

Table 23. Energy Intensity, Projected vs. Actual

	Projected																											
	(quadrillion Btu / \$Billion 2012 Chained GDP)																											
	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	9.9	9.8	9.7	9.5	9.4	9.3	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.2	8.1										
AEO 1995		9.6	9.5	9.3	9.2	9.1	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	8.0	7.9										
AEO 1996			9.4	9.3	9.2	9.0	8.9	8.8	8.6	8.6	8.5	8.4	8.3	8.2	8.1	8.0	8.0	7.9	7.8	7.8	7.7	7.6	7.6					
AEO 1997				9.1	9.0	8.9	8.8	8.7	8.6	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.9	7.8	7.7	7.7	7.6	7.5					
AEO 1998					8.9	8.9	8.9	8.8	8.7	8.6	8.6	8.5	8.4	8.3	8.2	8.1	8.0	8.0	7.9	7.8	7.7	7.7	7.6	7.5	7.5	7.5	7.4	7.4
AEO 1999						8.5	8.6	8.5	8.5	8.4	8.3	8.2	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.4	7.3	7.3	7.2	7.1	7.1	7.0	6.9	6.9
AEO 2000							8.3	8.3	8.2	8.1	8.0	7.9	7.8	7.8	7.7	7.6	7.5	7.4	7.4	7.3	7.2	7.1	7.0	7.0	6.9	6.8	6.7	6.7
AEO 2001								7.7	7.5	7.5	7.4	7.3	7.1	7.0	6.9	6.8	6.7	6.6	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.8	5.7	5.7
AEO 2002									7.7	7.8	7.7	7.7	7.6	7.5	7.3	7.2	7.0	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.0	5.9	5.9	5.9
AEO 2003										7.6	7.5	7.4	7.3	7.2	7.1	7.0	6.9	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.9	5.9
AEO 2004											7.4	7.3	7.2	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.8
AEO 2005												7.2	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	5.9	5.8	5.7	5.6	5.6
AEO 2006													7.0	6.9	6.8	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.5	5.4	5.4
AEO 2007														6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	5.9	5.8	5.7	5.6	5.5	5.5
AEO 2008															6.8	6.8	6.6	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5	5.5
AEO 2009																6.7	6.7	6.6	6.5	6.4	6.2	6.1	5.9	5.8	5.6	5.5	5.4	5.4
AEO 2010																	6.6	6.6	6.5	6.3	6.2	6.1	5.9	5.8	5.7	5.6	5.4	5.4
AEO 2011																		6.4	6.3	6.2	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.3
AEO 2012																			6.4	6.3	6.1	5.9	5.7	5.6	5.5	5.4	5.3	5.3
AEO 2013																				6.1	6.1	5.9	5.8	5.7	5.5	5.4	5.3	5.3
AEO 2014																					6.1	5.9	5.8	5.7	5.6	5.4	5.3	5.3
AEO 2015																						5.8	5.6	5.5	5.4	5.3	5.2	5.2
AEO 2016																							5.6	5.6	5.5	5.3	5.2	5.2
AEO 2017																								5.5	5.4	5.4	5.3	5.3
AEO 2018																									5.4	5.4	5.3	5.3
AEO 2019																										5.4	5.3	5.3
AEO 2020																											5.4	5.2
Actual*	8.8	8.6	8.6	8.5	8.2	7.9	7.7	7.5	7.3	7.2	7.1	6.9	6.7	6.5	6.5	6.3	6.2	6.2	6.1	5.8	5.9	5.8	5.6	5.5	5.4	5.4	5.3	
Average Absolute Difference	1.1	1.1	1.0	0.8	0.9	1.1	1.1	1.0	1.1	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	0.8	0.7	0.9	0.7	0.6	0.7	0.5	0.5	0.4	0.4	

Table 23. Energy Intensity, 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		12.8	13.4	12.9	11.8	14.4	17.5	19.4	20.1	23.1	21.9	23.6	24.2	27.0	30.1	28.8	30.0	31.7	29.2									
AEO 1995			11.1	10.5	9.5	11.7	14.7	16.5	17.1	20.0	18.7	20.1	20.4	23.0	26.2	25.3	26.6	28.4	26.1									
AEO 1996				10.1	9.4	11.9	14.6	16.3	16.6	19.2	18.1	20.0	20.7	23.4	26.4	25.4	26.9	28.7	26.4	28.1	33.5	31.2	31.3	35.3				
AEO 1997					6.3	9.7	13.4	15.4	16.0	19.0	18.2	20.0	20.7	23.4	26.5	25.4	26.6	28.4	26.0	27.5	32.7	30.2	30.6	34.6				
AEO 1998						8.4	12.5	15.7	16.7	20.3	19.5	21.3	21.7	24.6	27.9	27.0	28.2	30.0	27.6	29.0	34.1	31.5	31.8	36.0	37.0	38.8	37.0	40.0
AEO 1999							7.4	11.6	13.4	17.1	16.1	17.3	17.3	19.5	22.2	20.8	21.6	23.0	20.1	21.6	26.4	24.2	24.6	28.3	29.3	31.1	29.5	32.1
AEO 2000								8.0	9.9	12.6	12.0	13.7	13.9	16.4	19.5	18.6	19.8	21.3	18.7	20.2	24.9	22.2	22.1	25.5	26.4	27.8	25.8	28.1
AEO 2001									1.7	4.0	3.0	4.4	4.5	6.3	8.4	7.1	7.3	8.0	5.1	5.4	8.5	5.6	5.0	7.6	7.7	8.4	6.4	8.1
AEO 2002										6.5	7.3	9.8	10.3	12.4	14.9	13.3	12.9	13.0	9.5	9.6	13.0	10.2	9.6	12.0	11.8	12.1	9.8	11.4
AEO 2003											4.5	6.3	6.3	8.4	11.1	9.9	10.2	10.8	7.7	8.3	11.8	9.0	8.6	11.3	11.5	12.1	9.9	11.4
AEO 2004												5.3	5.3	7.5	9.8	8.3	8.7	9.4	6.9	7.8	11.5	8.7	8.2	10.7	10.9	11.6	9.4	11.3
AEO 2005													3.5	5.4	7.8	6.4	7.7	8.6	5.8	6.4	9.8	6.7	6.0	8.2	8.1	8.5	6.1	7.4
AEO 2006														4.7	5.8	4.8	4.8	5.5	2.8	3.3	6.9	4.0	3.2	5.3	5.0	4.9	2.4	3.6
AEO 2007															6.1	5.4	5.7	6.3	3.5	3.8	7.3	4.5	4.1	6.3	6.0	6.0	3.5	4.5
AEO 2008																5.6	7.0	6.5	3.2	3.3	6.4	3.3	2.8	5.1	5.0	5.4	3.2	4.4
AEO 2009																	5.7	8.7	6.2	6.2	8.9	5.2	3.9	5.5	5.0	4.9	2.0	2.7
AEO 2010																		6.1	4.9	5.6	8.5	5.2	4.6	6.3	5.7	5.5	2.6	3.3
AEO 2011																			2.9	3.4	5.6	2.1	1.4	3.6	3.1	3.1	0.6	1.7
AEO 2012																				5.0	8.2	3.4	1.6	2.5	1.5	1.3	-0.9	0.1
AEO 2013																					5.4	3.1	1.8	3.6	2.9	2.8	0.5	1.5
AEO 2014																						3.0	1.6	3.5	2.9	3.1	0.7	1.7
AEO 2015																							0.1	0.4	0.5	0.5	-1.9	-0.7
AEO 2016																								0.7	1.2	1.5	-1.7	-0.5
AEO 2017																									0.0	0.3	-1.1	0.9
AEO 2018																										0.5	-0.7	0.8
AEO 2019																											0.0	0.2
AEO 2020																												-0.2
Average Absolute Percent Difference	12.8	12.2	11.1	9.3	11.2	13.4	14.7	13.9	15.7	13.9	14.7	14.1	15.5	17.3	15.5	15.6	16.1	12.9	11.5	14.6	11.2	10.1	12.0	9.1	9.1	7.1	7.7	

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

Historical Data: Bureau of Economic Analysis, US Dept. of Commerce, June 2016. Shading indicates overestimation (blue) or underestimation (green).

* Actual energy intensity is based on BEA data using 2012 chained dollars.