

# *Northeast Heating Oil Assessment*

**National Oilheat Research Alliance**

## *Presentation Outline*

- **Distillate/Diesel Supply Overview**
- **Distillate Fuel Quality Requirements/Trends**
- **Refinery Supply Expansions**
- **Market Assessment**
- **Low Sulfur Cost/Price**

# Distillate/Diesel Supply and Demand Overview

- Middle distillate will be the highest growth product globally. The shift to distillate will place pressure on refining supply and yield capability and market premiums.
- Europe currently has product mix imbalance and will continue to shift product mix toward diesel.
- Europe will require increased volume of imports, some coming from Asia Pacific and Middle East
- Asia Pacific will become near term incremental supply source for Atlantic Basin diesel.

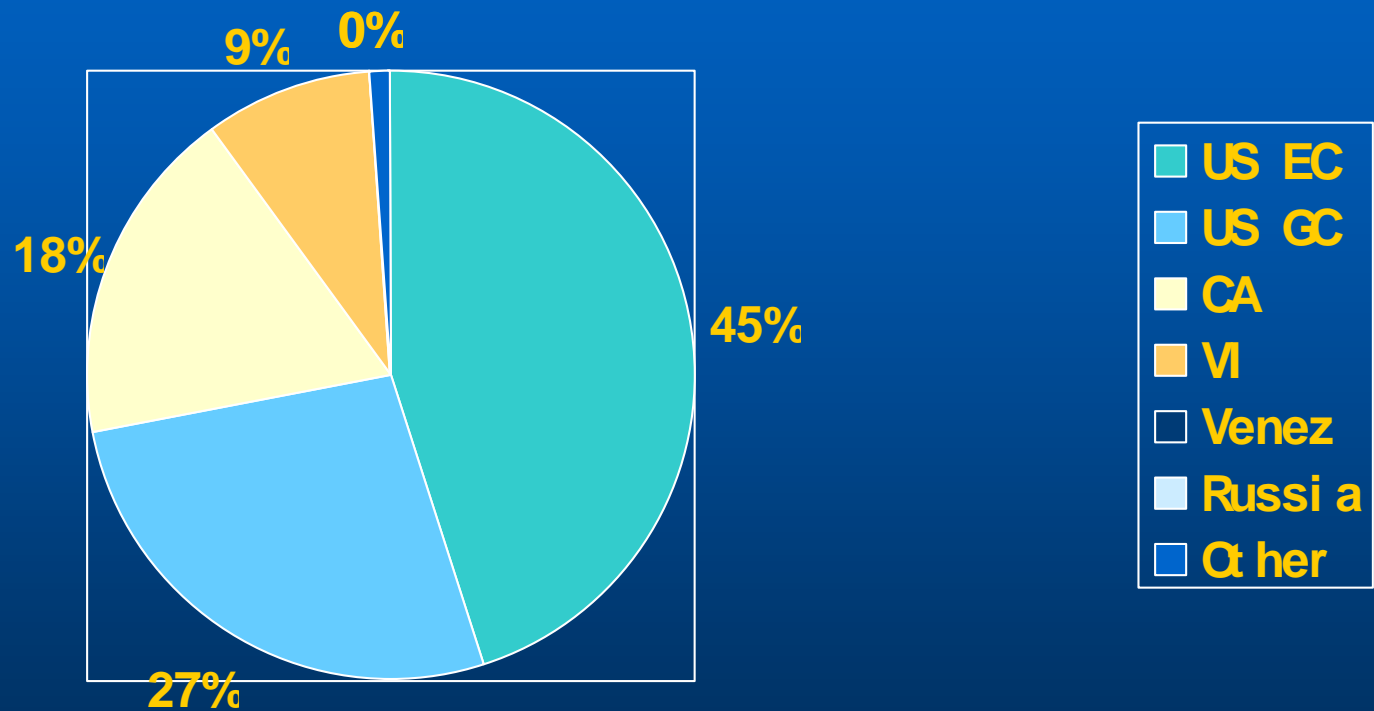
# Distillate/Diesel Supply and Demand Overview

- Middle East will be long term incremental diesel supply source for Atlantic Basin.
- Latin America is current short on distillate and will increase reliance on imports.
- North America distillate supply balance will not change significantly over time. There will be a small need for incremental imports.
- Just under 75% of Northeast distillate and heating oil supplied by U.S. refiners.

# Distillate/Diesel Supply and Demand Overview

- Virgin islands and Canadian refineries provide 15% of Northeast heating oil supply and Russia plus Venezuela another 10%, down in 2007 and 2008.
- North American diesel will grow 1.6% annually. Gasoline demand will peak and then begin to decline. Considering ethanol, there will be a major shift away from refinery gasoline production.

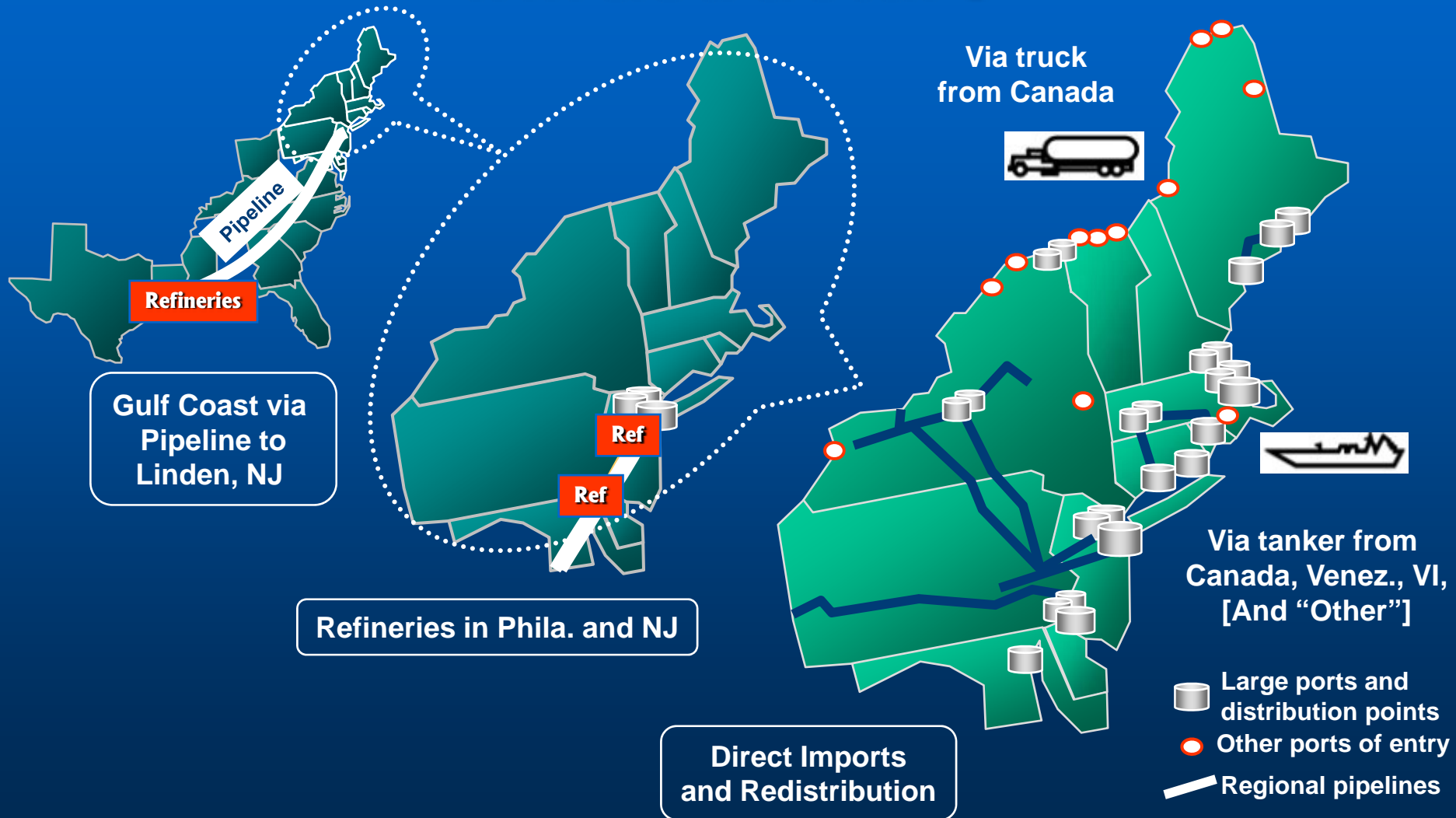
# Northeast Diesel Fuel Supply Sources: 2006



# Heating Oil Market

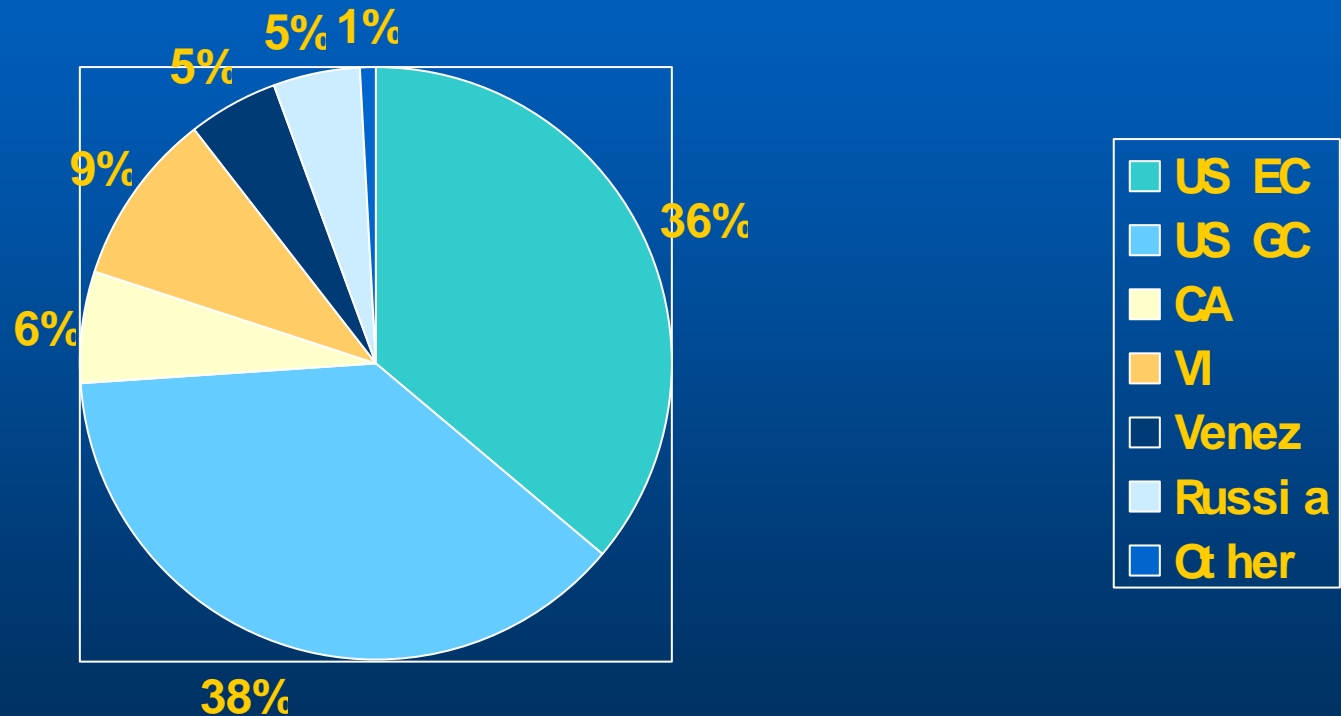
- 7-8 Billion Gallons
- NY, NJ, PA and DE,
  - 40 Percent

# Northeast's Distillate Supply Infrastructure

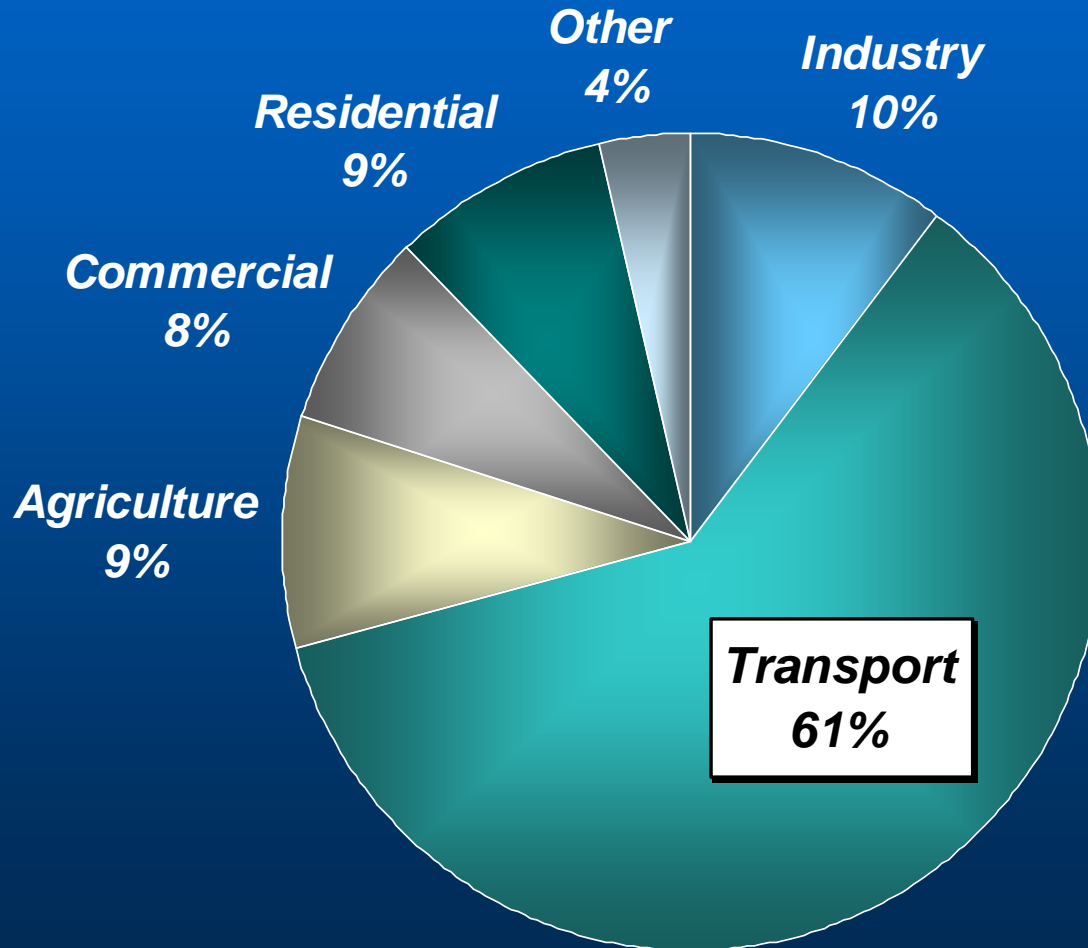




# Northeast Heating Oil Supply Sources: 2006



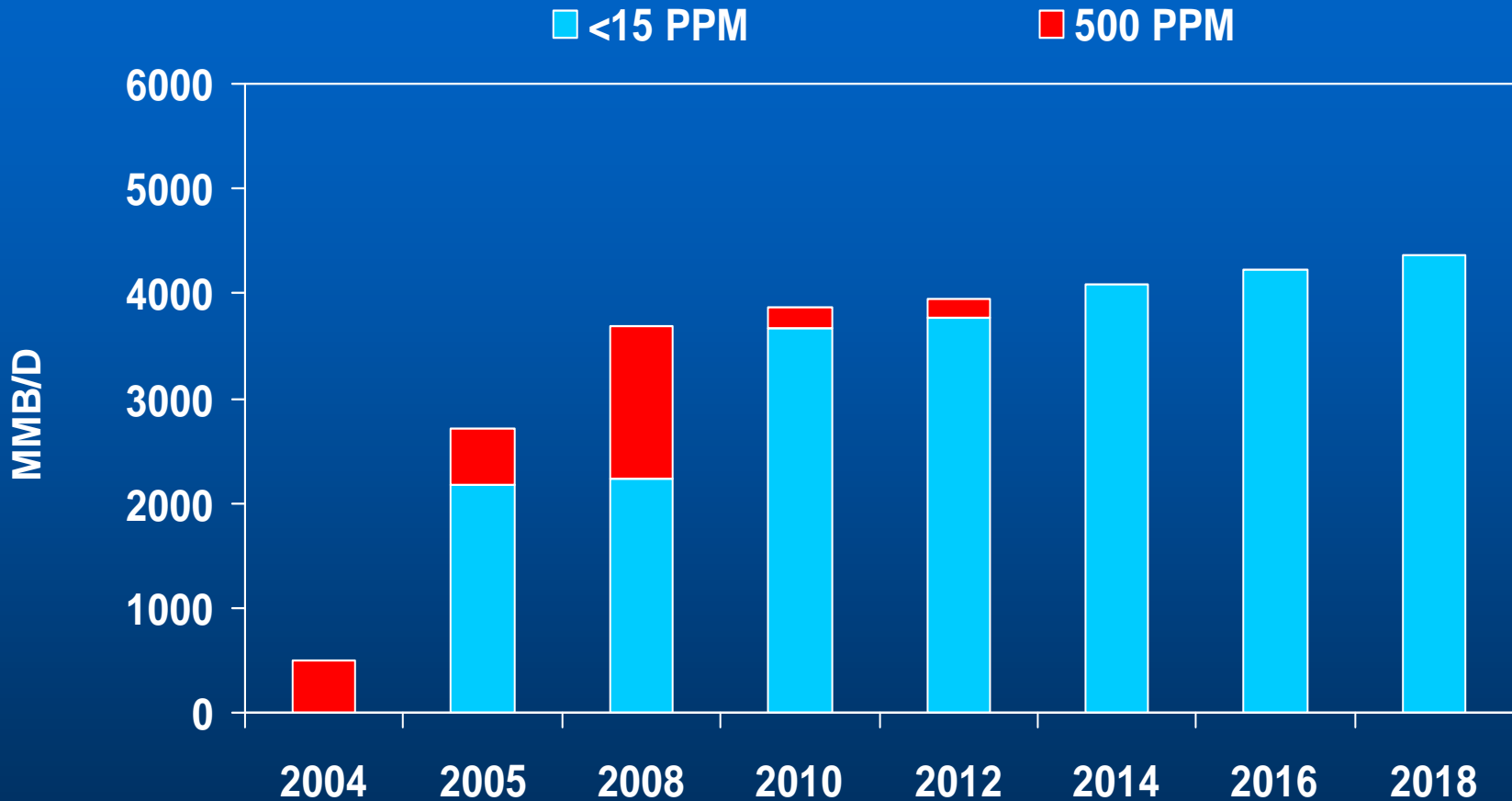
# Global Distillate Market by Sector (%), 2001



# Distillate/Diesel Fuel Quality

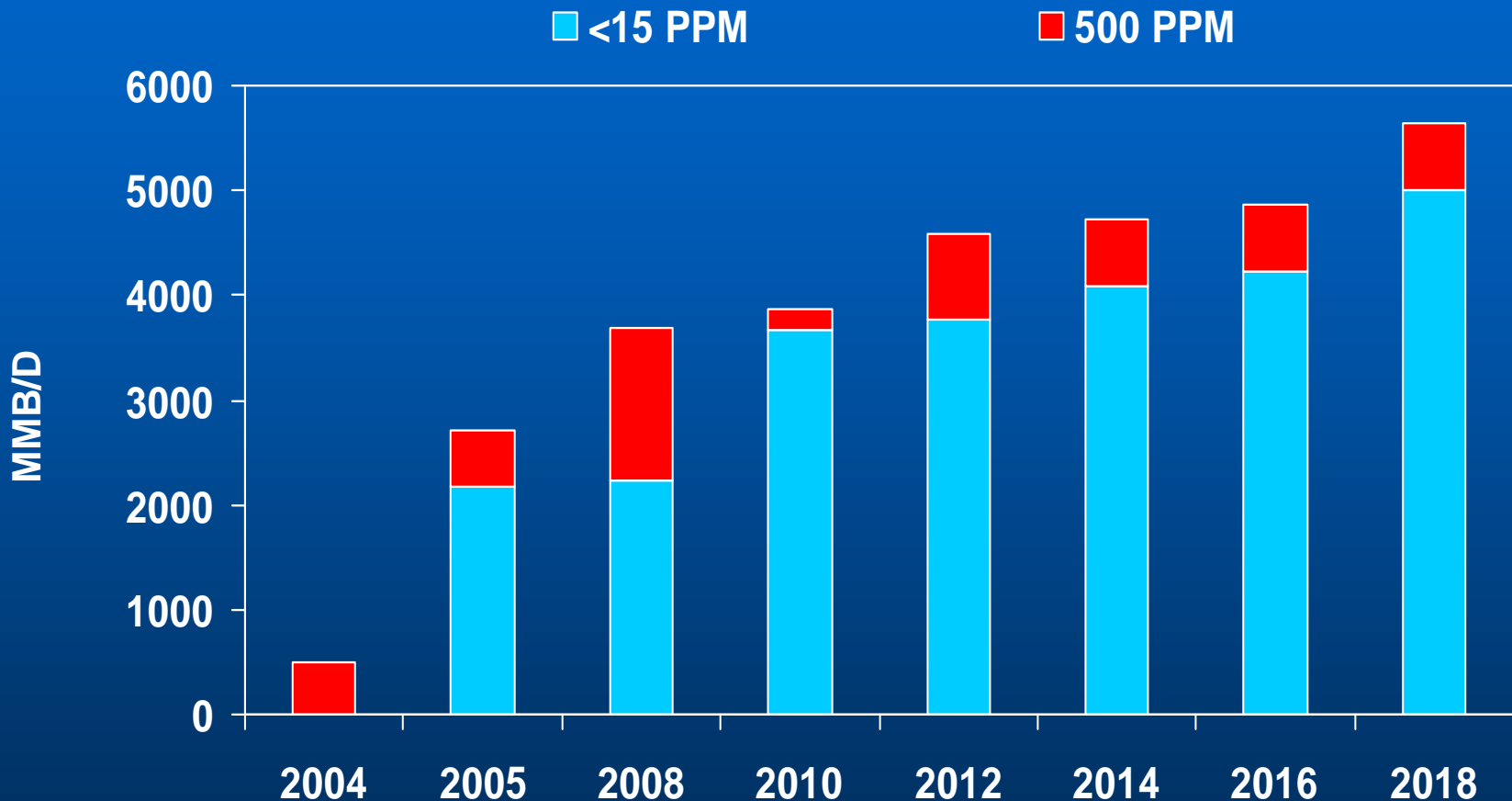
- Europe and North America completing move to ultra low sulfur diesel followed by inclusion of non-road diesel in ultra low sulfur pool.
- Europe to eventually include heating oil.
- Russia plans to align diesel with EU but this will take time – 2014 for ultra low sulfur diesel.
- Mexico aligning with U.S, but on delayed schedule. Other major Latin American countries moving to 50 PPM road diesel.

# North American Low Sulfur Distillate Growth: Strong Growth Through 2010.



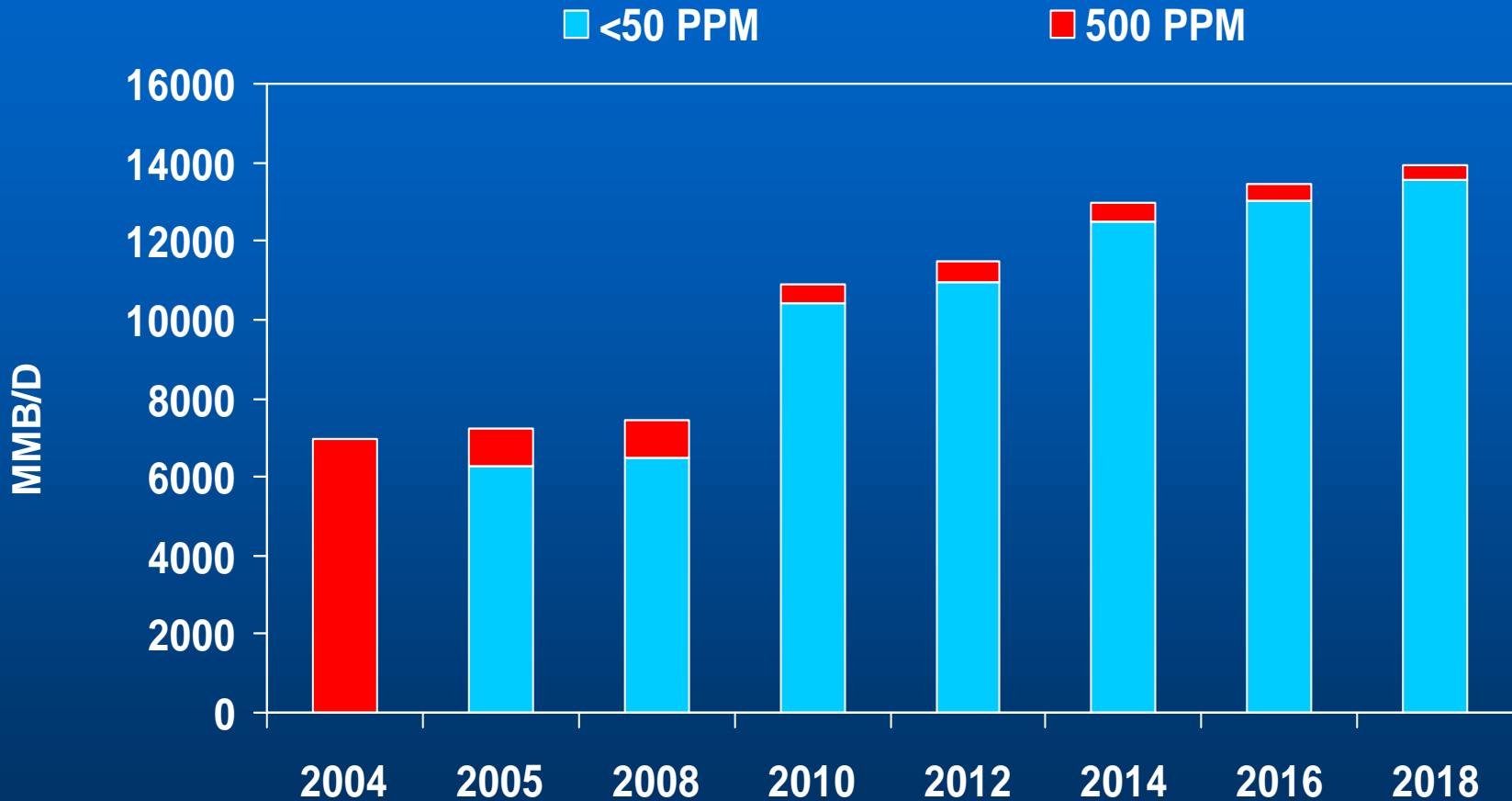
Source: Hart World Refining and Fuels Service

# North American Low Sulfur Distillate Growth: Maine VU Proposal Extends Period of Strong Growth



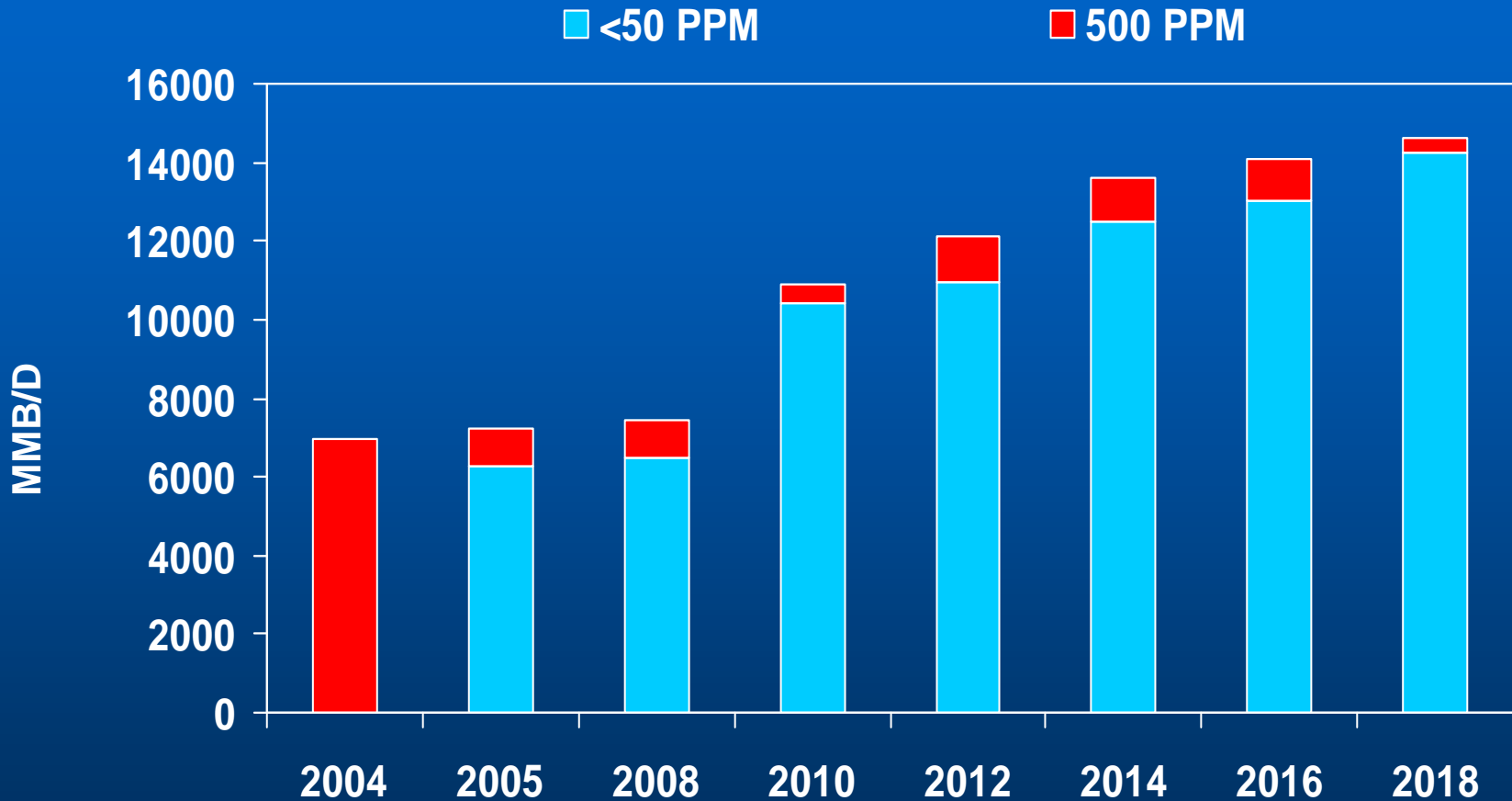
Source: Hart World Refining and Fuels Service

# Atlantic Basin Low Sulfur Distillate Growth: Strong Growth Through 2014



Source: Hart World Refining and Fuels Service

# Atlantic Basin Low Sulfur Distillate Growth: Strong Growth Through 2014



Source: Hart World Refining and Fuels Service

# Overall Assessment: 2012

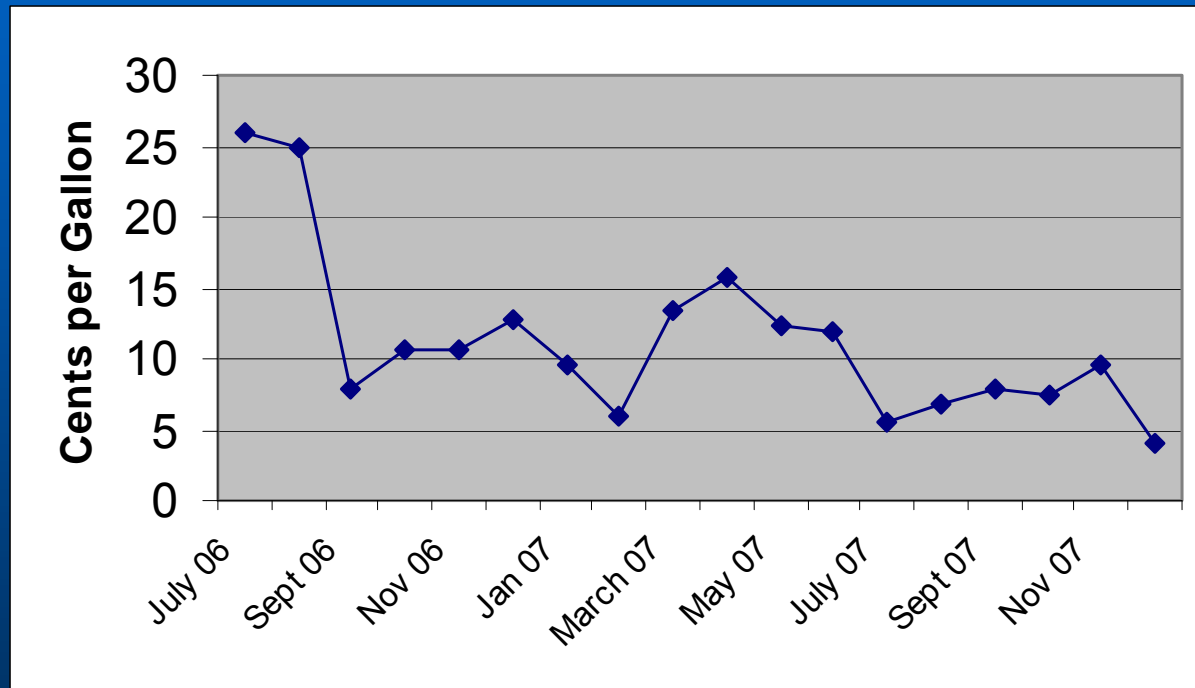
- Despite large market and increased supply sources premiums, large shift to low sulfur distillates will keep market tight going into 2012.
- Require additional refinery expansion beyond anticipated to keep up with demand.
- Marginal supply sources eliminated with lower sulfur heating oil.
- A 2012 requirement of <15 PPM difficult with large impact on market. A 500 PPM requirement more reasonable, but will still constrain market.
- Crack Spread Pushing Expansion
- Worldwide Recession



# Overall Assessment: 2018

- Larger market and increased supply sources will provide opportunity for additional demand.
- Timing sufficient for new investment and other shifts to low sulfur have slowed.
- Refinery expansions closer to incremental demand.
- A 2018 requirement of <15 PPM should not have major adverse market impact.

# NYH ULSD Diesel versus No. 2 Distillate



# Cost of Low Sulfur Distillate

	500 PPM	50 PPM	<15 PPM
Capital Charge	2.2-2.8	1.3-3.0	1.5-3.2
Operating Cost	3.2-4.0	2.5-4.6	3.1-5.7
Total	5.4-6.8	3.8-7.6	4.6-8.9

# Cost $\neq$ Price

- Friday
- Crude \$1.09 per gallon
- Heating Oil \$1.49 per gallon
- Gasoline \$1.07 Per Gallon
- ULSD \$.03 Premium to Heat Pennsylvania