>  | <b>10.13</b> | <b>10.43</b> | <b>10.80</b> | <b>0.5%</b>                             |
| <b>Total energy consumption by end use</b>     |                |              |              |              |              |              |              |   |
| Space heating <sup>1</sup> .....               | 2.05           | 2.50         | 2.25         | 2.13         | 2.05         | 1.95         | 1.82         | -1.2%                                   |
| Space cooling <sup>1</sup> .....               | 1.78           | 1.54         | 1.63         | 1.62         | 1.62         | 1.64         | 1.66         | 0.3%                                    |
| Water heating <sup>1</sup> .....               | 0.83           | 0.84         | 0.83         | 0.82         | 0.83         | 0.83         | 0.82         | -0.1%                                   |
| Ventilation.....                               | 1.55           | 1.58         | 1.63         | 1.64         | 1.66         | 1.67         | 1.68         | 0.2%                                    |
| Cooking.....                                   | 0.27           | 0.27         | 0.28         | 0.28         | 0.30         | 0.31         | 0.31         | 0.5%                                    |
| Lighting.....                                  | 2.81           | 2.78         | 2.62         | 2.53         | 2.47         | 2.38         | 2.34         | -0.6%                                   |
| Refrigeration.....                             | 1.15           | 1.14         | 0.99         | 0.93         | 0.90         | 0.90         | 0.91         | -0.8%                                   |
| Office equipment (PC).....                     | 0.35           | 0.33         | 0.20         | 0.15         | 0.11         | 0.09         | 0.07         | -5.7%                                   |
| Office equipment (non-PC).....                 | 0.66           | 0.66         | 0.72         | 0.81         | 0.91         | 1.01         | 1.10         | 1.9%                                    |
| Other uses <sup>6</sup> .....                  | 6.01           | 6.47         | 7.43         | 8.02         | 8.67         | 9.40         | 10.21        | 1.7%                                    |
| <b>Total</b> .....                             | <b>17.46</b>   | <b>18.10</b> | <b>18.58</b> | <b>18.94</b> | <b>19.52</b> | <b>20.16</b> | <b>20.92</b> | <b>0.5%</b>                             |
| <b>Nonmarketed renewable fuels<sup>7</sup></b> |                |              |              |              |              |              |              |   |
| Solar thermal.....                             | 0.08           | 0.08         | 0.09         | 0.09         | 0.10         | 0.10         | 0.11         | 1.1%                                    |
| Solar photovoltaic.....                        | 0.04           | 0.05         | 0.08         | 0.11         | 0.15         | 0.20         | 0.27         | 6.1%                                    |
| Wind.....                                      | 0.00           | 0.00         | 0.00         | 0.00         | 0.00         | 0.01         | 0.01         | 9.0%                                    |
| <b>Total</b> .....                             | <b>0.13</b>    | <b>0.14</b>  | <b>0.17</b>  | <b>0.20</b>  | <b>0.25</b>  | <b>0.32</b>  | <b>0.39</b>  | <b>3.9%</b>                             |
| <b>Heating degree days</b>                     |                |              |              |              |              |              |              |   |
| New England.....                               | 5,561          | 6,424        | 6,030        | 5,924        | 5,818        | 5,711        | 5,603        | -0.5%                                   |
| Middle Atlantic.....                           | 4,970          | 5,836        | 5,427        | 5,333        | 5,239        | 5,146        | 5,054        | -0.5%                                   |
| East North Central.....                        | 5,356          | 6,622        | 6,016        | 5,953        | 5,890        | 5,827        | 5,764        | -0.5%                                   |
| West North Central.....                        | 5,515          | 7,134        | 6,367        | 6,322        | 6,275        | 6,229        | 6,181        | -0.5%                                   |
| South Atlantic.....                            | 2,307          | 2,732        | 2,595        | 2,552        | 2,508        | 2,466        | 2,425        | -0.4%                                   |
| East South Central.....                        | 2,876          | 3,649        | 3,349        | 3,325        | 3,301        | 3,276        | 3,251        | -0.4%                                   |
| West South Central.....                        | 1,650          | 2,328        | 1,975        | 1,928        | 1,882        | 1,836        | 1,790        | -1.0%                                   |
| Mountain.....                                  | 4,574          | 5,271        | 4,874        | 4,809        | 4,741        | 4,669        | 4,595        | -0.5%                                   |
| Pacific.....                                   | 3,412          | 3,377        | 3,477        | 3,463        | 3,450        | 3,438        | 3,426        | 0.1%                                    |
| <b>United States</b> .....                     | <b>3,772</b>   | <b>4,469</b> | <b>4,119</b> | <b>4,042</b> | <b>3,966</b> | <b>3,893</b> | <b>3,820</b> | <b>-0.6%</b>                            |
| <b>Cooling degree days</b>                     |                |              |              |              |              |              |              |   |
| New England.....                               | 564            | 541          | 573          | 603          | 634          | 664          | 695          | 0.9%                                    |
| Middle Atlantic.....                           | 815            | 688          | 803          | 840          | 877          | 913          | 950          | 1.2%                                    |
| East North Central.....                        | 974            | 690          | 821          | 841          | 860          | 880          | 900          | 1.0%                                    |
| West North Central.....                        | 1,221          | 893          | 1,012        | 1,031        | 1,051        | 1,070        | 1,090        | 0.7%                                    |
| South Atlantic.....                            | 2,161          | 2,002        | 2,191        | 2,235        | 2,280        | 2,325        | 2,369        | 0.6%                                    |
| East South Central.....                        | 1,762          | 1,441        | 1,725        | 1,756        | 1,787        | 1,818        | 1,849        | 0.9%                                    |
| West South Central.....                        | 2,915          | 2,535        | 2,848        | 2,920        | 2,993        | 3,065        | 3,138        | 0.8%                                    |
| Mountain.....                                  | 1,572          | 1,464        | 1,556        | 1,607        | 1,660        | 1,715        | 1,772        | 0.7%                                    |
| Pacific.....                                   | 917            | 889          | 891          | 915          | 940          | 963          | 987          | 0.4%                                    |
| <b>United States</b> .....                     | <b>1,494</b>   | <b>1,307</b> | <b>1,467</b> | <b>1,517</b> | <b>1,568</b> | <b>1,618</b> | <b>1,670</b> | <b>0.9%</b>                             |

<sup>1</sup>Includes fuel consumption for district services.

<sup>2</sup>Includes (but is not limited to) miscellaneous uses such as transformers, medical imaging and other medical equipment, elevators, escalators, off-road electric vehicles, laboratory fume hoods, laundry equipment, coffee brewers, and water services.

<sup>3</sup>Includes miscellaneous uses, such as pumps, emergency generators, combined heat and power in commercial buildings, and manufacturing performed in commercial buildings.

<sup>4</sup>Includes miscellaneous uses, such as cooking, emergency generators, and combined heat and power in commercial buildings.

<sup>5</sup>Includes residual fuel oil, propane, coal, motor gasoline, and kerosene.

<sup>6</sup>Includes (but is not limited to) miscellaneous uses such as transformers, medical imaging and other medical equipment, elevators, escalators, off-road electric vehicles, laboratory fume hoods, laundry equipment, coffee brewers, water services, pumps, emergency generators, combined heat and power in commercial buildings, manufacturing performed in commercial buildings, and cooking (distillate), plus residual fuel oil, propane, coal, motor gasoline, kerosene, and marketed renewable fuels (biomass).

<sup>7</sup>Consumption determined by using the fossil fuel equivalent of 9,516 Btu per kilowatt-hour.

Btu = British thermal unit.

PC = Personal computer.

Note: Totals may not equal sum of components due to independent rounding. Data for 2012 and 2013 are model results and may differ from official EIA data reports.

Sources: 2012 and 2013 consumption based on: U.S. Energy Information Administration (EIA), *Monthly Energy Review*, DOE/EIA-0035(2014/11) (Washington, DC, November 2014). 2012 and 2013 degree days based on state-level data from the National Oceanic and Atmospheric Administration's Climatic Data Center and Climate Prediction Center. Projections: EIA, AEO2015 National Energy Modeling System run REF2015.D021915A.