



# U.S. Liquids Pipeline Usage & Mileage Report

October 2014

### **ASSOCIATION OF OIL PIPE LINES (AOPL)**

represents liquids pipeline owners and operators transporting crude oil, petroleum products like gasoline, diesel, jet fuel, and home heating oil and industrial products like propane and ethane.

### **AMERICAN PETROLEUM INSTITUTE (API)**

is the only national trade association that represents all aspects of America's oil and natural gas industry.

## U.S. Liquids Pipeline Usage & Mileage Are Growing

October 2014

Pipelines make life better for American consumers and workers. Liquids pipelines deliver U.S. consumers the gasoline, home heating oil, propane and jet fuel they need to get to work, heat their homes and travel. Liquids pipelines deliver U.S. workers the raw materials like ethane they use for good-paying manufacturing jobs. Liquids pipelines deliver U.S. farmers the propane they need to dry their crops after harvest and keep their livestock warm through the winter.

The United States and all of North America are in the midst of an energy production renaissance. Technologies such as horizontal drilling and hydraulic fracturing are yielding new supplies of crude oil and natural gas liquids like propane and ethane. The nation's pipeline operators are busy providing the infrastructure needed to deliver these new supplies from where they are produced to where they are processed, refined and then delivered to American workers and consumers. Similarly, pipeline operators are expanding existing pipelines and repurposing underused pipelines to uses more in demand.

This report provides data and analysis on liquids pipelines, the volume of crude oil and petroleum products they are transporting, and the miles they are traveling. Compiled from operator and government sources, the role of pipelines in supplying the liquid energy needs of America is clear.







# 2013 U.S. LIQUIDS PIPELINE USAGE & MILEAGE SUMMARY

**14.9 Billion Barrels**

Liquid pipeline operators delivered 14.948 billion barrels of *crude oil and petroleum products* by U.S. transmission pipeline in 2013

**+6.2%**

Total *crude oil and petroleum products* delivered by U.S. transmission liquids pipeline rose 6.2% from 2012 to 2013

**8.3 Billion Barrels**

Liquids pipeline operators delivered 8.306 billion barrels of *crude oil* by U.S. transmission pipeline in 2013

**+11.3%**

*Crude oil barrels delivered* by U.S. transmission pipeline rose 11.3% from 2012 to 2013

**+1.4 Billion Barrels**

Over the last 5 years, *crude oil barrels delivered* by U.S. transmission pipeline rose 1.351 billion barrels or 19.4%

**192,396 Miles**

U.S. *liquids pipeline mileage* totaled 192,396 miles in 2013

**+16,431 Miles**

Over the last 5 years, total U.S. *liquids pipeline mileage* increased 16,431 miles or 9.3%

**+25,727 Miles**

Over the last 10 years, total U.S. *liquids pipeline mileage* increased 25,727 miles or 15.4%

**60,911 Miles**

Pipeline operators operated 60,911 miles of U.S. *crude oil pipeline* in 2013

**+8,174 Miles**

Over the last 5 years, U.S. *crude oil pipeline mileage* increased 8,174 miles or 15.5%

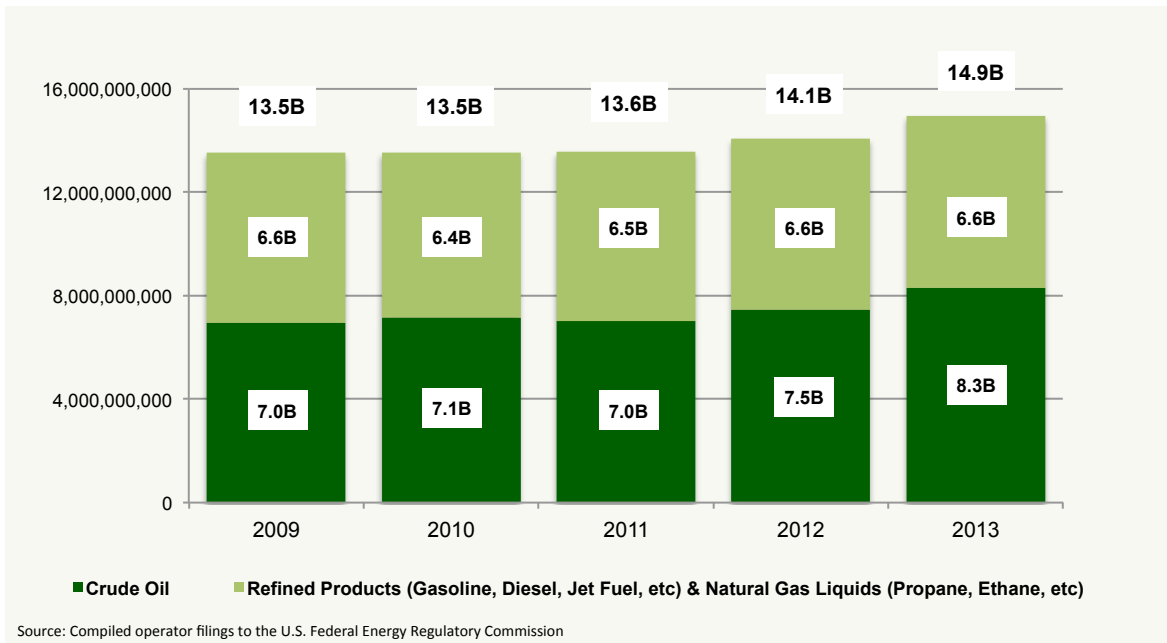
**+11,647 Miles**

Over the last 10 years, U.S. *crude oil pipeline mileage* increased 11,647 miles or 23.6%

Transmission pipelines include interstate or other large intrastate, main- or trunk-line pipelines



# Liquids Pipelines Transported Nearly 15 Billion Barrels of Crude Oil and Petroleum Products in 2013



Liquids pipelines deliver jet fuel from refineries to airports for use refueling airplanes



## Liquids Pipeline Delivery Data



- In 2013, U.S. transmission liquids pipelines delivered 8.306 billion barrels of crude oil, an 11.3% increase over 2012
- In 2013, U.S. transmission liquids pipelines delivered 6.642 billion barrels of petroleum products such as refined products (gasoline, diesel, jet fuel, etc) and natural gas liquids (propane, ethane, butane, etc), a 0.4% increase over 2012
- In total, U.S. transmission pipelines delivered 14.948 billion barrels of crude oil and petroleum products in 2013, a 6.2% increase over 2012
- Over the 5 years from 2009 to 2013, U.S. transmission pipeline deliveries of crude oil rose 1.351 billion barrels, a 19.4% increase
- During the same 5 year time period, other petroleum products delivered by U.S. transmission pipeline increased 80.8 million barrels or 1.2%
- Transmission pipelines include interstate pipelines or other large intrastate, main- or trunk-line pipelines
- AOPL assembled this data from annual filings pipeline operators made to the U.S. Federal Energy Regulatory Commission<sup>1</sup>

### Barrels of Crude Oil and Petroleum Products Delivered by U.S. Transmission Pipeline

Year	Crude	Change from Previous Year	Product	Change from Previous Year	Total	Change from Previous Year
2009	6,955,310,783		6,561,264,888		13,516,575,671	
2010	7,147,234,555	2.8%	6,390,376,415	-2.6%	13,537,610,970	0.2%
2011	7,031,632,001	-1.6%	6,539,979,731	2.3%	13,571,611,732	0.3%
2012	7,460,710,613	6.1%	6,618,479,649	1.2%	14,079,190,262	3.7%
2013	8,305,840,173	11.3%	6,642,068,030	0.4%	14,947,908,203	6.2%
<b>2009-2013 Increase</b>	<b>1,350,529,390</b>	<b>19.4%</b>	<b>80,803,142</b>	<b>1.2%</b>	<b>1,431,332,532</b>	<b>10.6%</b>

Source: AOPL Compilation of FERC Form 6 Data

## America's Energy Production Renaissance

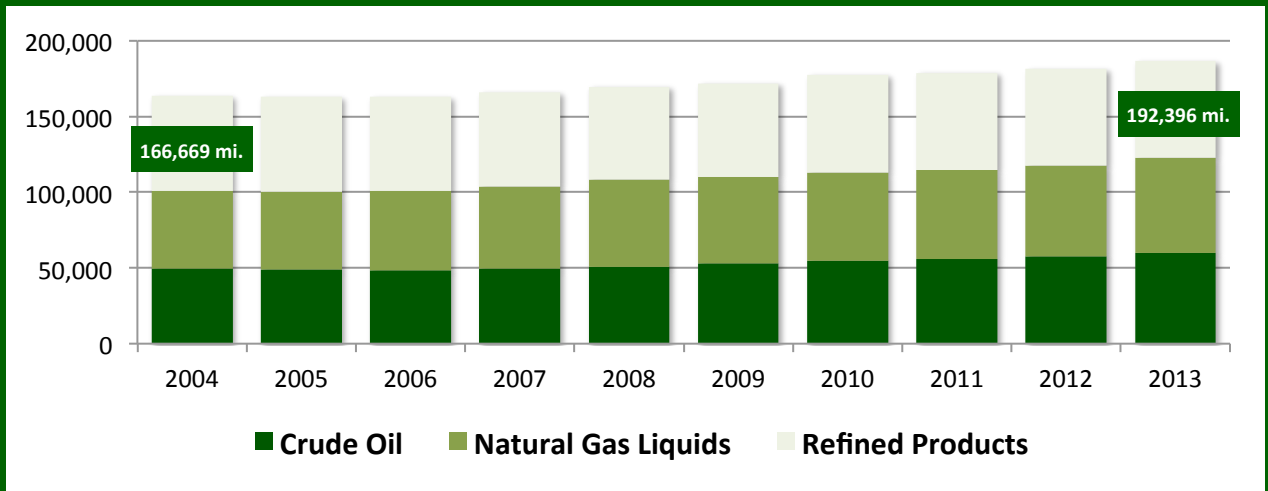
- The United States and North America is in the midst of an energy production renaissance. Technologies such as horizontal drilling and hydraulic fracturing are yielding new supplies of crude oil and natural gas liquids
- According to the U.S. Energy Information Administration (EIA), U.S. crude oil production has grown by 3 million barrels per day (MMbbl/d) since January 2011<sup>2</sup>
- EIA projects U.S. crude oil production will grow 3.1 MMbbl/d to reach 9.6 MMbbl/d in 2019, approximately the U.S. historical high of 1970. Total production of crude oil and other petroleum liquids will grow from 11.1 MMbbl/d in 2012 to 14.6 MMbbl/d in 2019<sup>3</sup>
- North Dakota and Texas now provide nearly half of U.S. crude oil production, due mainly to horizontal drilling and hydraulic fracturing of shale and other tight formations. This spring, North Dakota production broke 1.0 MMbbl/d, nearly tripling its production in the last three years. Texas production in April 2014 passed 3.0MMbbl/d, more than doubling its production levels three years ago<sup>4</sup>
- Canadian crude oil production is expected to grow from 3.5 MMbbl/d in 2013 to 6.4 MMbbl/d in 2030, with 2.9 MMbbl/d of that increase coming from oil sands deposits<sup>5</sup>
- Delivering the benefits of this new North American energy production to U.S. workers and consumers is a challenge pipeline operators are embracing with increased pipeline mileage and delivery volumes



**U.S. Crude Oil Production Per Day Has Grown by 3 Million Barrels Since 2011**

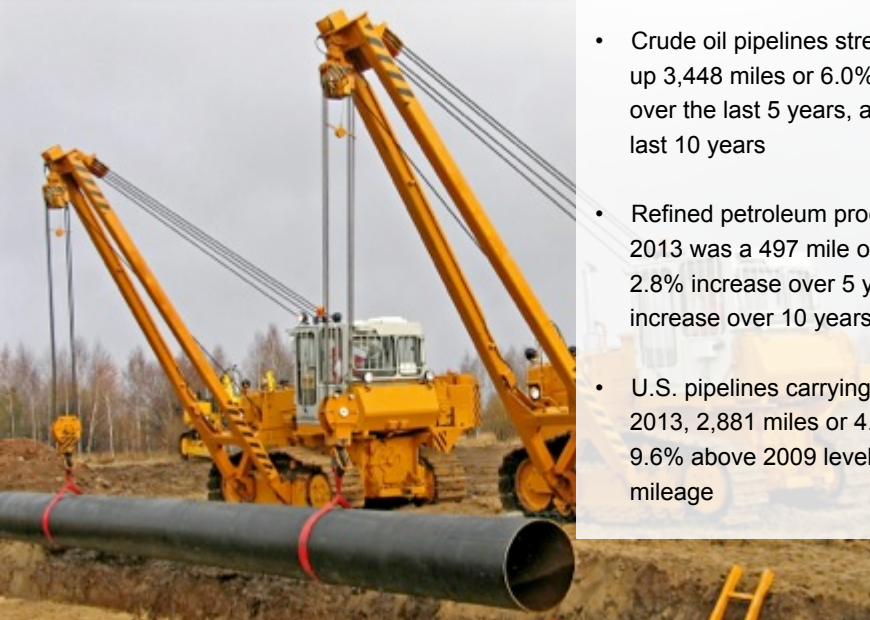


# Liquids Pipeline Mileage Up Over 25,000 Miles Since 2004



- In 2013, pipeline operators reported 192,396 miles of liquids pipeline in operation in the United States, with 60,911 miles devoted to crude oil, 63,532 miles transporting refined petroleum products (gasoline, diesel, jet fuel, etc), and 62,742 miles delivering natural gas liquids (propane, ethane, butane, etc)<sup>6</sup>
- Total U.S. pipeline mileage of 192,396 miles in 2013 reflected a 6,187 mile or 3.3% increase over 2012, a 16,431 mile or 9.3% increase over the last 5 years, and a 25,727 mile or 15.4% increase over the last 10 years
- Crude oil pipelines stretched 60,911 miles across the U.S. in 2013, up 3,448 miles or 6.0% over 2012, a 8,174 mile or 15.5% increase over the last 5 years, and a 11,647 mile or 23.6% increase over the last 10 years
- Refined petroleum product pipeline mileage of 63,532 miles in 2013 was a 497 mile or 0.8% decrease from 2012, a 1,729 mile or 2.8% increase over 5 years ago, and a 1,141 mile or 1.8% increase over 10 years ago
- U.S. pipelines carrying natural gas liquids totaled 62,742 miles in 2013, 2,881 miles or 4.8% above 2012 mileage, 5,509 miles or 9.6% above 2009 levels, and 10,948 miles or 21.1% above 2004 mileage

Pipe-laying cranes lower sections of a new pipeline into place



Crude oil pipelines deliver crude oil from production locations to refineries. Products pipelines deliver refined petroleum products from refineries to regional tank farms. Trucks complete the journey bringing gasoline and diesel fuel to local service stations



## American Consumers Benefit from Pipeline Deliveries

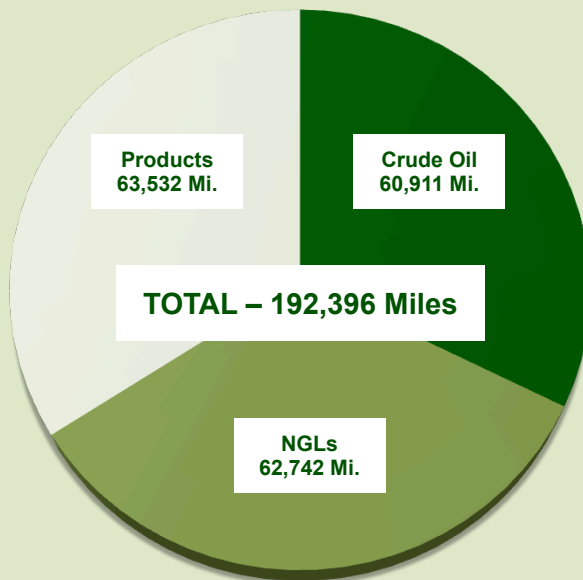
### Liquids Pipeline Mileage

Year	Total Liquids Pipeline Miles	Annual Increase	Crude Oil	Annual Increase	Refined Products	Annual Increase	NGLs	Annual Increase
2004	166,669		49,264		62,391		51,794	
2005	166,760	0.1%	48,732	-1.1%	62,899	0.8%	51,284	-1.0%
2006	166,719	0.0%	48,453	-0.6%	61,905	-1.6%	52,533	2.4%
2007	169,846	1.9%	49,488	2.1%	62,091	0.3%	54,382	3.5%
2008	173,789	2.3%	50,963	3.0%	61,599	-0.8%	57,024	4.9%
2009	175,965	1.3%	52,737	3.5%	61,803	0.3%	57,233	0.4%
2010	181,974	3.4%	54,631	3.6%	64,787	4.8%	57,980	1.3%
2011	183,568	0.9%	56,100	2.7%	64,117	-1.0%	58,599	1.1%
2012	186,209	1.4%	57,463	2.4%	64,029	-0.1%	59,861	2.2%
2013	192,396	3.3%	60,911	6.0%	63,532	-0.8%	62,742	4.8%
1yr Chg	6,187	3.3%	3,448	6.0%	-497	-0.8%	2,881	4.8%
5yr Chg	16,431	9.3%	8,174	15.5%	1,729	2.8%	5,509	9.6%
10yr Chg	25,727	15.4%	11,647	23.6%	1,141	1.8%	10,948	21.1%

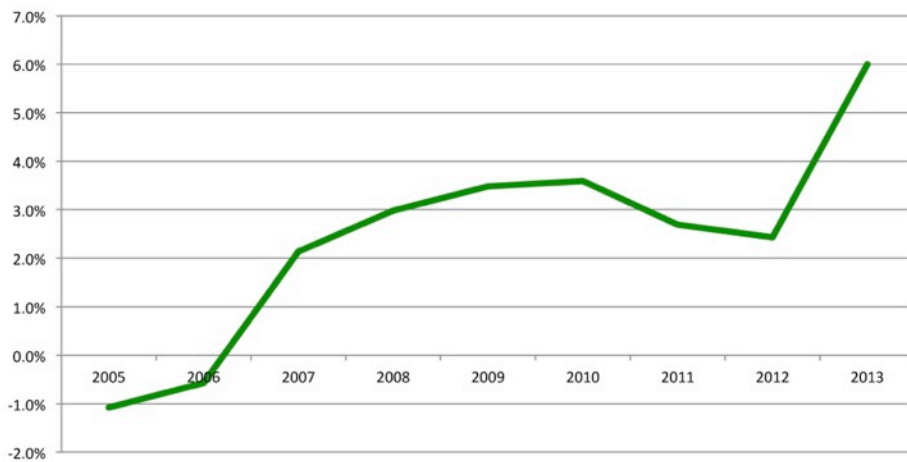
Source: U.S. Pipeline and Hazardous Materials Safety Administration, Sep. 2, 2014

## 2013 Liquids Pipeline Mileage

Crude oil pipeline growth has accelerated over the last 10 years



Annual % Change in Crude Oil Pipeline Miles





## Citations

1. Annual Pipeline Operator Form 6 Filings to the U.S. Federal Energy Regulatory Commission.
2. Today In Energy, *U.S. Liquid Fuels Production Growth More Than Offsets Unplanned Supply Disruptions*, U.S. Energy Information Administration, Aug. 27, 2014.
3. *Annual Energy Outlook 2014*, U.S. Energy Information Administration, Apr. 2014.
4. Today in Energy, *North Dakota and Texas Now Provide Nearly Half of U.S. Crude Oil Production*, U.S. Energy Information Administration, Jul. 2014.
5. *Crude Oil Forecast, Markets and Transportation*, Canadian Association of Petroleum Producers, Jun. 9, 2014.
6. *Annual Report Mileage for Hazardous Liquid Systems*, U.S. Pipeline and Hazardous Materials Safety Administration, Sep. 2014.
7. Today In Energy, *Rail Deliveries of U.S. Oil Continue to Increase in 2014*, U.S. Energy Information Administration, Sep. 2, 2014.



