

**Appendix D**  
**High Oil Price case projections**

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**Table D1. World total primary energy consumption by region, High Oil Price case, 2015-50**

quadrillion Btu

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
<b>OECD</b>									
<b>OECD Americas</b>	<b>121.9</b>	<b>122.5</b>	<b>124.5</b>	<b>125.1</b>	<b>127.5</b>	<b>131.6</b>	<b>135.1</b>	<b>139.7</b>	<b>0.4</b>
United States /a	97.5	98.8	100.2	99.5	100.5	103.1	105.2	108.5	0.3
Canada	15.1	14.7	15.0	15.4	16.0	16.6	17.2	17.9	0.5
Mexico and Chile	9.3	8.9	9.4	10.1	11.0	11.9	12.6	13.4	1.1
<b>OECD Europe</b>	<b>79.8</b>	<b>78.3</b>	<b>79.9</b>	<b>82.9</b>	<b>85.8</b>	<b>89.2</b>	<b>91.8</b>	<b>95.5</b>	<b>0.5</b>
<b>OECD Asia</b>	<b>38.3</b>	<b>37.9</b>	<b>40.5</b>	<b>42.6</b>	<b>44.7</b>	<b>47.0</b>	<b>49.5</b>	<b>52.6</b>	<b>0.9</b>
Japan	19.6	19.0	19.4	19.4	19.4	19.3	19.3	19.3	0.0
South Korea	11.7	11.9	13.4	14.8	16.1	17.5	19.0	20.5	1.6
Australia and New Zealand	6.9	7.0	7.7	8.4	9.2	10.2	11.3	12.7	1.7
<b>Total OECD</b>	<b>239.9</b>	<b>238.7</b>	<b>244.8</b>	<b>250.5</b>	<b>258.0</b>	<b>267.9</b>	<b>276.4</b>	<b>287.8</b>	<b>0.5</b>
<b>Non-OECD</b>									
<b>Non-OECD Europe and Eurasia</b>	<b>47.7</b>	<b>45.9</b>	<b>46.5</b>	<b>47.3</b>	<b>48.7</b>	<b>49.6</b>	<b>50.0</b>	<b>50.7</b>	<b>0.2</b>
Russia	30.2	28.9	29.2	29.7	30.5	30.9	30.7	30.5	0.0
Other	17.5	17.1	17.3	17.6	18.2	18.8	19.3	20.2	0.4
<b>Non-OECD Asia</b>	<b>200.1</b>	<b>217.4</b>	<b>239.5</b>	<b>265.6</b>	<b>294.3</b>	<b>326.4</b>	<b>359.2</b>	<b>390.3</b>	<b>1.9</b>
China	133.1	145.2	155.4	164.9	174.9	184.8	194.2	201.3	1.2
India	28.4	31.7	37.4	45.4	55.5	67.7	80.5	93.1	3.4
Other	38.6	40.5	46.7	55.3	63.9	73.9	84.5	95.9	2.6
<b>Middle East</b>	<b>33.9</b>	<b>33.9</b>	<b>37.6</b>	<b>41.2</b>	<b>45.6</b>	<b>50.5</b>	<b>55.9</b>	<b>61.1</b>	<b>1.7</b>
<b>Africa</b>	<b>22.7</b>	<b>22.2</b>	<b>24.7</b>	<b>28.0</b>	<b>31.9</b>	<b>36.0</b>	<b>40.4</b>	<b>45.4</b>	<b>2.0</b>
<b>Non-OECD Americas</b>	<b>31.1</b>	<b>29.4</b>	<b>32.6</b>	<b>35.5</b>	<b>38.7</b>	<b>42.3</b>	<b>46.0</b>	<b>49.9</b>	<b>1.4</b>
Brazil	14.9	14.3	16.1	17.8	19.5	21.4	23.2	25.0	1.5
Other	16.2	15.1	16.4	17.7	19.2	20.9	22.8	24.9	1.2
<b>Total Non-OECD</b>	<b>335.5</b>	<b>348.9</b>	<b>380.9</b>	<b>417.5</b>	<b>459.2</b>	<b>504.9</b>	<b>551.6</b>	<b>597.5</b>	<b>1.7</b>
<b>Total World</b>	<b>575.5</b>	<b>587.6</b>	<b>625.7</b>	<b>668.0</b>	<b>717.2</b>	<b>772.8</b>	<b>828.0</b>	<b>885.3</b>	<b>1.2</b>

a/ Includes the 50 states and the District of Columbia.

Notes: Energy totals include net imports of coal coke and electricity generated from biomass in the United States.

Totals may not equal sum of components due to independent rounding.

The electricity portion of the national fuel consumption values consists of generation for domestic use plus an adjustment for electricity trade based on a fuel's share of total generation in the exporting country.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run highoil\_d2017.08.23\_125017 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run highprice.d120816a, www.eia.gov/aeo.

**Table D2. World gross domestic product (GDP) by region expressed in purchasing power parity, High Oil Price case, 2015-50**

billion 2010 dollars

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
<b>OECD</b>									
<b>OECD Americas</b>	<b>20,351</b>	<b>22,317</b>	<b>25,649</b>	<b>28,067</b>	<b>30,999</b>	<b>34,721</b>	<b>38,166</b>	<b>41,541</b>	<b>2.1</b>
United States /a	16,397	17,969	20,736	22,554	24,849	27,940	30,768	33,512	2.1
Canada	1,506	1,637	1,797	1,961	2,126	2,279	2,419	2,548	1.5
Mexico and Chile	2,447	2,711	3,116	3,552	4,025	4,502	4,979	5,481	2.3
<b>OECD Europe</b>	<b>19,784</b>	<b>21,426</b>	<b>23,303</b>	<b>25,257</b>	<b>27,279</b>	<b>29,335</b>	<b>31,382</b>	<b>33,793</b>	<b>1.5</b>
<b>OECD Asia</b>	<b>7,447</b>	<b>8,016</b>	<b>8,663</b>	<b>9,274</b>	<b>9,877</b>	<b>10,458</b>	<b>11,141</b>	<b>11,949</b>	<b>1.4</b>
Japan	4,535	4,708	4,878	4,971	5,033	5,030	5,047	5,110	0.3
South Korea	1,705	1,933	2,212	2,500	2,771	3,053	3,378	3,734	2.3
Australia and New Zealand	1,207	1,375	1,573	1,803	2,073	2,376	2,715	3,105	2.7
<b>Total OECD</b>	<b>47,582</b>	<b>51,759</b>	<b>57,615</b>	<b>62,599</b>	<b>68,156</b>	<b>74,514</b>	<b>80,689</b>	<b>87,284</b>	<b>1.7</b>
<b>Non-OECD</b>									
<b>Non-OECD Europe and Eurasia</b>	<b>5,531</b>	<b>6,043</b>	<b>6,637</b>	<b>7,362</b>	<b>8,288</b>	<b>9,159</b>	<b>9,974</b>	<b>10,803</b>	<b>1.9</b>
Russia	3,433	3,680	3,930	4,292	4,793	5,205	5,538	5,825	1.5
Other	2,098	2,363	2,706	3,069	3,496	3,955	4,436	4,978	2.5
<b>Non-OECD Asia</b>	<b>34,985</b>	<b>46,059</b>	<b>59,365</b>	<b>75,186</b>	<b>93,260</b>	<b>13,507</b>	<b>135,516</b>	<b>158,046</b>	<b>4.4</b>
China	18,160	24,047	30,920	38,955	47,900	57,534	67,941	77,986	4.3
India	7,324	10,275	3,668	7,773	22,636	28,321	34,443	40,712	5.0
Other	9,501	11,737	14,777	18,458	22,724	27,652	33,132	39,348	4.1
<b>Middle East</b>	<b>4,749</b>	<b>5,697</b>	<b>6,769</b>	<b>7,972</b>	<b>9,287</b>	<b>10,634</b>	<b>12,078</b>	<b>13,435</b>	<b>3.0</b>
<b>Africa</b>	<b>5,495</b>	<b>6,423</b>	<b>7,962</b>	<b>9,934</b>	<b>12,426</b>	<b>15,541</b>	<b>19,366</b>	<b>24,055</b>	<b>4.3</b>
<b>Non-OECD Americas</b>	<b>6,351</b>	<b>6,944</b>	<b>8,113</b>	<b>9,235</b>	<b>10,452</b>	<b>11,797</b>	<b>13,240</b>	<b>14,759</b>	<b>2.4</b>
Brazil	2,963	3,165	3,639	4,048	4,471	4,922	5,367	5,805	1.9
Other	3,388	3,779	4,474	5,187	5,981	6,875	7,874	8,955	2.8
<b>Total Non-OECD</b>	<b>57,110</b>	<b>71,165</b>	<b>88,845</b>	<b>109,688</b>	<b>133,713</b>	<b>160,639</b>	<b>190,175</b>	<b>221,098</b>	<b>3.9</b>
<b>Total World</b>	<b>104,692</b>	<b>122,924</b>	<b>146,460</b>	<b>172,287</b>	<b>201,869</b>	<b>235,153</b>	<b>270,863</b>	<b>308,381</b>	<b>3.1</b>

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: derived from Oxford Economic Model (March 2017), [www.oxfordeconomics.com](http://www.oxfordeconomics.com) (subscription site) and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run highprice.d120816a, [www.eia.gov/aeo](http://www.eia.gov/aeo).

**Table D3. World liquids consumption by region, High Oil Price case, 2015-50**

million barrels per day

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
<b>OECD</b>									
<b>OECD Americas</b>	<b>24.3</b>	<b>23.7</b>	<b>23.0</b>	<b>22.2</b>	<b>21.8</b>	<b>22.1</b>	<b>22.3</b>	<b>22.7</b>	<b>-0.2</b>
United States /a	19.5	19.3	18.6	17.7	17.3	17.4	17.6	18.0	-0.2
Canada	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.3	-0.1
Mexico and Chile	2.3	2.1	2.2	2.3	2.4	2.4	2.5	2.5	0.1
<b>OECD Europe</b>	<b>14.0</b>	<b>13.2</b>	<b>12.8</b>	<b>12.6</b>	<b>12.4</b>	<b>12.1</b>	<b>11.7</b>	<b>11.6</b>	<b>-0.5</b>
<b>OECD Asia</b>	<b>7.8</b>	<b>7.1</b>	<b>7.1</b>	<b>7.3</b>	<b>7.5</b>	<b>7.7</b>	<b>7.9</b>	<b>8.2</b>	<b>0.1</b>
Japan	4.1	3.6	3.4	3.3	3.2	3.1	3.1	3.1	-0.8
South Korea	2.4	2.2	2.4	2.6	2.7	2.9	3.1	3.2	0.8
Australia and New Zealand	1.3	1.3	1.3	1.4	1.5	1.6	1.7	1.9	1.2
<b>Total OECD</b>	<b>46.1</b>	<b>44.0</b>	<b>42.9</b>	<b>42.0</b>	<b>41.7</b>	<b>41.9</b>	<b>41.9</b>	<b>42.5</b>	<b>-0.2</b>
<b>Non-OECD</b>									
<b>Non-OECD Europe and Eurasia</b>	<b>5.7</b>	<b>5.2</b>	<b>5.2</b>	<b>5.2</b>	<b>5.3</b>	<b>5.3</b>	<b>5.3</b>	<b>5.2</b>	<b>-0.2</b>
Russia	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.3	-0.4
Other	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	0.0
<b>Non-OECD Asia</b>	<b>24.3</b>	<b>26.8</b>	<b>30.1</b>	<b>33.2</b>	<b>36.1</b>	<b>39.1</b>	<b>41.8</b>	<b>43.9</b>	<b>1.7</b>
China	12.1	14.1	15.4	16.5	17.2	17.5	17.6	17.2	1.0
India	4.0	4.4	5.2	6.2	7.4	8.7	9.8	10.6	2.8
Other	8.2	8.3	9.4	10.4	11.5	12.9	14.4	16.1	1.9
<b>Middle East</b>	<b>8.3</b>	<b>8.5</b>	<b>8.5</b>	<b>8.3</b>	<b>8.8</b>	<b>9.6</b>	<b>10.4</b>	<b>11.1</b>	<b>0.8</b>
<b>Africa</b>	<b>4.1</b>	<b>3.8</b>	<b>4.2</b>	<b>4.7</b>	<b>5.2</b>	<b>5.9</b>	<b>6.9</b>	<b>8.0</b>	<b>1.9</b>
<b>Non-OECD Americas</b>	<b>6.8</b>	<b>6.4</b>	<b>7.0</b>	<b>7.3</b>	<b>7.7</b>	<b>8.2</b>	<b>8.7</b>	<b>9.3</b>	<b>0.9</b>
Brazil	3.1	2.9	3.2	3.4	3.6	3.8	4.0	4.2	0.8
Other	3.7	3.5	3.8	3.9	4.1	4.4	4.8	5.2	0.9
<b>Total Non-OECD</b>	<b>49.2</b>	<b>50.6</b>	<b>55.0</b>	<b>58.7</b>	<b>63.2</b>	<b>68.2</b>	<b>73.1</b>	<b>77.5</b>	<b>1.3</b>
<b>Total World</b>	<b>95.3</b>	<b>94.6</b>	<b>97.9</b>	<b>100.7</b>	<b>104.8</b>	<b>110.0</b>	<b>115.0</b>	<b>120.0</b>	<b>0.7</b>

a/ Includes the 50 states and the District of Columbia.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run highoil\_d2017.08.23\_125017 and EIA, Annual Energy Outlook 2017, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run highprice.dl20816a, www.eia.gov/aeo.