EIA Short-Term and Winter Fuels Outlook

for
Winter Fuels Outlook Conference
National Association of State Energy Officials (NASEO)
October 12, 2011 | Washington, DC

by
Howard Gruenspecht, Acting Administrator
Overview

- EIA expects higher average fuel bills this winter heating season for heating oil, propane, and natural gas, but little change in electricity bills.

- Higher fuel prices are the main driver
  - 10% higher heating oil prices (than last winter)
  - 7% higher propane prices
  - 4% higher residential natural gas prices
  - 1% higher electricity prices

- Projected average expenditures for heating oil users are at their highest level ever.
Overview

- Bill increases are moderated by a slightly warmer winter weather forecast for the Northeast, South, and Midwest. The West is forecast to be slightly colder than it was last year.

- Inventories of distillate fuel oil and natural gas are currently above the recent historical average, which should serve to mitigate price increases if winter is colder than expected. The distillate inventory situation varies by region.

- Propane stocks are at relatively low levels, but should be adequate to meet potential demand increases or supply disruptions.
Balance of heating fuels varies regionally

Number of homes by primary space heating fuel and Census Region

Source: EIA Residential Energy Consumption Survey, 2009
Expenditures expected to increase this winter (October 1–March 31) for fossil fuels but not electricity

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Base case forecast</th>
<th>If 10% warmer than forecast</th>
<th>If 10% colder than forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating oil</td>
<td>8</td>
<td>-4</td>
<td>22</td>
</tr>
<tr>
<td>Natural gas</td>
<td>3</td>
<td>-5</td>
<td>10</td>
</tr>
<tr>
<td>Propane *</td>
<td>7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electricity</td>
<td>-1</td>
<td>-3</td>
<td>5</td>
</tr>
</tbody>
</table>

* Propane expenditures are a volume-weighted average of the Northeast and Midwest regions. All others are U.S. volume-weighted averages.
Fuel prices increase this winter; natural gas remains lower than 2005-2010 average

% change in fuel price

- natural gas
- electricity
- heating oil
- propane

Source: EIA Short-Term Energy Outlook, October 2011

Howard Gruenspecht, Winter Fuels Outlook
Washington, DC, October 12, 2011
Winter 2011-12 heating season forecast is 2% warmer than last winter, close to the 30-year average

U.S. population-weighted heating degree-days

NOAA “winter” (December – February)
5 percent warmer than last year

Source: NOAA (September 15, 2011)
Natural Gas
Higher natural gas prices contribute to increase in average fuel bills in the South and Northeast this winter

<table>
<thead>
<tr>
<th>Region</th>
<th>Share of all U.S. households that use natural gas as primary space heating fuel</th>
<th>Percent change from last winter (forecast)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>26%</td>
<td>Consumption 2</td>
</tr>
<tr>
<td>South</td>
<td>23%</td>
<td>Consumption -4</td>
</tr>
<tr>
<td>Midwest</td>
<td>31%</td>
<td>Consumption -1</td>
</tr>
<tr>
<td>Northeast</td>
<td>19%</td>
<td>Consumption -1</td>
</tr>
</tbody>
</table>

Source: EIA Short-Term Energy Outlook, October 2011
EIA expects residential natural gas prices to average about 4% higher this winter than last.
Future natural gas prices remain highly uncertain

Dollars per million Btu

History
- Henry Hub spot price
- STEO Henry Hub price forecast
- NYMEX Henry Hub futures prices

Forecast
- 68% NYMEX confidence interval
- 95% NYMEX confidence interval

Source: EIA Short-Term Energy Outlook, October 2011; CME Group

Howard Gruenspecht, Winter Fuels Outlook
Washington, DC, October 12, 2011
The probability of the January 2012 contract month wholesale natural gas price being higher than $5.50 per MMBtu is less than 2%

Source: EIA Short-Term Energy Outlook, October 2011, and CME Group
EIA expects natural gas inventories to remain at high levels

Note: Normal range (colored band) represents the range between the minimum to maximum from Jan. 2006 to Dec. 2010.

Source: EIA Short-Term Energy Outlook, October 2011
Heating Oil
EIA expects residential heating oil prices to average 10% higher this winter than last.

Crude oil price is average refiner acquisition cost. Retail price includes taxes.

Source: EIA Short-Term Energy Outlook, October 2011
Heating oil prices remain uncertain due to their dependence on crude oil prices

Source: EIA Short-Term Energy Outlook, October 2011, and CME Group
The probability of January 2012 contract month wholesale heating oil price being higher than $3.50 per gallon is less than 10%.

Source: EIA Short-Term Energy Outlook, October 2011, and CME Group
Winter heating fuel prices diverge in the Northeast; heating oil price up 10% over last winter

residential winter heating fuel prices, Northeast Census Region
dollars per million Btu

Source: EIA Short-Term Energy Outlook, October 2011
Going into winter, distillate inventories remain towards the upper end of their recent historical range.

Note: Normal range (colored band) represents the range between the minimum to maximum from Jan. 2006 to Dec. 2010.

Source: EIA Short-Term Energy Outlook, October 2011
EIA expects gasoline prices will track the cost of crude oil, with regular gasoline prices this winter averaging about 34 cents per gallon higher than last winter.

Crude oil price is refiner average acquisition cost. Retail price includes State and Federal taxes.

Source: EIA Short-Term Energy Outlook, October 2011
Propane
EIA forecasts higher residential propane prices in the Northeast and Midwest this winter

<table>
<thead>
<tr>
<th>Region</th>
<th>Share of all U.S. households that use propane as primary space heating fuel</th>
<th>Percent change from last winter (forecast)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
</tr>
<tr>
<td>West</td>
<td>16%</td>
<td>-</td>
</tr>
<tr>
<td>South</td>
<td>34%</td>
<td>-</td>
</tr>
<tr>
<td>Midwest</td>
<td>36%</td>
<td>-1</td>
</tr>
<tr>
<td>Northeast</td>
<td>13%</td>
<td>-1</td>
</tr>
</tbody>
</table>

Source: EIA Short-Term Energy Outlook, October 2011
Propane inventories remain at the low end of their recent historical range

Note: Normal range (colored band) represents the range between the minimum to maximum from Jan. 2006 to Dec. 2010.

Source: EIA Short-Term Energy Outlook, October 2011
Electricity
Winter electricity bill forecast shows little change from last winter

| Share of all U.S. households that use electricity as primary space heating fuel | Percent change from last winter (forecast) |
|---|---|---|---|
| | Consumption | Average price | Total expenditures |
| West | 19% | 1 | 2 | 3 |
| South | 63% | -2 | 0 | -2 |
| Midwest | 12% | -1 | 0 | 0 |
| Northeast | 6% | -1 | -1 | -2 |

Source: EIA Short-Term Energy Outlook, October 2011
2009 RECS: Better State coverage, more information

- Each Census Region and Division contains at least one State with detailed usage statistics
- Compares energy statistics across States and groups of States within a region

Source: EIA Residential Energy Consumption Survey, 2009
For more information


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

Annual Energy Outlook | www.eia.gov/aeo

International Energy Outlook | www.eia.gov/ieo

Monthly Energy Review | www.eia.gov/mer