Supply, Demand, and Export Outlook for North American Oil and Gas

For
Energy Infrastructure Summit
September 15, 2014 | Houston, TX

By
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U.S. energy use grows slowly over the projection reflecting steady growth in GDP offset by improving energy efficiency.
Challenges in understanding U.S. transportation fuel use

vehicle miles traveled (VMT) and income indices

1995 = 1.0

personal disposable income per capita

mean household income

VMT per capita

The U.S. has experienced a rapid increase in natural gas and oil production from shale and other tight resources.

U.S. tight oil production

- Million barrels of oil per day
- Sources: EIA derived from state administrative data collected by DrillingInfo Inc. Data are through July 2014 and represent EIA’s official tight oil & shale gas estimates, but are not survey data. State abbreviations indicate primary state(s).

U.S. dry shale gas production

- Billion cubic feet per day
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U.S. rail carloads of crude oil and petroleum products exceed 1.5 million b/d in 2014

Source: U.S. Energy Information Administration, based on Association of American Railroads
U.S. becomes a net exporter of natural gas in the near future

U.S. dry natural gas
trillion cubic feet per year

Consumption
Domestic supply
Net exports

Source: EIA, Annual Energy Outlook 2014 Reference case
U.S. is already a major net exporter of petroleum products

Source: EIA, Annual Energy Outlook 2014 Reference case and Short Term Energy Outlook
U.S. exports of petroleum products to Mexico and Canada have more than doubled and tripled, respectively, since 2004

U.S. petroleum products exports
thousand barrels per day

Source: EIA, Petroleum Supply Monthly
North American net imports of oil and natural gas

Source: BP Statistical Review of World Energy 2014
U.S. crude oil production exceeds 13 million b/d in High Oil and Gas Resource case

U.S. crude oil production in three cases
million barrels per day

Source: EIA, Annual Energy Outlook 2014 Reference case, High Oil and Gas Resource case, and Low Oil and Gas Resource case
U.S. oil production growth helping to offset unplanned outages

estimated unplanned crude oil production outages
million barrels per day

U.S. Production growth*

Source: EIA, Short-Term Energy Outlook, July 2014
*monthly production delta versus Jan. 2011 production level
Most of the growth in production between 2011 and 2015 consists of sweet grades with API gravity of 40 or above

U.S. crude oil production by type
million barrels of oil per day

Source: EIA, DrillingInfo, Colorado DNR, Texas RRC. http://www.eia.gov/analysis/petroleum/crudetypes/
Distillation processes and resulting products

- Mixed hydrocarbon wells (gas, condensate, oil)
- Dry gas (exportable with order/authorization)
- Wet gas

Gas processing plant:
- Fractionator
- Separator

Processed products for domestic use or exportable without license
- Other processed gas liquids
- Plant condensate

Separation via temperature gradients:
- Splitter
- Complex distillation
- Stabilizer
- Processed condensate

Finished product streams
- Finished petroleum products and other processed hydrocarbon liquids

Separation via pressure changes:
- Flash drum
- Heater treater
- Field / lease separator
- Water

Crude oil / lease condensate (exportable under limited conditions)

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For more information


Annual Energy Outlook | www.eia.gov/aeo

Short-Term Energy Outlook | www.eia.gov/steo

International Energy Outlook | www.eia.gov/ieo

Monthly Energy Review | www.eia.gov/mer

Today in Energy | www.eia.gov/todayinenergy

State Energy Portal | www.eia.gov/state

Drilling Productivity Report | www.eia.gov/petroleum/drilling/