

**Table 1. Comparison of AEO Reference case projections with realized outcomes, 1994-2021**

Variable	Average absolute percentage differences (%)	Percentage of projections over-estimated (%)
<b>Gross domestic product</b>		
Real gross domestic product (average cumulative growth) <sup>1</sup> (table 3)	0.8	61.1
<b>Petroleum</b>		
Imported refiner acquisition cost of crude oil (constant dollars) (table 4a)	45.6	32.8
Imported refiner acquisition cost of crude oil (nominal dollars) (table 4b)	44.6	35.6
Total petroleum and other liquids consumption (table 5)	10.5	72.5
Crude oil production (table 6)	19.4	31.6
Petroleum net imports (table 7)	487.5	73.5
<b>Natural gas</b>		
Natural gas price, electric power sector (constant dollars) <sup>2</sup> (table 8a)	46.9	57.8
Natural gas price, electric power sector (nominal dollars) <sup>2</sup> (table 8b)	49.7	59.6
Total natural gas consumption (table 9)	8.9	54.8
Dry natural gas production (table 10)	11.3	39.4
Natural gas net imports (table 11) <sup>3</sup>	284.9	59.6
<b>Coal</b>		
Coal prices to electric generating plants (constant dollars) <sup>4</sup> (table 12a)	20.5	42.2
Coal prices to electric generating plants (nominal dollars) <sup>4</sup> (table 12b)	19.6	45.7
Total coal consumption (table 13)	36.0	79.8
Coal production excluding waste coal (table 14)	29.5	80.8
<b>Electricity</b>		
Average electricity prices (constant dollars) (table 15a)	9.8	31.6
Average electricity prices (nominal dollars) (table 15b)	9.8	38.9
Total electricity sales excluding direct use (table 16)	7.4	70.5
Solar net generation (all sectors), projected versus actual (table 17) <sup>5,6</sup>	46.2	19.9
Wind net generation (all sectors), projected versus actual (table 18) <sup>5</sup>	29.4	16.2
Conventional hydroelectric power net generation (all sectors), Projected versus actual (table 19) <sup>5</sup>	7.4	72.8
Coal net generation (all sectors), projected versus actual (table 20) <sup>5</sup>	48.8	97.8
Natural gas net generation (all sectors), projected versus actual (table 21) <sup>5</sup>	19.8	8.1
Nuclear net generation (all sectors), projected versus actual (table 22) <sup>5</sup>	3.9	63.2
<b>Total energy, carbon, and intensity</b>		
Total energy consumption (all sectors) (table 23)	9.2	81.3
Delivered residential energy consumption (table 24)	7.0	67.4
Delivered commercial energy consumption (table 25)	7.2	56.8
Delivered industrial energy consumption (table 26)	11.2	82.8
Delivered transportation energy consumption (table 27)	11.6	78.8
Total energy-related carbon dioxide emissions (table 28)	14.6	79.8
Energy intensity (energy consumption / real dollar gdp) (table 29)	11.7	96.2

Data source: Historical data are from the U.S. Energy Information Administration open data API (accessed April 2022), <http://www.eia.gov/opendata/>; GDP data from the U.S. Bureau of Economic Analysis (accessed February 2022), <https://apps.bea.gov/national/xls/gdplev.xlsx>

Notes: AEO = Annual Energy Outlook. These statistics summarize the calculations in Tables 2 through 29. Tables 17-22 are based on AEO2007 through AEO2022 Reference case projections. The remaining tables are based on the AEO1994 through AEO2022 Reference case projections.

<sup>1</sup> The basis for GDP comparison is the projection differences in the cumulative average growth rate of real GDP from the first year shown for each AEO. The summary information for projection differences for GDP growth rates is absolute percentage point differences; for all other AEO concepts, the comparison basis is absolute percentage differences.

<sup>2</sup> As of 2013, the wellhead price of natural gas was no longer reported by EIA. With the 2015 edition of the Retrospective, the natural gas price to the electric power sector replaced the wellhead price.

<sup>3</sup> As natural gas net imports approached zero and then turned negative (indicating the change to U.S. net exporter status), the Average absolute percentage difference increased significantly.

<sup>4</sup> Beginning in AEO2003, EIA electric generating projections incorporated combined-heat-and-power (CHP) electricity generation in electricity generating plants. Prior to AEO2003, coal price projections reflected data collected, estimated, and reported to electric utilities and excluded CHP power generation.

<sup>5</sup> Beginning with the AEO2022 Retrospective, EIA included projections from AEO2007 through AEO2021 for net generation from solar, wind, conventional hydro, coal, natural gas, and nuclear.

<sup>6</sup> Does not include off-grid photovoltaics. Differences in data availability prior to 2014 for small-scale solar (systems less than 1 megawatt [MW] each) also contributed to the variances between projections and actuals.