Congressional Research Service
Informing the legislative debate since 1914

The Northeast Heating Oil Supply, Demand, and Factors Affecting Its Use

name redacted
Specialist in Energy Policy

name redacted
Specialist in Housing Policy

April 28, 2014

Congressional Research Service
7-....
www.crs.gov
R43511

CRS REPORT
Prepared for Members and
Committees of Congress

Summary

The United States' exports and imports of refined petroleum products include distillate fuel oil—the general category for heating oil. In 2013, distillate fuel oil imports exceeded 56.4 million barrels, up from the previous year's 46.2 million barrels. However, distillate fuel imports have been declining. Overall, some 6.9 million households rely on heating oil nationally. The number of overall household users, however, has declined from 8.7 million in 2006-2007, and the Energy Information Administration (EIA) projects a 3% decline for 2013-2014. By and large, the greatest demand for home heating oil is in the Northeast United States, where some 5.5 million households relied on it for primary space heating during the winter of 2012-2013, consuming 645.5 gallons per household on average (compared to 766.4 gallons by Midwest households).

In response to the near doubling of heating oil prices in some Northeastern states during the winter of 1999-2000, which raised the concern of many Northeastern lawmakers, Congress authorized 2 million barrel Northeast Home Heating Oil Reserve (NHHOR) in the Energy Policy Act of 2000 (P.L. 106-469). As an emergency stockpile of government-owned heating oil, Congress intended NHHOR to meet roughly 10 days of demand by the Northeastern states at the time. Currently, NHHOR stands at under 1 million barrels, split between Groton, CT (400,000 barrels), and Revere, MA (500,000 barrels).

Middle-distillate range petroleum products can serve as both heating and transportation needs. In its 13-year history, NHHOR has only released fuel for use by federal, state, and local emergency responders during natural disasters and not for retail sales during market dislocations. While the release demonstrated the utility of maintaining a distillate stockpile, it was not based on the conditions of a heating oil supply shortage. The recent sale of NHHOR stocks and replacement with ultra-low sulfur distillate increased its utility as a transportation fuel. In the absence of NHHOR, residential consumers have the recourse of substituting ultra-low sulfur diesel fuel for their heating needs, although this fuel tends to be more expensive per gallon than heating oil.

Congress also authorized the National Oilheat Research Alliance (NORA) to develop projects for the research, development, and demonstration of clean and efficient oilheat utilization equipment; and to operate programs that enhanced consumer and employee training. Further, Congress authorized the Low Income Home Energy Assistance Program (LIHEAP) to help offset some homeowners' heating bills. Several charities also provide assistance.

A number of factors may contribute to the nation's declining demand for heating oil. The most significant factor may be that the increasing price of heating oil has discouraged use. Heating oil prices continue to remain high, as do other petroleum products and crude oil. These factors raise several questions: what factors have contributed to the decline of heating oil consumption; does the Northeast still depend on heating oil to the extent it did over a decade ago; and should Congress continue to monitor the Northeast heating oil supply?

Contents

Figures

Tables

Appendixes

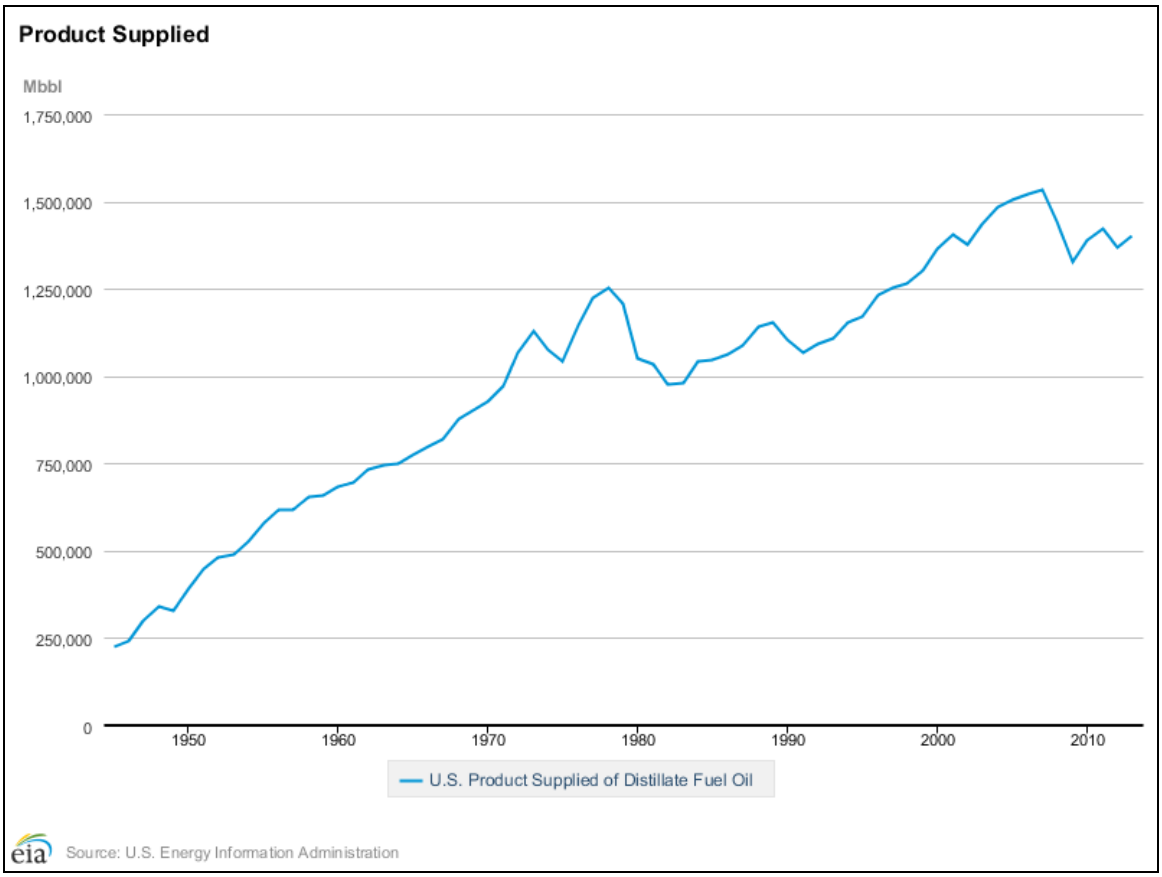
Contacts

Background

Since peaking in 2007 at 1.53 billion barrels, the volume of distillate fuel oil (DFO) supplied to the United States has declined somewhat (see **Figure 1**).[1] DFO includes diesel fuel, home heating oil, and high sulfur fuel oil. Meanwhile, U.S. refinery DFO production has increased since 2009, reaching 1.7 billion barrels in 2013 (see **Figure 2**). U.S. refiners have increased diesel fuel production and export primarily to satisfy the demand by European markets. In 2013, the United States exported 409.7 million barrels of distillate fuel oil, of which 324.4 million barrels (91%) left from Gulf Coast ports; another 37.5 million barrels (9%) left East Coast ports.[2]

Figure 1. Distillate Fuel Oil Supplied

Thousand Barrels per Year



Source: EIA, Product Supplied, http://www.eia.gov/dnav/pet/pet_cons_psup_dc_nus_mbbl_a.htm.

Notes: Distillate fuel oil includes 15 parts per million (ppm) and under sulfur; greater than 15 to 500 ppm sulfur; and greater than 500 ppm sulfur. In 2013, U.S. refineries produced 1.7 billion barrels. A 15 ppm sulfur specification, known as Ultra Low Sulfur Diesel (ULSD), was phased in for highway diesel fuel from 2006-2010. Diesel engines equipped with advanced emission control devices (generally, 2007 and later model year engines and vehicles) must use highway ULSD fuel. Low sulfur (500 ppm) and ULSD fuel will be phased in for non-road,

[1] Includes imports and domestic production.

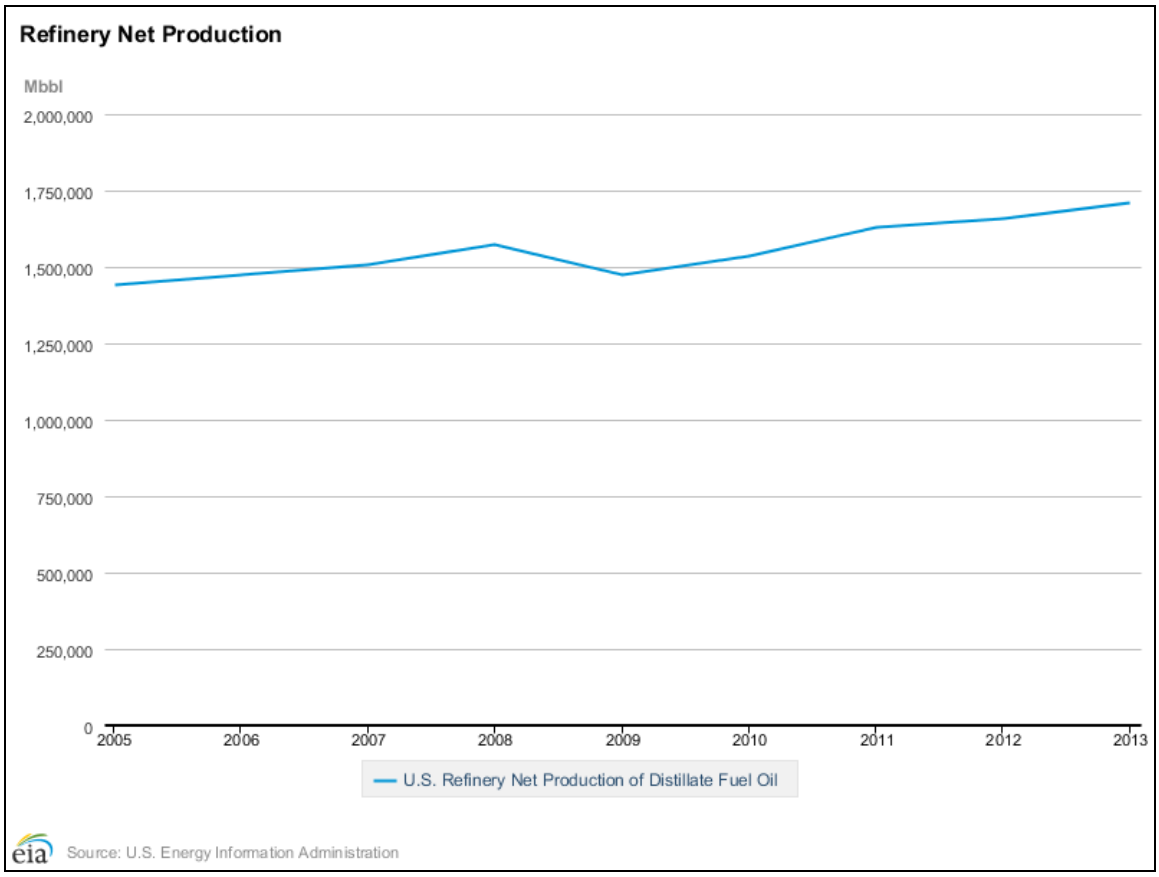
[2] U.S. EIA Petroleum & Other Liquids—Exports, http://www.eia.gov/dnav/pet/pet_move_exp_dc_R10-Z00_mbbl_a.htm.

locomotive, and marine (NRLM) engines from 2007-2014. EPA, "Diesel Fuel," http://www.epa.gov/otaq/fuels/dieselfuels/index.htm.

The United States also imports DFO in the form of heating oil. In 2013, distillate fuel oil imports exceeded 56.4 million barrels; although up from the previous year's 46.2 million barrels, distillate fuel imports have declined.[3] Nearly 45.5 million barrels (98%) came through East Coast ports, to satisfy the Northeast region's demand.

Figure 2. Refinery Net Production of Distillate Fuel Oil

Thousand Barrels per Year



Source: EIA, Refinery Net Production, http://www.eia.gov/dnav/pet/pet_pnp_refp2_dc_nus_mbbl_a.htm.

Notes: Distillate fuel oil includes 15 parts per million (ppm) and under sulfur; greater than 15 to 500 ppm sulfur; and greater than 500 ppm sulfur. In 2013, U.S. refineries produced 1.7 billion barrels. A 15 ppm sulfur specification, known as Ultra Low Sulfur Diesel (ULSD), was phased in for highway diesel fuel from 2006-2010. Diesel engines equipped with advanced emission control devices (generally, 2007 and later model year engines and vehicles) must use highway ULSD fuel. Low sulfur (500 ppm) and ULSD fuel will be phased in for non-road, locomotive, and marine (NRLM) engines from 2007-2014. EPA, "Diesel Fuel," http://www.epa.gov/otaq/fuels/dieselfuels/index.htm.

Overall, some 6.9 million households rely on heating oil nationally. The number of household users, however, has declined from the 8.7 million households in 2006-2007, and the Energy Information Administration (EIA) projects a 3% decline for 2013-2014. By and large, the

[3] U.S. EIA, Petroleum & Other Imports; http://www.eia.gov/dnav/pet/pet_move_imp_dc_NUS-Z00_mbbl_a.htm

Northeast United States represents the greatest demand for home heating oil where slightly more than 5.5 million households relied on it for primary space heating during the winter of 2012-2013.[4] The decline may be attributed to a number of factors, including price, improvement in home energy efficiency and insulation, new construction, population shift, availability of alternative heating fuels, and milder weather (fewer heating degree days).[5] The winter of 2013-2014 actually boosted heating degree days above the 30-year average.[6]

Home Heating Oil

Home heating oil (alternatively referred to as fuel oil) is a middle-distillate refined petroleum product comparable to diesel fuel and even jet fuel (except for additives and sulfur content). The similarity of these fuels allows one to substitute for the other under certain conditions.[7] However, taxation and air emission regulations differ based on use, and availability is seasonally dependent and subject to price volatility. (See **Appendix A** for a description of various distillate fuel categories.)

Middle distillate intended for use as fuel oil is exempt from the $0.244 per gallon excise tax that the Internal Revenue Service (IRS) currently imposes on highway diesel fuel.[8] Other middle distillate fuels are tax-exempt or subject to a reduced tax rate, including those used for heating, for farming, by state or local governments or non-profit educational organizations, and by boats engaged in fishing or transportation.

Both the Internal Revenue Service (IRS) and the Environmental Protection Agency (EPA) have required refiners to add red dye to certain classes of middle distillate fuel, but for different reasons:

- The IRS—to prevent tax evasion by using exempt high-sulfur and low-sulfur middle-distillate for highway transportation use (a $10 per gallon penalty may apply to red-dyed middle-distillate fuel used as on-highway transportation fuel).[9]
- The EPA—to identify diesel fuel with high-sulfur content to ensure that it is not used in on-highway vehicles (the introduction of ultra-low sulfur diesel [ULSD] now reduces that possibility).[10]

[4] U.S. EIA, Short Term Energy Outlook, Table WF01. March 2014; http://www.eia.gov/forecasts/steo/pdf/steo_full.pdf.

[5] Heating Degree Days are a measure of the coldness of the weather experienced, based on the extent to which the daily mean temperature falls below a reference temperature (65° F). Heating engineers developed the concept of heating degree days that relate each day's temperatures to the demand for fuel to heat buildings.

[6] David Bradley, *Winter 2013-2014 Boosts Heating Degree Days Above the 30-year Average*, NGI Daily Gas Price Index, February 6, 2014, http://www.naturalgasintel.com/articles/97319-winter-2013-2014-boosts-heating-degree-days-above-30-year-average.

[7] No. 1 fuel oil, No. 2 fuel oil, and No. 3 fuel oil are variously referred to as distillate fuel oils, diesel fuel oils, light fuel oils, gasoil, or just distillate. See **Appendix A** of this report for further descriptions.

[8] 26 U.S.C. §4081.

[9] Highway diesel fuel is taxed at $0.244 per gallon, while non-road fuel is untaxed.

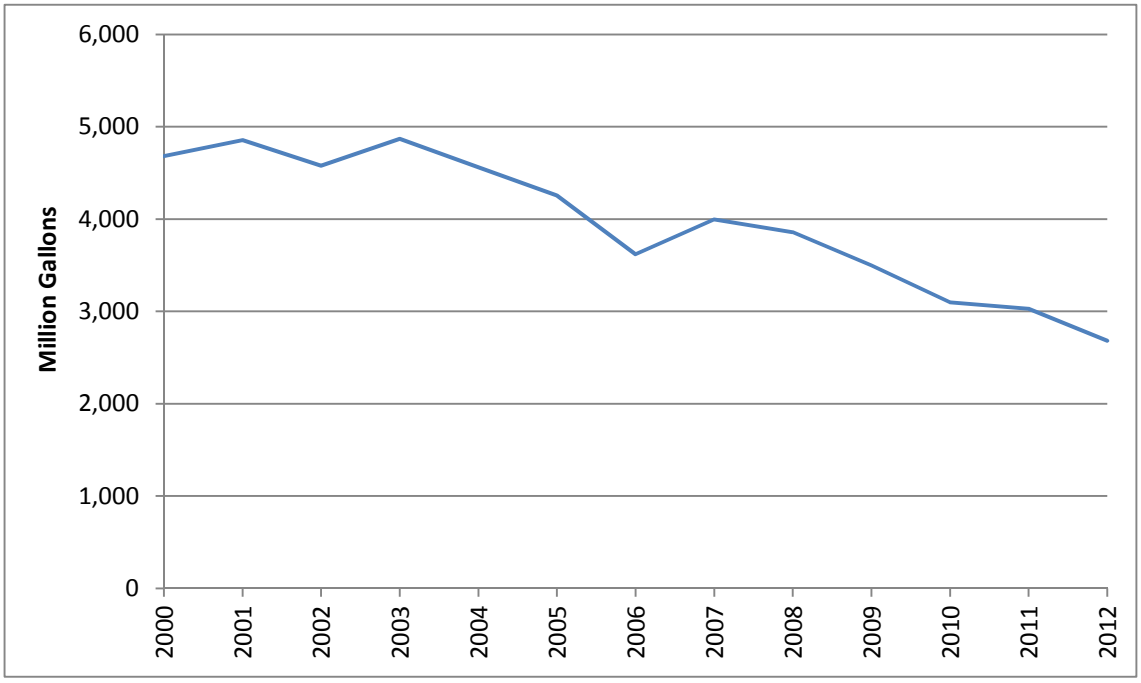
[10] The Clean Air Act does not give EPA specific authority to regulate heating oil or its sulfur content. For these reasons, red dye is added to middle-distillate to indicate that it can only be sold as heating oil.

Heating oil demand is seasonal, and U.S. refineries prepare for it by switching their product slates during late summer to begin producing and stockpiling both heating oil and winter gasoline blends.[11] During these "turnarounds," summer gasoline typically sees a price drop, and diesel fuel and heating oil see a price increase.

Northeast Demand for Heating

The demand for home heating oil in the Northeast has been declining over the last decade (see **Figure 3**). In 2000, Northeast residential customers consumed nearly 4,682 million gallons (1,111.5 million barrels). By 2012 (the latest information available), consumption declined by 43% to 2,683 million gallons (63.8 million barrels).

Figure 3. Distillate Sale/Deliveries to Northeast Residential Customers



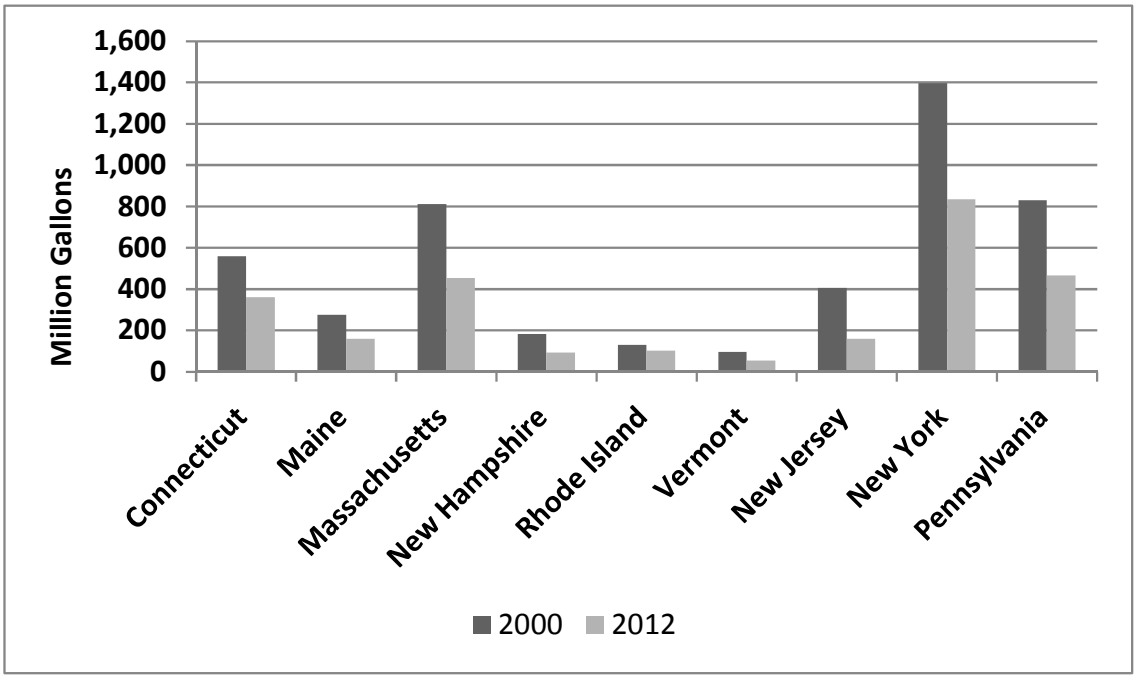
Source: U.S. Energy Information Administration, *Adjusted Distillate Fuel Oil Sales for Residential Use*, http://www.eia.gov/dnav/pet/pet_cons_821usea_a_epd0_var_mgal_a.htm.

Notes: The Northeast states are Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

All states in the Northeast have experienced a decline in heating oil demand since 2000 (see **Figure 4**). New York, the largest consumer of residential heating oil, dropped 40% from 2001 to 2012 (from 1,395 million gallons to 835 million gallons). Rhode Island, the smallest consumer, experienced a 22% drop from 2000 to 2012 (from 129.2 million gallons to 101.2 million gallons).

[11] CRS Report R41478, *The U.S. Oil Refining Industry: Background in Changing Markets and Fuel Policies*, by (name redacted) et al.

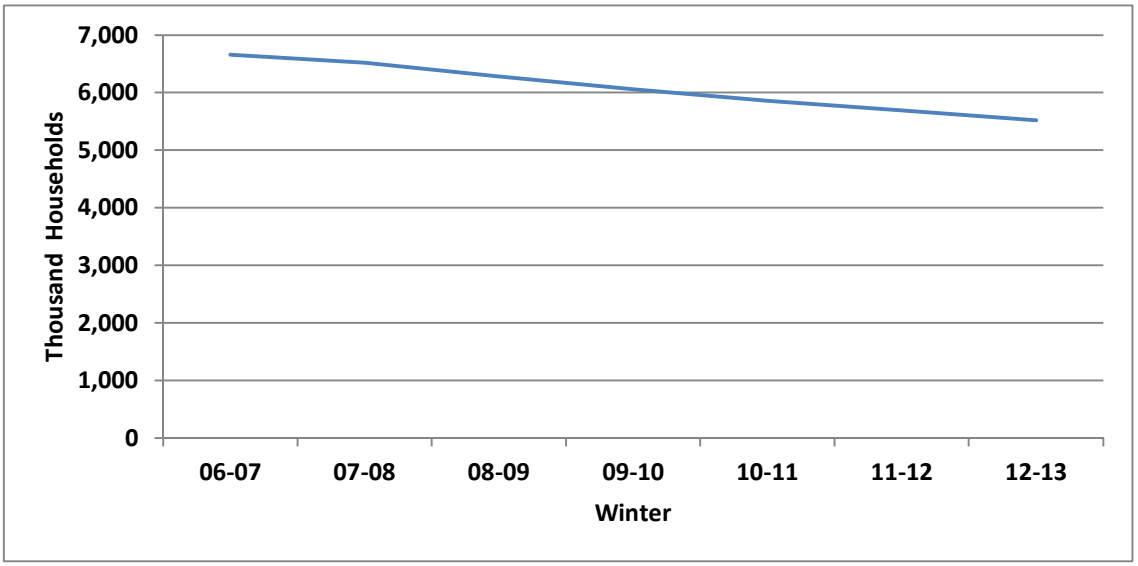
Figure 4. Northeast State Comparison of Heating Oil Demand



Source: U.S. Energy Information Administration, Adjusted Distillate Fuel Oil Sales for Residential Use, http://www.eia.gov/dnav/pet/pet_cons_821usea_a_epd0_var_mgal_a.htm.

Perhaps a more telling indication of the Northeast's declining demand for heating oil is the number of households that rely on heating oil as a means of primary heating. Between the winter of 2006-2007 and the winter of 2012-2013, the number of households declined roughly 12%, from 6.7 million to 5.9 million (see **Figure 5**). The Energy Information Administration, in its March 2014 Short Term Energy Outlook, forecasts a further decline for the 2013-2014 winter.

Figure 5. Northeast Households Relying on Heating Oil for Primary Space Heating



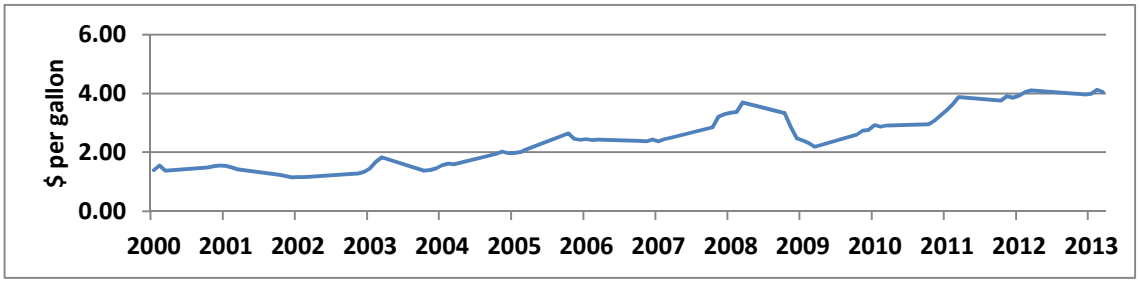
Source: EIA, Short Term Energy Outlook, Table WF10, March 2014.

The reasons for declining demand are discussed in the following sections on the effect of price, availability of alternative fuels, changes in population, and housing construction.

Heating Oil Price

While the Northeast demand for home heating oil declined, the oil price increased from roughly $1.50 per gallon beginning in 2000 to just over $4.00 gallon in early 2013 (see **Figure 6**). The price trend reflected the trend in the composite cost of crude oil acquired by U.S. refiners, particularly the crude oil price spike in 2008 and the precipitous price drop that followed in 2009 (see **Figure 7**).

Figure 6. U.S. No. 2 Heating Oil Residential Price

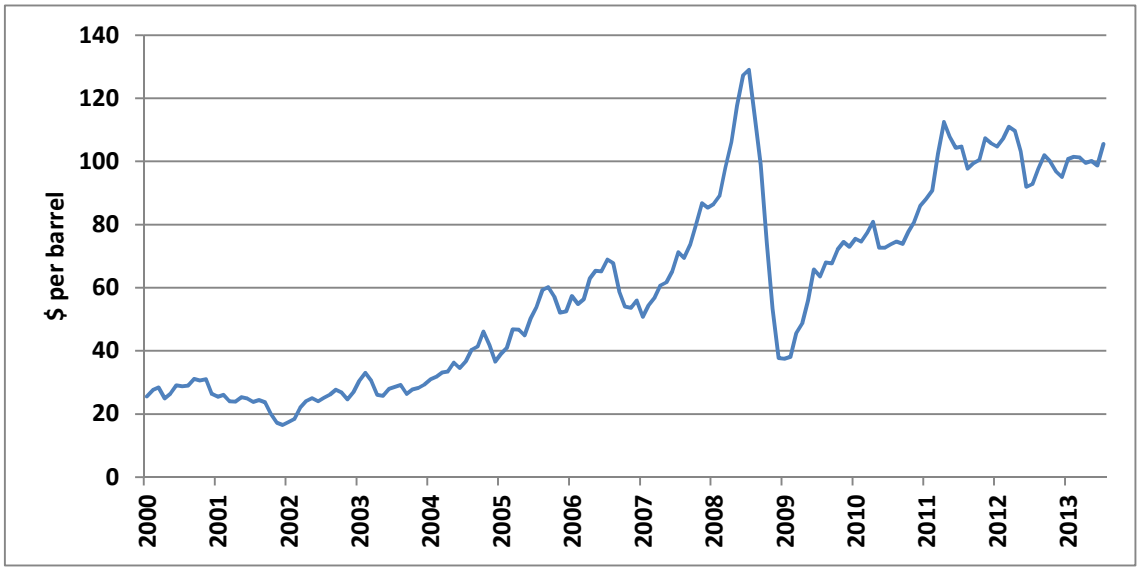


Source: U.S. Energy Information Administration, *U.S. No.2 Heating Oil Residential Price (Dollars per Gallon)*, http://tonto.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPD2F_PRS_NUS_DPG&f=M.

Note: Price is in nominal dollars, not adjusted for inflation.

Figure 7. U.S. Crude Oil Composite Acquisition Cost by Refiners

Dollars per barrel



Source: U.S. Energy Information Administration, *U.S. Crude Oil Composite Acquisition Cost by Refiners (Dollars per Barrel)*, http://tonto.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=R0000____3&f=M.

Notes: Price is in nominal dollars, not adjusted for inflation.

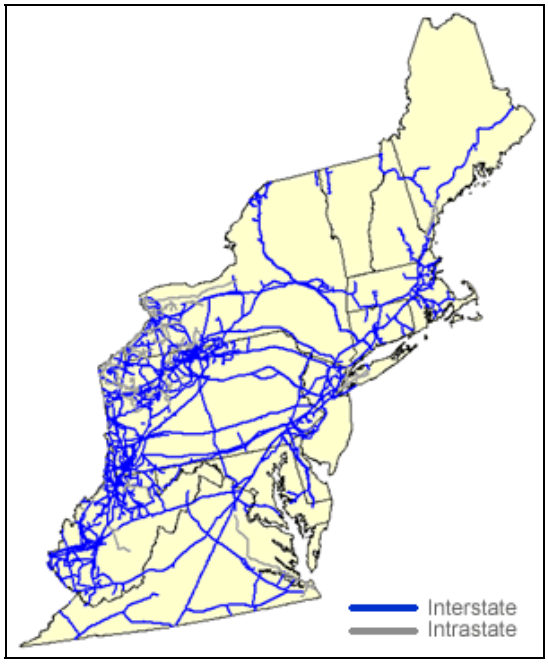
Northeast Demand for Alternative Heating Fuels

Other fuels that can substitute for heating oil include natural gas, electricity, bottled propane, and wood. This raises the question whether residential consumers may have switched from heating oil to other available fuels. The availability of natural gas depends on the availability of transmission and distribution pipelines. At least 20 interstate natural gas transmission pipelines serve the northeast region of the United States (see **Figure 8**).[12] This pipeline system delivers natural gas to several intrastate natural gas pipelines and at least 50 local distribution companies in the region. In addition to the natural gas produced in the region, several long-distance natural gas transmission pipelines supply the region from the Southeast through Virginia and West Virginia, and from the Midwest through West Virginia and into Pennsylvania. Canadian imports come into the region principally through New York, Maine, and New Hampshire. Liquefied natural gas (LNG) supplies enter the region from Canada through Highgate Springs, VT, and from other countries through Everett, MA (although these supplies have been declining).[13] As shown in **Figure 8**, service to the far northeastern states is limited. Natural gas produced from Pennsylvania's Marcellus shale, which could serve the Northeast, did not begin to come on line until after 2008, and the pipeline infrastructure to deliver this gas has not expanded in the New England states.

[12] U.S. Energy Information Administration, *Natural Gas Pipelines in the Northeast Region*, http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/northeast.html.

[13] EIA, U.S Natural Gas Imports by Point of Entry, http://www.eia.gov/dnav/ng/ng_move_poe1_a_EPG0_IML_Mmcf_a.htm.

Figure 8. Northeast Natural Gas Transmission Pipeline Infrastructure



Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System, http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/northeast.html.

Notes: Includes Connecticut, Delaware, Massachusetts, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, and West Virginia.

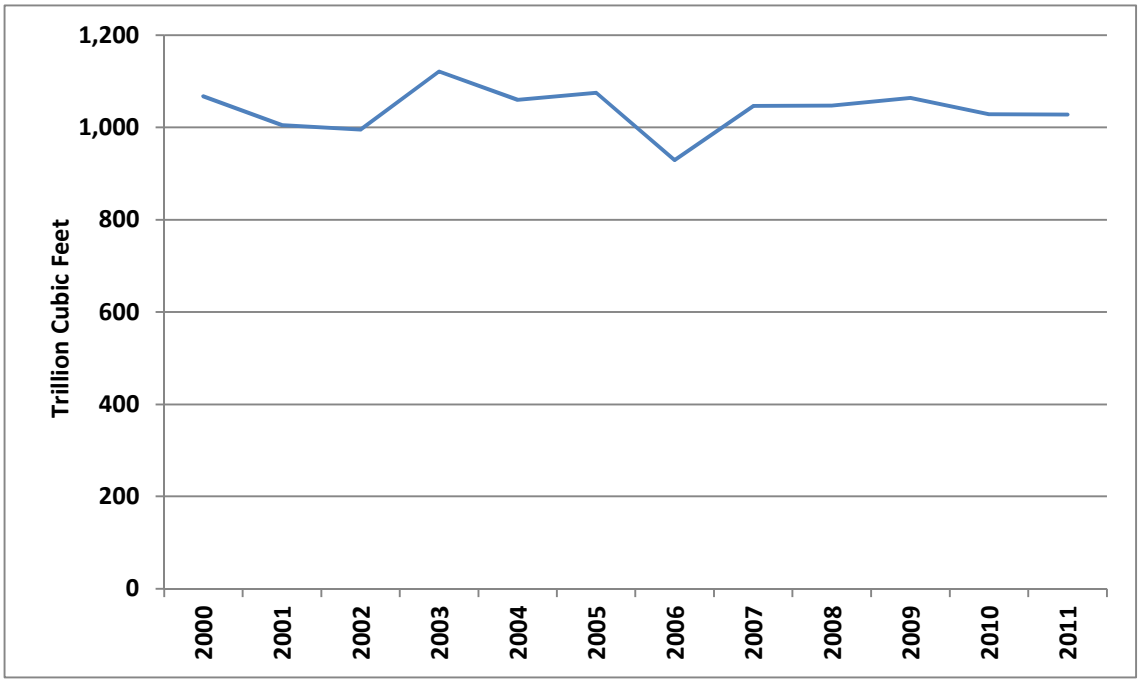
However, as a percent of overall domestic demand for natural gas, the Northeast region has remained nearly steady, varying between 20% and 22% since 2000. After 2000, the Northeast demand varied somewhat through 2006, and then leveled off in the years since and returned to a level barely above 2001-2002 (see **Figure 9**). If heating oil users were switching to an alternative heating fuel, it was not apparent that natural gas was the choice. Residential use of kerosene also declined.[14] Bottled gas (propane) also serves as a heating fuel. However, the price of residential propane rose from $1 per gallon in 2000 to over $2.80 per gallon in 2012, suggesting that it did not offer a more economical alternative.[15] The number of Northeast households relying on propane as a primary space heating fuel has increased slightly over the past few years, up to 786,000 households in 2013.[16]

[14] U.S. Energy Information Administration, *Adjusted Sales of Kerosene by End Use,* http://www.eia.gov/dnav/pet/pet_cons_821kera_dcu_R1Y_a.htm.

[15] U.S. Energy Information Administration, *U.S .Propane Residential Price*, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPLLPA_PRS_NUS_DPG&f=M.

[16] U.S. Energy Information Administration, *Short-Term Energy Outlook Model Documentation: Regional Residential Propane Price Model,* http://www.eia.gov/forecasts/steo/documentation/propane.pdf.

Figure 9. Natural Gas Use by Northeast Residents



Source: U.S. Energy Information Administration**,** *Natural Gas Consumption by End Use*, http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_a.htm.

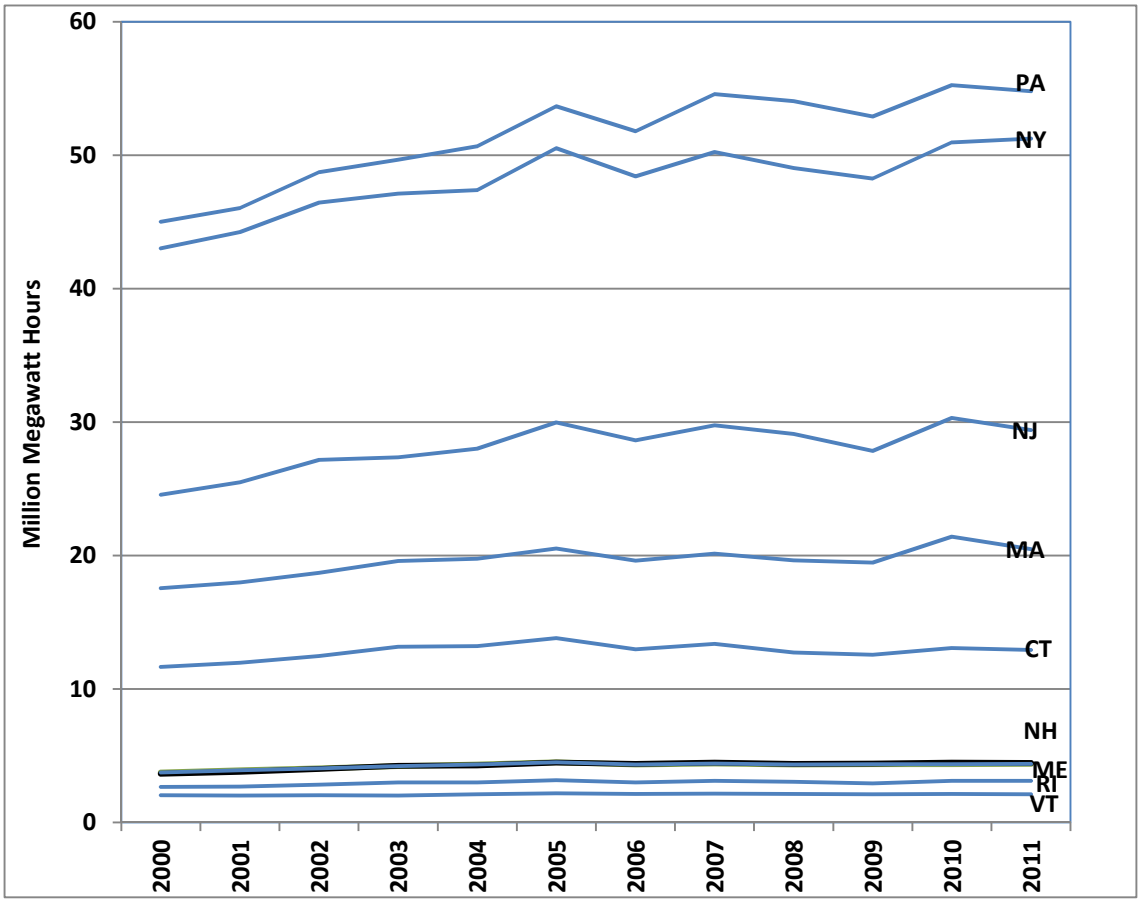
Notes: The Northeast states are Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

Northeast Demand for Electricity

The residential demand for electricity by some Northeastern states has been rising since 2000. Consumption and growth appeared greatest in the region's most populous states—New York (population 19.4 million) and Pennsylvania (12.7 million) (see **Figure 10**). Both states also saw dramatic declines in heating oil demand, suggesting that some switching to electricity for heating may have occurred over the same time period (see **Figure 4**). In contrast, New Hampshire-Rhode Island-Vermont saw minimal increase in electricity demand, but still saw substantial drops in heating oil demand.

Figure 10. Retail Electricity Sales to Residential Customers

2000-2011



Source: U.S. Energy Information Administration, *State Historical Table for 2011*, http://www.eia.gov/electricity/data/state/.

Note: The Northeast states are Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

Northeast Population and Housing Unit Occupancy

Ostensibly, heating oil, natural gas, and electricity demands are a function of population and housing. Trends in housing unit numbers and occupancy, as reported by the U.S. Census Bureau, show that while population has increased, occupied housing rates remained nearly constant. In the case of the Northeast, heating oil and even natural gas demand declined with increased population and housing occupancy rates. Households may have been turning to electricity instead.

Generally, the Northeastern states experienced a 3.21% aggregate increase in population from 2000 (53.59 million) through 2010 (55.32 million).[17] New York and Pennsylvania, the region's most populated states, experienced growth near the aggregate increase (see **Table 1**). The New

[17] U.S. Census, 2000 and 2010.

England states of Maine and New Hampshire, two of the least populous states, exceeded the average population growth with increases of 4.19% and 6.53% respectively.

Table 1. Northeastern States Population 2000 through 2010

Million

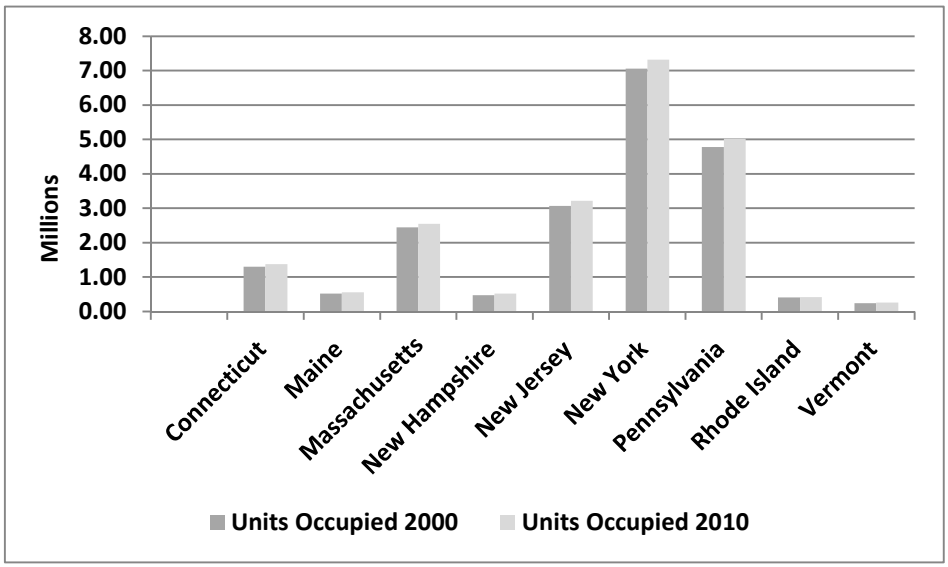
Census	CT	MA	ME	NH	NJ	NY	PA	RI	VT	Total
2010	3.574	6.548	1.328	1.316	8.792	19.378	12.703	1.053	0.625	55.317
2000	3.406	6.349	1.275	1.236	8.414	18.976	12.281	1.048	0.609	53.594
% Change	4.95	3.13	4.19	6.53	4.49	2.12	3.43	0.4	2.78	3.21

Source: U.S. Census for 2000 and 2010.

In 2000, the Census Bureau reported just over 22.1 million housing units with 91.5% occupancy (20.3 million) for the Northeast states. By 2010, housing units increased to 23.6 million with 89.7% occupancy (21.2 million). That is, the number of occupied housing units increased by roughly 0.9 million. Furthermore, each Northeast state experienced the same state of change (see **Figure 11**).

Figure 11. Northeast Occupied Housing Units

2000 vs. 2010



Source: U.S. Census Bureau, *Housing Characteristics: 2000 (Oct. 2001), and Housing Characteristics*: 2010 (Oct. 2011).

Federal and Charitable Heating Assistance

Low Income Home Energy Assistance Program

The Low Income Home Energy Assistance Program (LIHEAP) provides funds to states, the District of Columbia, U.S. territories and commonwealths, and Indian tribal organizations (collectively referred to as grantees) primarily to help low-income households pay home energy expenses.[18] The LIHEAP statute provides for two types of funding: regular funds (sometimes referred to as block grant funds) and emergency contingency funds. Regular funds are allocated to grantees based on a formula, while emergency contingency funds may be released to one or more grantees at the discretion of the Secretary of the Department of Health and Human Services based on emergency need.

Regular LIHEAP funds are allocated to the states according to a formula that has a long and complicated history. (Tribes and territories receive funds through set-asides.) In 1980, Congress created the predecessor program to LIHEAP, the Low Income Energy Assistance Program (LIEAP), as part of the Crude Oil Windfall Profits Tax Act (P.L. 96-223). Because Congress was particularly concerned with the high costs of heating, funds under LIEAP were distributed according to a multi-step formula that benefitted cold-weather states. In 1981, Congress enacted LIHEAP as part of the Omnibus Budget Reconciliation Act (P.L. 97-35), replacing LIEAP. However, the LIHEAP statute specified that states would continue to receive the same percentage of regular funds that they did under the LIEAP formula (this is sometimes referred to as the "old" LIHEAP formula).

When Congress reauthorized LIHEAP in 1984 as part of the Human Services Reauthorization Act (P.L. 98-558), it changed the program's formula by requiring the use of more recent population and energy data and requiring that HHS consider both heating and cooling costs of low-income households (a change from what had largely been a focus on the need for heating assistance). The effect of these changes meant that, in general, some funding would be shifted from cold-weather states to warm-weather states. To prevent a dramatic shift of funds, Congress added two "hold-harmless" provisions to the formula. The percentage of funds that states receive under the formula enacted in 1984 is sometimes referred to as the "new" formula.

Citizens Energy Oil Heat Program

Citizens Energy Corporation (also known as Joe-4-Oil) offers heating oil assistance through vouchers for 100 gallons per heating season.[19] Citizens advertises that its Oil Heat Program has provided heating oil to an estimated half a million low-income and elderly residents in 25 states and the District of Columbia over the last eight years, and delivered over $20 million in heating grants to over 60 Native American tribes and various homeless shelters.[20] Citizens solicits

[18] For further information on LIHEAP, refer to CRS Report RL33275, *The LIHEAP Formula: Legislative History and Current Law*, by (name redacted). See also CRS Report R42594, *The 2014 Farm Bill: Changing the Treatment of LIHEAP Receipt in the Calculation of SNAP Benefits*, by (name redacted) and (name redacted), and CRS Report RL31865, *LIHEAP: Program and Funding*, by (name redacted).

[19] Citizens Energy Corporation (Joseph P. Kennedy, founder), http://www.citizensenergy.com/assistance-programs/joe-4-oil.

[20] Citizens only lists Alaska, Wisconsin, Massachusetts, Michigan, Indiana, Maine, New York, Pennsylvania, Virginia, (continued...)

charitable contributions to support the assistance program, and also relies on contributions from Citgo Petroleum Corporation (an indirect wholly owned subsidiary of Petróleos de Venezuela, S.A., the national oil company of Venezuela). However, critics of Citizens' association with Citgo claim that politicians benefited from accepting cheap oil for their districts while they unwittingly indebted themselves to the Venezuelan despot Hugo Chavez.[21]

Policy Considerations

No single factor explains the Northeast's declining demand for heating oil. Although steady price increases appear to correlate with declining demand, consumers may have responded by using less heating oil. Some residential consumers may have switched to electricity, natural gas, bottled gas, kerosene, or wood. A rise in electricity sales could suggest some displacement of heating oil, but could also correlate with increased population and new home construction. Both housing stock and occupancy rates increased over the 2000 through 2011 timeframe, suggesting an increased demand for residential heating. However, more energy-efficient and better-insulated new houses could have replaced older units. Newer, more efficient oilheat furnaces could have replaced older units. Congress also authorized the National Oilheat Research Alliance (NORA) in the 2000 Energy Act to inform consumers about cleaner and more efficient oilheat equipment (see **Appendix B**).

The Northeast's heating oil demand has declined 47% since 2000, reflecting an overall decline in petroleum products demand nationally. In response to the 1999-2000 heating oil price spike and supply shortage, Congress authorized a 2 million-barrel Northeast Home Heating Oil Reserve (NHHOR) to meet roughly 10 days of the Northeast's demand (see **Appendix B**). At that time (2000), the Northeast annually consumed nearly 5.2 billion gallons (123.7 million barrels). The winter heating season typically begins October 1 and may last through May 31—some 243 days. Based on that assumption, the rate of consumption could reach half a million barrels per day, and thus consume the Reserve in as few as four days (the most extreme case when the heating oil supply is cut off). Under the current average consumption rate of 70.9 million barrels annually, the Reserve could last as long as a week. Heating fuel shortages are more likely to occur toward the end of the heating season, which lengthy or late-season cold spells may exacerbate. During such episodes, homeowners have the recourse of purchasing diesel fuel (although at a higher price), as do homeowners who run out of heating oil before their scheduled deliveries.

In its 13-year history, NHHOR has only released fuel in response to distillate fuel shortages during natural disasters, and not in response to a market dislocation. (The overall short supply of transportation fuels and blocked roads in the regions affected by Superstorm Sandy and winter snowstorms may have also prevented commercial fuel deliveries to residential heating customers.) While the NHHOR release demonstrated the utility of maintaining a distillate stockpile, it was not based on the conditions of a heating oil supply shortage. The 2000 Energy Policy Conservation Act amendment (P.L. 106-469) that established NHHOR had only authorized the Energy Secretary to sell NHHOR stock in the event of a dislocation in the heating oil market resulting from an interruption, or circumstances that constitute a regional supply shortage. The

(...continued)

New Hampshire, Vermont, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, and Washington, DC.

[21] Christine Morabito, "Citizens Energy and Citgo It's Time to Know the Truth!," *The Valley Patriot*, April 2011, pp. http://valleypatriot.com/citizens-energy-and-citgo-its-time-to-know-the-truth/.

amendment did not include a provision for the type of contingency that arose after Sandy, however. Congress may move to consider the need for clarifying the Energy Secretary's authority to release NHHOR stocks for emergency contingencies.

NHHOR does not appear to have influenced heating oil prices the way that the threat of releasing crude oil from the Strategic Petroleum Reserve might influence crude oil prices.[22] Commodity traders are likely to bid up heating oil futures contracts early in the season, if long-term weather forecasts call for a colder winter. Heating oil futures contracts will also reflect crude oil price futures. Observers may interpret these trading patterns as speculative bidding that is driving prices higher. However, to guarantee and lock in future supplies, heating oil brokers may be compelled to enter higher bids.

Independent retail marketers tend to respond to more local market conditions and shorter timeframes. Price increases (or decreases) reflect the marketer's expectation of the cost to replace their current fuel stocks in order to stay in business. In authorizing NHHOR, policy makers sought to avert the "price gouging" reported to occur prior to and during fuel shortages. In defense of marketers, consumers only become aware of impending shortages through a price signal, that is, a price spike. No more direct signal exists to inform consumers of the need to conserve, and no more immediate mechanism exists to allocate at least a minimum amount of fuel while discouraging hoarding. The reluctance of the Secretary of Energy to tap NHHOR may have influenced consumers to conserve fuel as prices escalated over time (very much in line with overall energy conservation policy). The presence of NHHOR may have instilled some confidence that a supply shortage would be temporary. In the aftermath of Sandy, however, NHHOR supported a federal disaster response effort, not as a response to a market dislocation as policy makers had conceived its role.

The Northeast region's reduced dependence on heating oil and the increased availability of alternative heating fuels raise the question of whether DOE should continue maintaining NHHOR, and whether Congress should continue to monitor the region's heating oil supply.

[22] See CRS Report R42460, *The Strategic Petroleum Reserve: Authorization, Operation, and Drawdown Policy*, by (name redacted) and (name redacted).

Appendix A. Definitions of Distillate Fuel Categories

Distillate Fuel Oil

A general classification for one of the petroleum fractions produced in conventional distillation operations. It includes diesel fuels and fuel oils. Products known as No. 1, No. 2, and No. 4 diesel fuel are used in on-highway diesel engines, such as those in trucks and automobiles, as well as off-highway engines, such as those in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and electric power generation.[23]

No. 2 Fuel Oil (Heating Oil)

A distillate fuel oil that has a distillation temperature of 640 degrees Fahrenheit at the 90% recovery point and meets the specifications defined in ASTM Specification D 396. It is used in atomizing type burners for domestic heating or for moderate capacity commercial/industrial burner units.

No. 4 Fuel Oil

A distillate fuel oil made by blending distillate fuel oil and residual fuel oil stocks. It conforms to ASTM Specification D 396 or Federal Specification VV-F-815C, and is used extensively in industrial plants and in commercial burner installations that are not equipped with preheating facilities. It also includes No. 4 diesel fuel used for low- and medium-speed diesel engines and conforms to ASTM Specification D 975.

No. 1 Distillate

A light petroleum distillate that can be used as either a diesel fuel (see No. 1 Diesel Fuel) or a fuel oil (see No. 1 Fuel Oil).

> **No. 1 Diesel Fuel**: A light distillate fuel oil that has distillation temperatures of 550 degrees Fahrenheit at the 90% point and meets the specifications defined in ASTM Specification D 975. It is used in high-speed diesel engines generally operated under frequent speed and load changes, such as those in city buses and similar vehicles.
>
> **No. 1 Fuel Oil**: A light distillate fuel oil that has distillation temperatures of 400 degrees Fahrenheit at the 10% recovery point and 550 degrees Fahrenheit at the 90% point and meets the specifications defined in ASTM Specification D 396. It is used primarily as fuel for portable outdoor stoves and portable outdoor heaters.

[23] Rick Wallace, *Definitions of EIA Distillate Categories and Fuels Contained in the Distillate Grouping*, U.S. Department of Energy.

No. 2 Distillate

A petroleum distillate that can be used as either a diesel fuel (see No. 2 Diesel Fuel) or a fuel oil (see No. 2 Fuel Oil).

No. 2 Diesel Fuel: A fuel that has distillation temperatures of 500 degrees Fahrenheit at the 10% recovery point and 640 degrees Fahrenheit at the 90% recovery point and meets the specifications defined in ASTM Specification D 975. It is used in high-speed diesel engines that are generally operated under uniform speed and load conditions, such as those in railroad locomotives, trucks, and automobiles.

No. 2 Diesel Fuel, High Sulfur: No. 2 diesel fuel that has a sulfur level above 500 ppm.

No. 2 Diesel Fuel, Low Sulfur: No. 2 diesel fuel that has a sulfur level between 15 ppm and 500 ppm (inclusive). It is used primarily in diesel motor vehicle diesel engines for on-highway use.

No. 2 Diesel Fuel, Ultra Low Sulfur Diesel (ULSD): No. 2 diesel fuel that has a sulfur level below 15 ppm. It is used primarily in newer motor vehicle diesel engines for on-highway use.

Appendix B. National Oilheat Research Alliance

Congress authorized the National Oilheat Research Alliance (NORA) in the 2000 Energy Act to develop projects for the research, development, and demonstration of clean and efficient oilheat utilization equipment; and to operate programs that enhanced consumer and employee training. NORA was a not-for-profit industry trade association of heating oil suppliers conceived of, and chartered under, Title VII of the act. As such, it was exempt from taxation under Section 501(c) of the Internal Revenue Code of 1986. NORA fell into a category of federally authorized programs known as check-off programs. To fund check-off programs, a fraction of the wholesale cost of a product is set aside by the producer and deposited into a common fund to be used to benefit producers and consumers.

Title VII included the provision in Section 713 (Sunset) that limited NORA's authorization to four years after establishment (February 2001). Section 302 (National Oilheat Research Alliance) of the 2005 Energy Policy Act (P.L. 109-58) amended Title VII to extend the sunset provision to nine years after NORA's establishment date, effectively extending it to February 2010. NORA actually ceased operation at the end of 2011, more than a year beyond its sunset date, while it disbursed remaining funds. Although Title VII, Section 704 *Referenda*, paragraph (c)—*Termination or Suspension* authorized NORA to hold a referendum to determine whether the oilheat industry favored termination or suspension of the alliance, there is no indication of industry interest in doing so. The Agricultural Act of 2014 (P.L. 113-79) extended NORA for an additional 9 years, extending its life for 18 years from its original authorization under the 2000 Energy Act. NORA announced that it is resuming full operations, and began collecting fees as of April 1, 2014.[24]

Function and Operation

NORA started operation on February 6, 2001, and started collecting fees on March 1, 2001. Marketers and suppliers in 23 states and the District of Columbia chose to participate in NORA.[25]

Section 706 (Functions) authorized NORA to develop programs and projects, and enter into contracts to implement programs for

1. consumer and employee safety and training,
2. research, development, and demonstration of oilheat equipment, and
3. consumer education.

Section 706 specifically excluded advertising or promotions, and research on oilheat equipment that had already been verified as technically feasible.

[24] NORA, NORA Reestablished by Congress, http://www.nora-oilheat.org/site20/index.mv?screen=home.

[25] Connecticut, Delaware, Idaho, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, Nevada, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, Washington, Wisconsin, and Washington, DC.

Funding Source

To fund the projects and programs, the Title VII, Section 707 (Assessments) directed wholesalers to collect a two-tenths cent ($0.002) per gallon assessment on No. 1 distillate and No. 2 dyed distillate at the point of sale, to be paid to the Alliance on a quarterly basis. **Table B-1** summarizes NORA's assessed fees and other generated income during the years it operated (2001 through 2011). NORA's total revenue (including assessments, interest, other income sources, and contract revenue) reached nearly $125 million by the end of 2011. Fee assessments represented 97% of total revenue collected. See **Figure B-1**.

Table B-1. NORA Assessment Revenue 2001-2011

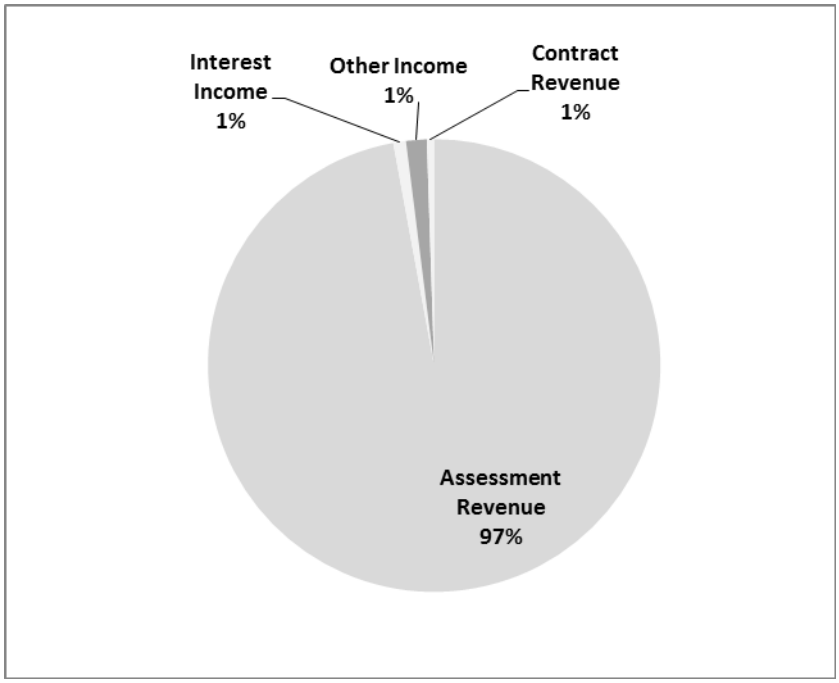
Revenue in current $

Calendar Year	Net Assessment Revenue	Interest Income	Other Income	Contract Revenue	Total Revenue and Support
2001	11,055,555	77,989	—	—	11,133,544
2002	14,637,440	86,662	19,271	—	14,743,373
2003	17,447,342	43,120	337,051	—	17,827,513
2004	15,621,740	34,518	232,818	—	15,889,076
2005	8,798,154	129,841	225,633	—	9,153,628
2006	13,330,306	325,940	158,872	—	13,815,118
2007	14,001,145	314,418	146,496	—	14,462,059
2008	12,495,762	114,408	129,882	—	12,740,052
2009	12,008,689	6,068	148,715	—	12,163,472
2010	1,953,741	1,113	348,635	153,542	2,457,031
2011	-	1,069	99,994	491,332	592,395
Total	**121,349,874**	**1,135,146**	**1,847,367**	**644,874**	**124,977,261**

Source: NORA Annual Reports, http://www.nora-oilheat.org/site20/index.mv?screen=budgets.

Notes: Total Revenue Support = Assessment Revenue + Interest Income + Other Income.

Figure B-1. NORA Revenue by Funding Source



Source: Compiled from **Table 1**, "NORA Expenses and Spending During Assessment Authorization, 2001-2011."

Spending Issues

Title VII Section 707 (d) (Investment of Funds) authorized NORA to invest funds collected through assessments, and any other funds received by the Alliance, only in—

1. Obligations of the United States or any agency of the United States;
2. General obligations of any State or any political subdivision of a State;
3. Interest-bearing account or certificate of deposit of a bank that is a member of the Federal Reserve System; or
4. Obligations fully guaranteed as to principal and interest by the United States.

By the end of 2011, NORA had spent $124.5 million (**Table B-2**), with just $0.5 million remaining from the $125 million collected in assessments (**Table B-1**). NORA spent nearly 75% ($92 million) of its assessments in the form of state grants (**Figure B-2**). NORA's general and administrative expenses represented slightly more than 6% ($7.6 million) of overall spending.

Table B-2. NORA Expenses and Spending During Assessment Authorization 2001-2011

Expense in current $

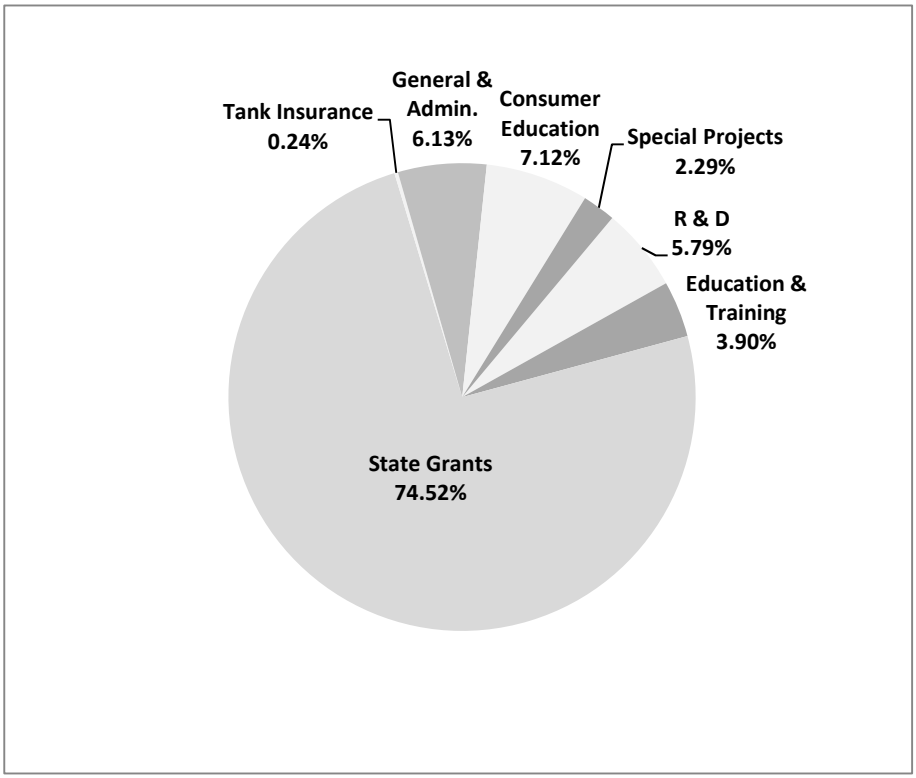
Cal. Year	Research and Development	Education and Training	State Grants	Tank Insurance	General Admin.	Consumer Education	Special Projects	Total Expenses
2001	380,431	380,431	8,084,149	—	1,104,991	—	—	9,950,022
2002	554,271	554,271	11,772,201	—	1,046.109	—	—	13,926,852
2003	1,207,679	707,679	12,027,305	—	1,421,878	2,254,292	—	17,618,833
2004	641,000	641,000	12,951,662	150,000	1,259,044	490,496	—	16,133,202
2005	1,000,000	120,000	4,220,343	150,000	571,782	1,000,000	502,464	7,564,589
2006	637,862	662,862	11,502,559	—	520,275	1,548,000	477,682	15,349,240
2007	580,114	645,114	10,733,674	—	556,266	1,468,000	638,888	14,622,056
2008	777,114	645,114	9,123,651	—	591,931	1,110,000	476,076	12,723,866
2009	777,114	300,000	9610,877	—	607,280	910,000	361,174	12,566,445
2010	89,321	150,000	1,954,802	—	502,693	1,394	233,636	2,931,846
2011	506,553	1,077	—	—	432,539	4,267	138,184	1,082,620
Total	**7,151,459**	**4,807,548**	**91,981,233**	**300,000**	**7,569,725**	**8,786,449**	**2,828,104**	**124,469,571**

Source: NORA Annual Reports, http://www.nora-oilheat.org/site20/index.mv?screen=budgets.

Notes: NORA reported $1,905,703 in Net Assets Remaining at the end of 2008.

Figure B-2. NORA Expenses and Spending

2001 through 2011



Source: Compiled from **Table B-2**, "NORA Expenses and Spending During Assessment Authorization, 2001-2011."

Government Accountability Office Review

In a 2010 report, the Government Accountability Office (GAO) reviewed the "Extent to Which NORA's Activities Have Met Key Requirements and Carried Out Statutorily Prescribed Functions" and commented that it was not clear whether all the activities that NORA reported achieved strategic goals.[26] Specifically

> NORA's research and development activities were generally consistent with strategic goals, but because NORA's strategic plan lacked goals for its consumer education, education and training, and oil tank programs, GAO could not determine if these activities achieved desired results.

[26] U.S. Government Accountability Office, *Propane and Heating Oil: Federal Oversight of the Propane Education and Research Council and National Oilheat Research Alliance Should Be Strengthened*, GAO-10-583, June 2010, pp. 49-50.

In considering the 18 key legislative requirements in Title VII, GAO concluded that NORA did appear to meet 11 requirements that did not raise significant issues. These are summarized in **Table B-3**.

Table B-3. Eleven Key Legislative Requirements Met by NORA

Title VII—National Oil Heat Research Alliance Act of 2000 (P.L. 106-469)

Section	Key Legislative Requirement Met
705(d). *Compensation*	No members were compensated for their service or expenses.
706(a)(2). *Functions/ Coordination*	Activities were efficiently coordinated with Brookhaven National Laboratory (Dept. of Energy) to avoid unnecessary duplication.
706(a)(3)(A). *Functions/ Activities—Exclusions*	No apparent support for advertising, promotions, or consumer surveys in support of advertising or promotions.
706(a)(3)(B)(ii). *Functions/ Activities—Research/Excluded Activities*	No research, development and demonstration support for oilheat utilization equipment already determined technically feasible.
706(b). *Functions/ Priorities*	Program expenses allocated to education and training; research, development, and demonstration; and consumer education.
706(c)(1). *Functions/ Administration–Officers; Committees; Bylaws*	Bylaws adopted for the conduct of business.
706(e)(1). *Functions/ Budget—Publication*	Budget published each year for public review and comment.
706(f)(2)(A). *Functions/ Records—Audits*	Certified public accountant has annually reviewed financial statements.
706(g)(2). *Functions/ Public Access to Proceedings—Meetings Open to Public*	Council and executive committee meetings were open to the public.
706(h). *Functions/ Annual Report*	Annual report prepared each year since 2001.
707(d). *Assessments/ Investment of Funds*	Investments were reviewed for compliance with legislative provisions by its counsel.

Source: GAO, *Propane and Heating Oil—Federal Oversight of the Propane Education and Research Council and National Oilheat Research Alliance Should be Strengthened*, GAO-10-981T, September 29, 2010.

GAO also identified issues regarding NORA's or its qualified state associations' activities under seven other legislative requirements or priorities of the Oilheat Act. The issues are summarized in **Table B-4**.

Table B-4. Seven Key Legislative Requirements At Issue

Title VII—National Oil Heat Research Alliance Act of 2000 (P.L. 106-469)

Section	Key Legislative Requirement Issue
705(c)(1)(B). *Membership/ Number of Members—States Represented*	Having the required minimum number (23) of states represented on the NORA council; at the commencement of review, only 20 states were represented; 3 states were subsequently added.
705(e). *Terms*	"Membership ... Terms"—possible exceedance of term limits of NORA council members.
706(e)(2). *Functions/ Budget*	"Functions ... Budget"—submission of the NORA annual proposed budget to a potentially inappropriate DOE office for review.
706(f)(2)(C). *Functions/Records; Audits—Policies and Procedures*	Promulgation of formal policies and procedures for auditing compliance with the Oilheat Act—NORA has no formal procedures for auditing compliance *per se*.
706(f)(2)(B). *Functions/ Records; Audits—Public Availability*	"Records; audits.—... Availability of audit reports"—possible failure to submit the NORA annual audit report to the Secretary of Energy.
707(e)(2)(A)(ii)(IV). *Assessments/ State, Local, and Regional Programs—Monitoring; terms, conditions, and reporting requirements*	Monitoring of how state associations spend NORA's funds—though 75% of NORA's spending went to 20 state associations, GAO was unable to determine whether their spending of NORA funds complied with the act.
710. *Lobbying Restrictions*	Activities involving Congress or politically affiliated entities—NORA state association posted letter directed toward supporting oilheat-related legislation.

Source: GAO, Propane and Heating Oil—Federal Oversight of the Propane Education and Research Council and National Oilheat Research Alliance Should be Strengthened, GAO-10-981T, September 29, 2010.

Notes: See GAO report for NORA's response.

With specific regard to the Oilheat Act's lobbying prohibitions of Section 710, restrictions prohibited NORA from using Section 707 assessments to influence legislation or elections. It did, however, allow NORA the exception of using Section 707 funds to formulate and submit recommendations to the Secretary of Energy for amending Title VII or other laws that would further the purposes of NORA.

GAO reported that[27]

> minutes of an August 2008 NORA executive committee meeting indicated that the NORA president said he was seeking state senators' support for NORA reauthorization, and that a December 2008 NORA-qualified Massachusetts state association newsletter indicated that the NORA president traveled to Washington to urge both Massachusetts senators to support NORA reauthorization.

However, GAO went on to report that Title VII provides no guidance on what constitutes "influencing legislation or elections":

> there is little pertinent legislative history; no court has addressed what this language means as used in these statutes; and other federal laws containing similar language have been interpreted in different ways. As such, it is not clear whether or not the Propane Act's or the Oilheat Act's prohibitions cover those types of activities.

[27] U.S. Government Accountability Office, Propane and Heating Oil—Federal Oversight of the Propane Education and Research Council and National Oilheat Research Alliance Should be Strengthened, GAO-10-981T, September 29, 2010, pp. 6-7, http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=5e0792b7-a0b4-2908-4e0b-1127615fddcf.

Appendix C. Northeast Home Heating Oil Reserve

A number of factors may have contributed to the near doubling of heating oil prices in some Northeastern states during the winter of 1999-2000, but the most significant may have been the sharply lower storage levels of middle distillate stocks (the range of home heating oil and diesel fuels) at the time. The acute conditions drew the concern of many Northeastern lawmakers because 69% of the U.S. households that used heating oil were located in the Northeast. The region continues to rely on heating oil as a source of home heating, but at a sharply reduced level. Alternative heating fuels may be responsible for reducing the dependency, as may improvements in home heating and insulation. Heating oil prices continue to remain high, as do other petroleum products and the price of crude oil, which may be discouraging use.

In response to the 1999-2000 heating oil price spike and supply shortage, Congress authorized the Secretary of Energy to establish the Northeast Home Heating Oil Reserve (NHHOR) in the Energy Act of 2000 (P.L. 106-469). As a 2 million barrel emergency stockpile of government-owned heating oil, NHHOR was intended to meet roughly 10 days of demand by the Northeastern states at the time it was created.[28] The regional reserve reached its full capacity by the middle of October 2000 at two sites in New Haven, CT, and terminals in Woodbridge, NJ, and Providence, RI. The NHHOR mission is to supplement commercial fuel supplies should the region either anticipate or experience a severe disruption to normal supplies.

The 2000 act established NHHOR as part of the broader Strategic Petroleum Reserve (SPR), and the FY2001 Interior Appropriations Act (P.L. 106-291) made $8 million from the SPR account available to maintain NHHOR.[29]

Drawdown Authority

The 2000 Energy Act authorized the Secretary of Energy to draw down or sell NHHOR heating oil when a presidential determination is made that there is a severe energy supply interruption, either due to a "dislocation in the heating oil market," or a "regional supply shortage of significant scope and duration." The act defined a dislocation as a price differential between crude oil (reflected in an industry daily publication such as "Platt's Oilgram Price Report" or "Oil Daily") and No. 2 heating oil, as reported in the Energy Information Administration's retail price data for the Northeast, that

- increases by more than 60% over its five-year rolling average for the months of mid-October through March (considered as a heating season average);
- continues for seven consecutive days; and
- continues to increase during the most recent week for which price information is available.

[28] 42 U.S.C. §6250.

[29] See CRS Report R42460, *The Strategic Petroleum Reserve: Authorization, Operation, and Drawdown Policy*, by (name redacted) and (name redacted).

The Energy Secretary can offer NHHOR oil through a competitive bid process, or exchange it through an agreement that replaces the original volume with an added volume as repayment premium.

The act's language was cause for controversy. Opponents of establishing a regional oil reserve argued that its use might be inappropriate, and the potential availability of the reserve could be a disincentive to private suppliers to maintain their inventories at sufficient levels. The intent of defining a dislocation was to make the threshold for use of the regional reserve high enough so that it would not discourage oil marketers and distributors from building up heating oil stocks. The President could also authorize a release of the NHHOR in the event that a "circumstance exists (other than the defined dislocation) that is a regional supply shortage of significant scope and duration, the adverse impacts of which would be 'significantly' reduced by use of the NHHOR."

Drawdowns

During mid- and late December 2000, heating oil prices breached the 60% differential. However, this was due to a sharp decline in crude prices rather than to a rise in home heating oil prices. In fact, home heating oil prices were drifting slightly lower during the same reporting period. Although the 60% differential was satisfied, other conditions requisite to authorizing a drawdown of the NHHOR were not met.

A general strike in Venezuela that began in late 2002 resulted, for a time, in a loss of as much as 1.5 million barrels of daily crude supply to the United States. With refinery use lower than usual because of less crude reaching the United States, domestic markets for home heating oil had to rely on refined product inventories to meet demand during a particularly cold winter. Prices rose, and there were calls for use of the NHHOR; still, the price of heating oil fell significantly short of meeting the guidelines for a drawdown.

Neither the 2000 heating oil price spike nor the 2002 Venezuela strike led to a determination to draw down NHHOR.

May 2007 Sale

DOE announced on May 24, 2007, that it would sell approximately 35,000 barrels of home heating oil from the NHHOR. The Reserve's current five-year storage contract for the Providence, RI, storage location was to expire September 30, 2007, and market conditions had caused new storage costs to rise to a level that exceeded available funds. Revenue from the sale was used to supplement funds for the award of new long-term storage contracts that began October 1, 2007. The sale of heating oil from the Reserve's site commenced June 13, 2007, using an interactive online bidding system, and bidding closed on June 14. The 35,000 barrels sale represented less than 2% of the NHHOR authorized capacity of 2 million barrels of heating oil.

Sale and Exchange for Ultra Low Sulfur Oil

During February 2011, DOE conducted a turnover of the roughly 2-million-barrel Northeast Home Heating Oil Reserve for the purpose of converting its high sulfur (2,000 parts per million) stocks to cleaner-burning ultra-low sulfur distillate (15 parts per million). On February 3, DOE sold nearly 1 million barrels stored at the Hess First Reserve Terminal in Perth Amboy, NJ. On

February 10, DOE sold another 1 million barrels from two storage sites in Connecticut: Hess Groton Terminal and the Magellan New Haven Terminal. DOE received approximately $227 million from the two sales and used the receipts to purchase ultra-low sulfur distillate during the summer of 2011. (DOE realized $114.40/barrel or $2.72 per gallon, compared to $2.80 per gallon wholesale price for U.S. No. 2 Distillate.)[30]

Superstorm Sandy, October 2012

In late October 2012, Superstorm Sandy struck the Northeast, Mid-Atlantic, and the Great Lakes region with devastating winds, rain, snow, and tidal surges. President Obama responded by declaring that the storm had created a severe energy supply interruption and directed the Department of Energy to transfer emergency fuel from the Reserve to the Department of Defense (DOD) for its use in emergency operations and support for those in the region affected by the storm. At the time, transportation fuel was in short supply. The Defense Logistics Agency—Energy transferred fuel from the Hess Terminal in Groton, CT, and distributed it to state, local, and federal responders in the New York/New Jersey area. Although designated a heating fuel, it may have served as a transportation fuel for DOD diesel-fueled vehicles providing logistical support for hurricane relief efforts, or as a heating fuel for relief centers.

Following a major snowstorm that hit the Northeast in November 2012 and compounded relief efforts there, DOE received and granted two more requests for NHHOR fuel.

In total, the Reserve released over 120,000 barrels (more than 5 million gallons) of fuel to support emergency relief efforts. Under its agreement with DOE, DOD replenished the Reserve with an equal volume of ultra-low sulfur diesel. Sandy and the subsequent snowstorm marked the first time that emergency withdrawals were made from the NHHOR.

The 2000 Energy Policy Conservation Act amendment (P.L. 106-469) that established NHHOR had only authorized the Energy Secretary to sell NHHOR stock in the event of a dislocation in the heating oil market resulting from an interruption, or circumstances that constitute a regional supply shortage. The amendment did not include any provision for the type of contingency that arose after Sandy, however.

Author Contact Information

(name redacted)
Specialist in Energy Policy
[redacted]@crs.loc.gov, 7-....

(name redacted)
Specialist in Housing Policy
[redacted]@crs.loc.gov, 7-....

[30] U.S. Energy Information Administration, *U.S. No. 2 Distillate Wholesale/Resale Price by All Sellers (Dollars per Gallon)*, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2_PWA_NUS_DPG&f=M.