

# AEO2012 Early Release Overview

## Executive summary

Projections in the *Annual Energy Outlook 2012 (AEO2012)* Reference case focus on the factors that shape U.S. energy markets in the long term, under the assumption that current laws and regulations remain generally unchanged throughout the projection period. The AEO2012 Reference case provides the basis for examination and discussion of energy market trends and serves as a starting point for analysis of potential changes in U.S. energy policies, rules, or regulations or potential technology breakthroughs. Some of the highlights in the AEO2012 Reference case include:

### *Projected growth of energy use slows over the projection period, reflecting an extended economic recovery and increasing energy efficiency in end-use applications*

Projected transportation energy demand grows at an annual rate of 0.2 percent from 2010 through 2035 in the Reference case, and electricity demand grows by 0.8 percent per year. Energy consumption per capita declines by an average of 0.5 percent per year from 2010 to 2035. The energy intensity of the U.S. economy, measured as primary energy use in British thermal units (Btu) per dollar of gross domestic product (GDP) in 2005 dollars, declines by 42 percent from 2010 to 2035.

### *Domestic crude oil production increases*

Domestic crude oil production has increased over the past few years, reversing a decline that began in 1986. U.S. crude oil production increased from 5.1 million barrels per day in 2007 to 5.5 million barrels per day in 2010. Over the next 10 years, continued development of tight oil, in combination with the ongoing development of offshore resources in the Gulf of Mexico, pushes domestic crude oil production in the Reference case to 6.7 million barrels per day in 2020, a level not seen since 1994. Even with a projected decline after 2020, U.S. crude oil production remains above 6.1 million barrels per day through 2035.

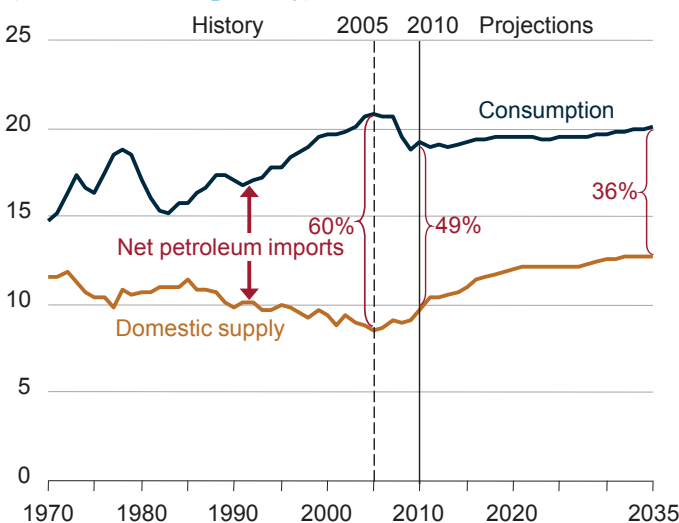
### *With modest economic growth, increased efficiency, growing domestic production, and continued adoption of nonpetroleum liquids, net petroleum imports make up a smaller share of total liquids consumption*

U.S. dependence on imported petroleum liquids declines in the AEO2012 Reference case, primarily as a result of growth in domestic oil production by more than 1 million barrels per day by 2020; an increase in biofuels use to more than 1 million barrels per day crude oil equivalent by 2024; and modest growth in transportation sector demand through 2035. Net petroleum imports as a share of total U.S. liquid fuels consumed drop from 49 percent in 2010 to 36 percent in 2035 in AEO2012 (Figure 1). Proposed fuel economy standards covering vehicle model years 2017 through 2025 that are not included in the Reference case would further reduce projected liquids use and the need for liquids imports.

### *Natural gas production increases throughout the projection period*

Much of the growth in natural gas production is a result of the application of recent technological advances and continued drilling in shale plays with high concentrations of natural gas liquids and crude oil, which have a higher value in energy equivalent terms than dry natural gas. Shale gas production increases from 5.0 trillion cubic feet in 2010 (23 percent of total U.S. dry gas production) to 13.6 trillion cubic feet in 2035 (49 percent of total U.S. dry gas production) (Figure 2).

**Figure 1. U.S. liquid fuels supply, 1970-2035 (million barrels per day)**



**Figure 2. U.S. natural gas production, 1990-2035 (trillion cubic feet)**

