U.S. Heating Fuels Market Outlook

For
State Heating Oil and Propane Program Workshop
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Summary

• This briefing is an overview of the heating fuels outlook as it stands now. EIA publishes its Winter Fuels Outlook in the October edition of the Short-Term Energy Outlook (STEO).

• This briefing will cover:
  – Past and present weather/heating demand forecast
  – Regional reliance on various heating fuels
  – A summary of outlooks for:
    • Heating oil
    • Propane
    • Electricity
    • Natural gas
Weather is always a big wild card for the heating fuels outlook

Source: U.S. Energy Information Administration, National Oceanic and Atmospheric Administration, Climate Prediction Center.
Each region relies on a different mix of heating fuels, so cold weather has a different effect on each region.

Electricity Outlook
Most areas of the United States are forecast to experience modest increases in winter retail electricity prices.
Average monthly residential electricity bills higher this winter primarily because of expected colder temperatures, especially in southern states.

<table>
<thead>
<tr>
<th>Region</th>
<th>2016-2017</th>
<th>2015-2016</th>
<th>Change from last winter</th>
</tr>
</thead>
<tbody>
<tr>
<td>East South Central</td>
<td>+9%</td>
<td>+5%</td>
<td></td>
</tr>
<tr>
<td>South Atlantic</td>
<td>+5%</td>
<td>+2%</td>
<td></td>
</tr>
<tr>
<td>West South Central</td>
<td>+3%</td>
<td>-2%</td>
<td></td>
</tr>
<tr>
<td>New England</td>
<td>+4%</td>
<td>+8%</td>
<td></td>
</tr>
<tr>
<td>Mid-Atlantic</td>
<td>+7%</td>
<td>+8%</td>
<td></td>
</tr>
<tr>
<td>West North Central</td>
<td>+8%</td>
<td>+9%</td>
<td></td>
</tr>
<tr>
<td>East North Central</td>
<td>+8%</td>
<td>+4%</td>
<td></td>
</tr>
<tr>
<td>Pacific</td>
<td>-2%</td>
<td>+3%</td>
<td></td>
</tr>
<tr>
<td>Mountain</td>
<td>+2%</td>
<td>+5%</td>
<td></td>
</tr>
<tr>
<td>U.S. Average</td>
<td>+5%</td>
<td>+4%</td>
<td></td>
</tr>
</tbody>
</table>

Source: July 2016 Short-Term Energy Outlook
Natural Gas Outlook
EIA expects storage inventories heading into the winter will be at record highs

Working natural gas storage inventories 2012 – 2017
billion cubic feet

Percent deviation from average

Source: Short-Term Energy Outlook, Natural Gas Monthly
EIA expects prices will rise slightly, but market participants expect a broad range of outcomes

Henry Hub price, January 2015 – December 2017

Source: Natural Gas Monthly, Short-Term Energy Outlook

Note: Confidence interval derived from options market information for the 5 trading days ending XX XX, 2016.
Brent crude oil prices still being driven by fundamental balances long-term

Brent Spot (left axis)  Supply Demand Balance (right axis)

History  Forecast
Heating Oil Outlook
Summary

• Crude prices and supply overhang still main driver of heating oil price forecast.

• Inventories still very high but demand for distillate fuel is growing
  – Diesel refining margins are historically low, but rising and approaching 5-year average.

• Variables: Colder than normal weather or wet/heavy crop drying season
  – Inventories in the Midwest currently near 5-year average. Potentially wet crop/drying season could push them below
Northeast (PADDs 1A and 1B) Distillate Inventories above 5-year average
PADD 1 Distillate inventories forecasted to remain well above historical ranges

- 2016
- 2017
- 2015
- 2014
- 5-yr avg
- 2011 - 2015 inventory range

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PADD 2 Distillate inventories returning to within historical ranges
Forecasted U.S. average heating oil prices expected to be higher than last winter.
Propane Outlook
Propane production growth expected to slow next winter while net exports continue to expand

Source: Short-Term Energy Outlook, July 2015
U.S. total inventories have been high for the past 18 months but returned to the normal 5-year range at the end of May.

Source: EIA, U.S. propane and propylene stocks at refineries, bulk terminals, and natural gas plants
Gulf Coast inventory builds have slowed, bringing inventories within 5-year range

Source: EIA, U.S. propane and propylene stocks at refineries, bulk terminals, and natural gas plants
Another strong draw on inventories is expected in winter 2016/17, bringing inventories back into the 5-year range.

Source: EIA, Short-Term Energy Outlook, July 2016, U.S. propane and propylene stocks at refineries, bulk terminals, and natural gas plants
Mt. Belvieu prices forecasted to rise gradually through 2017 with crude oil
Propane retail price/Mt. Belvieu spreads trending upward historically, but leveling out.
Gross propane and butane exports and export capacity
thousand b/d

Source: International Trade Commission
Mt. Belvieu price spread with Henry Hub widens over forecast period

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