International Energy Outlook 2014

For
Columbia University Center on Global Energy Policy
September 22, 2014 | Washington, D.C.

By
Adam Sieminski, Administrator
U.S. Energy Information Administration
Key takeaways

• IEO 2014 examines long-term global petroleum and other liquid fuels markets in this shortened IEO release

• IEO2015 will return to full version

• Three price scenarios examine a range of potential interactions of supply, demand, and prices in world liquids markets

• The potential for tight/shale oil outside of the United States could add 3MMb/d by 2025

• EIA’s projection of Mexican oil production has risen in light of recent legislative changes
Results from the IEO2014 Reference case

• World petroleum and other liquid fuels use increases by 38% between 2010 and 2040, all in the non-OECD

• Developing Asia (including China and India) and the Middle East account for 85% of the increase

• Increased demand requires 33 MMbbl/d of additional liquid fuels supplies to reach 119 MMb/d by 2040
  – OPEC crude and lease condensate increases by 14 MMbbl/d
  – Non-OPEC crude and lease condensate increases by 10 MMbbl/d

• Other liquid supplies (from NGPL, biofuels, CTL, GTL, and refinery gain) grow in importance, supplying 17% of total liquids production by 2040
The IEO2014 uses the same price paths as the AEO2014

North Sea Brent crude oil spot price
2012 dollars per barrel

Source: EIA, Annual Energy Outlook 2014
All of the growth in liquid fuels consumption occurs in the emerging non-OECD nations

petroleum and other liquid fuels consumption, 1990-2040

Non-OECD Asia and the Middle East account for 85% of the world’s growth in liquids consumption over the projection

non-OECD petroleum and other liquid fuels consumption, Reference case, 1990-2040

million barrels per day

China, India, and the Middle East lead liquids demand growth
China’s use of liquid fuels exceeds the United States by 2035

liquid fuels consumption in China and the United States, Reference case
million barrels per day

Middle East use of liquids in the electric power sector declines, but still accounts for 12% of total consumption in 2040

Middle East liquid fuels consumption by end-use sector
million barrels per day

Supply composition changes more than demand across cases

liquids consumption and production in three price cases, 2040

million barrels per day

Over the projection, OPEC crude and lease condensate suppliers produce an additional 14 MMbbl/d

petroleum and other liquid fuels production, Reference case
million barrels per day

Future growth in OPEC crude and lease condensate production is centered in the Middle East

OPEC crude and lease condensate production by region, Reference case
million barrels per day

Most significant contributors to non-OPEC crude and lease condensate production: Canada, Brazil, U.S., Kazakhstan, Russia

non-OPEC crude and lease condensate production, Reference case
million barrels per day

We are cautiously optimistic in our revised Mexican liquids production outlook given the legislative changes underway.

Mexican liquid fuels production, IEO2014 and IEO2013
million barrels per day

Source: EIA, IEO2014 and IEO2013
NGPL and biofuels account for most of the other liquid fuels

world production of selected other liquid fuels, Reference case
million barrels per day

EIA Reference scenario shows world tight oil production increasing to almost 8 million b/d in 2025

Tight oil production will spread to nations outside of the United States and Canada over the projection

tight oil production, Reference case
million barrels per day

While the outlook for total liquids production is similar with IEA and OPEC, there are different perspectives on sources of supply for petroleum and other liquid fuels production.

Areas of uncertainty in the outlook

- China’s energy demand growth; particularly in transportation
  - EIA is working with MIT and others to upgrade the structural and macroeconomic determinates of transportation demand in all regions for IEO2015

- Increasing global trade of natural gas and HGL in addition to oil
  - EIA is integrating the representation of oil and natural gas supply and other hydrocarbons

- Global development of tight oil and shale gas resources
  - EIA is gathering geology and production information, and conducting outreach

- Impact of geopolitical tensions on energy supply
  - EIA exploring options for representing these uncertainties in the outlook
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/