

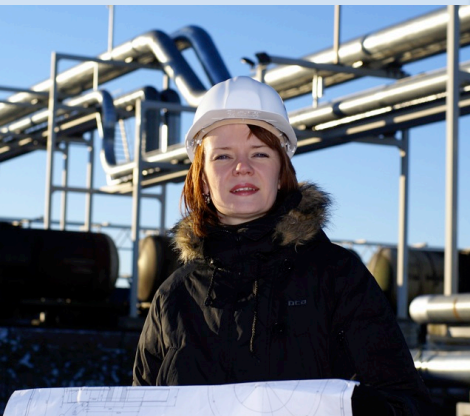
# PIPELINES MAKE LIFE BETTER FOR AMERICAN WORKERS AND FAMILIES

## ASSOCIATION OF OIL PIPE LINES



### Permanent Manufacturing Jobs

Pipelines will supply tens of thousands of new U.S. industrial manufacturing jobs.



### New Construction Jobs

New pipelines will create tens of thousands of new construction and manufacturing jobs.



### Cheaper Gasoline

Pipelines delivering new supplies of crude and gasoline are lowering prices for consumers near them.

## Pipelines Are Vital to U.S. Jobs

### Permanent U.S. Manufacturing Jobs Depend Upon Pipelines

- U.S. manufacturing workers making everything from beverage containers to laundry baskets, carpet, tires, and clothing depend upon raw material feed stocks delivered by pipelines.
- Experts predict America's shale gas boom will supply (by pipeline) enough new, low-cost chemical feed stocks to spur 17,000 new high-paying jobs in the U.S. chemical industry, 195,000 jobs down the manufacturing supply chain, and 230,000 indirect jobs created by these new investments.
- A single new ethane processing plant (supplied by pipeline) currently proposed for Pennsylvania, West Virginia or Ohio is expected to deliver a \$3.2 billion investment creating 12,000 construction jobs, 17,000 direct and indirect manufacturing jobs, \$1 billion in worker wages, and \$369 million in local and federal revenue.
- Pipelines support over 100,000 U.S. manufacturing workers at refineries, delivering crude oil in and sending refined gasoline and other products out to U.S. communities. Pipeline-fed refinery jobs average \$60,000 a year, supporting middle-income families across the nation.

### New Pipeline Construction Creates Tens of Thousands of Jobs

- Experts predict \$46 billion in oil and natural gas liquid (NGL) infrastructure investment over the next 25 years averaging 1,300 miles of new pipeline constructed each year.
- New pipelines are proposed in Midwestern, Plains, and Southern states. Every 100 mile section of pipeline constructed creates 500 jobs, including: equipment operators, laborers, welders, teamsters, foremen and quality control personnel.
- A single major pipeline proposed from Canada to the U.S. will create 20,000 jobs: 13,000 new construction jobs and 7,000 new manufacturing jobs supplying pipeline components and materials.

## Pipelines Help U.S. Consumers

### Lower Gasoline & Home Heating Oil Prices, Cheaper Consumer Goods

- U.S. consumers with access to new, cheap supplies of crude oil from the upper Great Plains and Canada are paying far less per gallon of gasoline less than consumers in other parts of the country. New pipelines will help bring cheaper gasoline to more Americans nationwide.
- Pipelines are the cheapest way to ship crude oil and refined gasoline to market. It costs \$2 for a barrel of oil to travel across the country by pipeline, compared to approximately \$12 a barrel by rail.
- Homes heated with heating oil are increasingly dependent on pipelines to transport fuel from where it's produced (Gulf Coast) to where it's needed (New England) as local refineries are closing.

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**Safety Is A Point of Pride for Pipeline Operators**  
Safety surveys show pipelines safety has soared over last ten years.



**Technology Keeps Pipelines Safe**  
Hi-tech "smart pigs" travel through pipelines scanning for imperfections in need of repair.



**Pipelines Replace Trains and Trucks**  
A single pipeline can remove the need for hundreds of train cars and trucks clogging the rails and roads.

## Pipelines Are Safe

### Pipelines are Safe and Getting Safer

- Pipeline operators spent at least \$2.7 billion on inspection and maintenance of their pipelines over a six year period, and \$600 million ensuring the safety of their storage tanks.
- In the most recent survey, spills from crude oil pipelines are down 70% over the last 10 years and spill volumes are down 40%.
- After an industry integrity management initiative, incidents caused by corrosion are down 73%, equipment failures down 50%, operational error down 40% and material and weld failures down 30%.
- Pipeline incidents, while rare, do still happen. Pipeline operators work with the NTSB and PHMSA to determine incident causes, fix problems, and pay fines when appropriate.

### Pipeline Operators Exceed Safety Requirements

- Liquid pipeline operators exceed safety requirements in many instances. For example, operators voluntarily repair pipe outside of high-consequence areas on the same fast schedule as required in high-consequence areas. They even proposed that government regulators make this a mandatory requirement.
- Historically, liquid pipeline operators voluntarily reported any spill over 5 gallons, even though regulations required reporting any spill over 750 gallons. The government then strengthened their requirement to meet the pipeline operator's higher standard.
- Liquid pipeline operators perform in-pipe inspections, using hi-tech tools called "smart pigs," on 80% of their pipelines, much higher than other industries.

### Pipeline Operators are Covered by Comprehensive Laws and Regulations

- In 2011, one of the few bipartisan bills enacted by Congress and signed by the President reauthorized and strengthened federal pipeline safety laws, which pipeline operators supported. The new law doubles penalties and fines and strengthens damage prevention requirements.

### Pipelines Are Safer than Rail, Truck and Barge Alternatives

- Pipelines are the safest way to transport fuel. Accidents are 3,000 times more likely to occur with a large truck, 38 times more likely to occur by barge, and 25 times more likely to occur by rail.
- Replacing rail or truck traffic with a pipeline reduces unhealthy air pollution and congestion. For example, the newly announced Four Bears pipeline will remove the need for 300 truck trips per day in rural North Dakota.



# PIPELINES MAKE LIFE BETTER FOR AMERICAN WORKERS AND FAMILIES

## ASSOCIATION OF OIL PIPE LINES



**Manufacturing Jobs Supplied by Pipelines**  
Good-paying industrial manufacturing jobs depend upon pipelines to supply their raw material feed stocks.



**Quality Construction Jobs On Pipelines**  
Work building pipelines and manufacturing materials for pipeline construction pays well.



**Heating Oil Delivery from Pipelines**  
States previously dependent on now closed refineries need pipelines to supply affordable heating oil.

## Notes:

Shale Gas Jobs Benefits: American Chemistry Council, "Shale Gas and New Petrochemical Investments: Benefits to the Economy, Jobs and U.S. Manufacturing, March 2011, at <http://www.americanchemistry.com/ACC-Shale-Report>.

Ethane Processing Plant Benefits: American Chemistry Council, "Pennsylvania: Shale Gas Can Lead to New Investment, Jobs, Wages and Tax Revenue for Pennsylvania," at <http://www.americanchemistry.com/Policy/Energy/Shale-Gas/ACC-State-Shale-Fact-Sheet-Pennsylvania.pdf>.

Refinery Worker Total: American Fuel and Petrochemical Manufacturers, at <http://www.afpm.org/>.

Pipeline Investment Data: INGAA, "Jobs & Economic Benefits of Midstream Infrastructure Development, Feb. 15, 2012, at <http://www.ingaa.org/File.aspx?id=17744>.

Pipeline Construction Jobs Data: TransCanada, "Media Advisory: TransCanada Releases Detailed Keystone XL Job Creation Data," at <http://www.transcanada.com/5921.html>.

Cheaper Gasoline Prices: AAA Daily Fuel Gauge, Mar. 1, 2012, at <http://fuelgaugereport.aaa.com/?redirectto=http://fuelgaugereport.opisnet.com/index.asp>, U.S. EIA, "Retail Gasoline Prices in the Rocky Mountains Fall as U.S. Average Prices Rise," Feb. 14, 2012 at <http://205.254.135.7/todayinenergy/detail.cfm?id=4990>.

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Pipeline Safety Data: American Petroleum Institute, "Facts About Pipeline Safety and Canadian Crude," Jan. 4, 2012, at [http://www.api.org/aboutoilgas/upload/Pipeline\\_Fact\\_Sheet\\_Canadian\\_Crude\\_1-4-2012.pdf](http://www.api.org/aboutoilgas/upload/Pipeline_Fact_Sheet_Canadian_Crude_1-4-2012.pdf).

PHMSA Enforcement Data: PHMSA, "DOT's Pipeline Safety Agency Closes Record Number of Enforcement Orders for Three Consecutive Years," Feb. 8, 2012, at [http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Press%20Releases/Record%20Enforcement%20Orders%20Closed\\_02-08-12.pdf](http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Press%20Releases/Record%20Enforcement%20Orders%20Closed_02-08-12.pdf).

Pipeline Operator's Recommendation to PHMSA to Increase Safety Standard: API/AOPL, "Advance Notice of Proposed Rulemaking, 'Pipeline Safety of On-Shore Hazardous Liquid Pipelines,' Docket No. PHMSA-2010-0229 Comments of American Petroleum Institute and Association of Oil Pipe Lines," Feb. 18, 2011, at [http://www.api.org/oil-and-natural-gas-overview/transporting-oil-and-natural-gas/pipeline/-/media/Files/Oil-and-Natural-Gas/pipeline/policy-issues/API\\_AOPL\\_ANPRM\\_Comment\\_2\\_18\\_2011.ashx](http://www.api.org/oil-and-natural-gas-overview/transporting-oil-and-natural-gas/pipeline/-/media/Files/Oil-and-Natural-Gas/pipeline/policy-issues/API_AOPL_ANPRM_Comment_2_18_2011.ashx)

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# PIPELINES HELP U.S. CONSUMERS

## WITH LOWER GASOLINE AND HOME HEATING PRICES

### ASSOCIATION OF OIL PIPE LINES



#### Consumers Are Suffering Pain at the Pump

In late April, nationwide average gasoline prices averaged \$3.86 per gallon, with drivers in states like New York paying \$4.13 per gallon.



#### Gas Prices are Lower in Some Parts of U.S.

Consumers in Mountain West and Great Plains states are paying less per gallon than East Coast drivers because of access to low-cost North American crude oil.

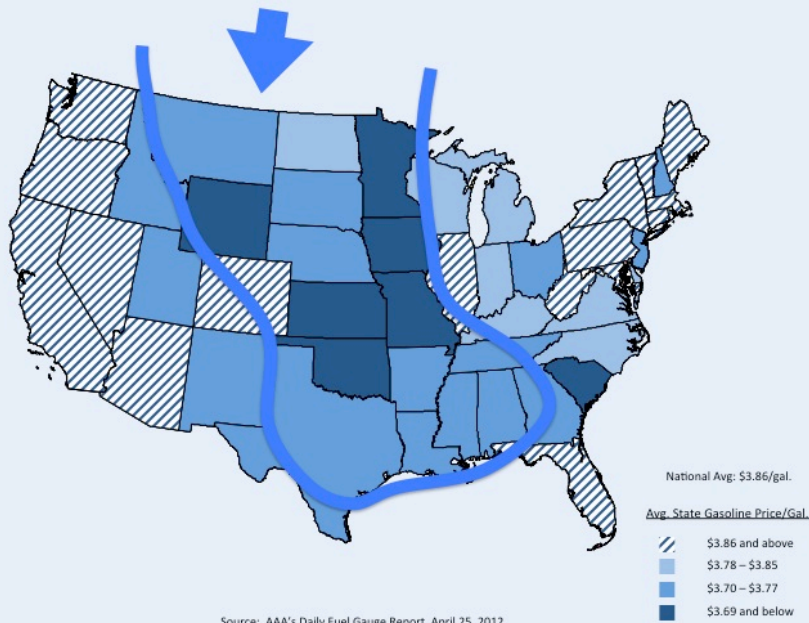


#### New Pipelines Will Bring More Low-Cost Crude

New pipelines will deliver low-cost crude from Canada, North Dakota, Texas and all the states experiencing an energy boom.

### Pipelines Delivering Lower Gasoline Prices

- **Lower Gasoline Prices Due to Access to American and Canadian Crude Oil** – According to a report by the U.S. Energy Information Administration (EIA), low gas prices in Rocky Mountain states are because of their easy access to lower priced crude oil produced in the U.S. Bakken region or imported from Canada (EIA, 2/14/12).



- **Rocky Mountain States Paying Less Per Gallon of Gasoline than National Average** – As of 4/25/12: National Avg: \$3.86/gal, Oklahoma: \$3.60/gal (-\$0.26), Wyoming: \$3.64/gal (-\$0.22), Kansas: \$3.64/gal (-\$0.22), (AAA, 4/25/12)
- **North American Oil Boom Is Driving Down Prices v. Rest of World** – As of 3/26/12, West Texas Intermediate (WTI) (\$103/bbl) is averaging \$15 less per barrel than the international North Sea Brent price (\$118/bbl) (4/25/12). Bakken crude has sold as much as \$28 per barrel less than WTI crude (EIA, 2/29/12).
- **East Coast States Rely on Higher Priced International Crude Supplies** – Because they lack the pipeline infrastructure to access lower priced U.S. and Canadian crude, East Coast refineries must use more expensive international Brent crude to make gasoline leading to higher consumer gasoline prices (International Business Times, 3/1/12).
- **Higher East and West Coast State Gas Taxes Do Not Explain Higher Prices** – For example, New York drivers pay \$0.35 per gallon more in state gas taxes than Wyoming drivers. Yet, gasoline costs \$0.49 more per gallon in New York than Wyoming. That is still a \$0.14/gal. difference.



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#### Heating Oil Delivery from Pipelines

States previously dependent on now closed refineries need pipelines to supply affordable heating oil.



#### Trains Are More Expensive than Pipelines

It costs \$12 per barrel to ship oil by train across the country, compared to \$2 per barrel by pipeline.



#### Trucks Are More Expensive than Pipelines

It costs \$0.20 to \$0.30 per gallon to transport fuel by truck in the Northeast, compared to \$0.04 per gallon by pipeline.

## Pipelines Needed to Heat Homes

- **Closing Refineries Are Cutting Supplies of Home Heating Fuel** – Three major refineries representing half of the Northeast's refining capacity may close by July 2012.<sup>7</sup>
- **Tougher Environmental Regulations Are Cutting Supplies of Home Heating Fuel** – In 2012, NY will require homes that used traditional home heating oil to use only Ultra Low Sulfur Diesel (ULSD), putting them in competition with truck transportation that is also required to use ULSD.  
NJ, MA, VT and ME will follow in succeeding years.<sup>7</sup>
- **Prices Expected to Rise** – With these supply and demand pressures, a recent government report finds that wholesale and retail fuel prices in the Northeast are expected to rise, possibly spiking in some areas.<sup>7</sup>
- **Existing and New Pipelines Can Bring More Heating Fuel** – An existing liquid pipeline from Gulf Coast refineries can bring additional heating fuel to the Northeast<sup>7</sup> and new natural gas pipeline construction from Pennsylvania shale regions will help supply consumers,<sup>8</sup> but more capacity is needed to avoid price increases for consumers.

## Pipelines Save Consumers Money

- **Pipelines Are Cheaper Than Trains** – It costs about \$2 for a barrel of oil to travel across the country by pipeline, compared to approximately \$12 a barrel by rail.
- **Pipelines are Cheaper Than Trucks** – Regional trucking costs in the Northeast area about \$0.20 to \$0.30 per gallon, although prices could spike higher during a supply pinch,<sup>7</sup> compared to only \$0.04 cents per gallon by pipeline.

### Notes:

1. U.S. Energy Information Administration, "Retail Gasoline Prices in the Rocky Mountains Fall as U.S. Average Prices Rise," Feb. 13, 2012, at <http://bit.ly/w5s3D4>.
2. Crude Pipeline-Rail Percentages: Bill Mann, "Oil Aboard, Railroads Shipping More Alberta Crude," Market Watch, Nov. 3, 2011, at <http://bit.ly/z7zQEG>, CBS Money Watch, "ND Oil Drillers Taking Steep Discounts for Crude," Mar. 1, 2012, at <http://bit.ly/xHWPZb>.
3. AAA's Daily Fuel Gauge Report, AAA, Apr. 25, 2012, at <http://bit.ly/fag5ig>.
4. U.S. Energy Information Administration, "WTI Discount to Brent and Premium to Bakken Both Rising in Early 2012," Feb. 29, 2012, at <http://bit.ly/v2YOE7>.
5. International Business Times, "Pain at the Pump: U.S. Gas Prices Headed for \$5 a Gallon by June?" Feb. 21, 2012, at <http://bit.ly/wRAaFP>.
6. Tax Foundation, "State Gas Tax Rates as of January 1, 2012," at <http://bit.ly/gc8owc>.
7. U.S. Energy Information Administration, "Potential Impacts of Reductions in Refinery Activity on Northeast Petroleum Product Markets," Feb. 2012, at <http://bit.ly/v2YOE7>.
8. Ithaca Journal, "Natural Gas Transporter Eyes New Pipeline through Southern Tier," Feb. 20, 2012, at <http://ithacajrnl.com/xKLzvf>.

# PIPELINES CREATE U.S. JOBS

## SPUR PERMANENT MANUFACTURING AND CONSTRUCTION JOBS

### ASSOCIATION OF OIL PIPE LINES



#### Pipelines Feed Manufacturing Jobs

Pipeline fed raw materials will spur the creation of hundreds of thousands of new manufacturing jobs.



**Consumer Products Come from Pipeline Fed Raw Materials** - Plastic, nylon, rubber, even cosmetics are made from raw materials transported through pipelines.



**Shale Gas Boom Spurring Manufacturing Job Creation** - Pipelines delivering production from new shale gas play will feed new jobs up and down the manufacturing supply chain.

## U.S. Manufacturing Jobs Depend On Pipelines

- **Pipelines Deliver Raw Materials to U.S. Manufacturers** - Pipelines collect natural gas liquids (NGLs) from wells in places like eastern Ohio and Western Pennsylvania and send them to U.S. manufacturers: ethane to make plastics, butane for lighters, and pentane to make Styrofoam.
- **Many Consumer Goods Made from Pipeline Delivered Feedstock** - U.S. manufacturing workers making everything from plastic bottles to laundry baskets, carpet, tires, and clothing depend upon raw material feed stocks like ethane delivered by pipelines.
- **Many U.S. Workers Needed at Every Step of Manufacturing Process** - Consumer products starting as a natural gas liquid flowing through a pipeline go through many steps to reach store shelves:
  - 1) U.S. workers drill wells and send gas production to pipelines.
  - 2) U.S. workers process gas, separating and purifying its different components like methane and ethane.
  - 3) U.S. workers take processed gas, like ethane, and "crack" it into petrochemical feed stocks like ethylene.
  - 4) U.S. workers process petrochemical feed stocks like ethylene into product feed stocks like polyethylene and styrene.
  - 5) U.S. workers turn product feed stocks like styrene into plastic resins, polyester fibers and vinyl chloride.
  - 6) Finally, U.S. workers make the consumer products we know like plastic packaging, nylon clothing, and PVC pipes.
- **Fuel Manufacturers Also Depend Upon Pipelines** - Pipelines support over 100,000 U.S. manufacturing workers at refineries, delivering crude oil in and sending refined gasoline and other products out to U.S. communities. Pipeline-fed refinery jobs average \$60,000 a year, supporting middle-income families across the nation.<sup>1</sup>

## New Pipelines Will Spur New, Permanent U.S. Manufacturing Jobs

- **Hundreds of Thousands of Permanent New Jobs Fed by Pipelines** - Experts predict America's shale gas boom will supply (by pipeline) enough new, low-cost chemical feed stocks to spur 17,000 new high-paying jobs in the U.S. chemical industry, 195,000 jobs down the manufacturing supply chain, and 230,000 indirect jobs created by these new investments.<sup>2</sup>
- **Tens of Thousands of Jobs from A Single New Pipeline Fed Plant** - A single new ethane processing plant (supplied by pipeline) currently proposed for Pennsylvania, West Virginia or Ohio is expected to deliver a \$3.2 billion investment creating 12,000 construction jobs, 17,000 direct and indirect manufacturing jobs, \$1 billion in worker wages, and \$369 million in local and federal revenue.<sup>3</sup>



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**Steel Pipe for Pipeline Construction is Spurring U.S. Manufacturing Jobs** – U.S. workers are needed to manufacture the pipe, pumps and valves necessary for pipeline construction.



**Pipeline Construction Creates Jobs** – Thousands of workers are needed to construct pipelines, pumping stations and storage facilities.



**Pipeline Construction Jobs Are Good-Paying** – Pipeline construction requires skilled labor that pays well: equipment operators, laborers, welders, Teamsters, foremen and engineers.

## Pipeline Construction Spurs Manufacturing Jobs

- **U.S. Manufacturing Workers Will Supply New Pipeline Construction** – Workers making steel pipe, pumps and valves will all benefit from pipeline construction. Union leaders say construction of the Keystone XL pipeline will yield \$6.5 billion in personal income for U.S. workers.<sup>4</sup> Of the 20,000 jobs created to construct the pipeline, 7,000 U.S. workers will manufacture pipeline components,<sup>5</sup> including producing 333,000 tons of steel. U.S. workers have already delivered \$800 million of finished pipe and products.<sup>6</sup>

## New Pipelines Create Construction Jobs

- **Pipeline Construction Employs Thousands of U.S. Workers** – A single major pipeline project like Keystone XL employs over 10,000 construction workers. Over 500 workers are needed to construct each 100 mile section of pipeline. Pipelines also need pumping stations constructed every 50 miles. Heavy equipment operators, laborers, welders, Teamsters, foremen and engineers are all needed to construct pipelines.<sup>5</sup>
- **Pipelines Are Under Construction Across the U.S.** – A 500 mile \$2.3 billion section of the Keystone XL oil pipeline from Cushing, OK to the Gulf Coast will soon begin construction. A group of pipeline operators will construct a new 500 mile pipeline from West Texas to the Gulf Coast. Likewise, gathering and transmission pipelines will soon transport oil and NGL from the Utica shale play in eastern Ohio and western Pennsylvania.
- **Pipelines Will Spur Construction Jobs for Years to Come** – A recent study predicts \$46 billion in oil and NGL investment over the next 25 years. This will result in an average of 1,300 miles of oil and NGL pipeline construction each year.<sup>7</sup>

### Notes:

1. American Fuel and Petrochemical Manufacturers.
2. American Chemistry Council, "Shale Gas and New Petrochemicals Investments," March 2011, at <http://bit.ly/koxfEN>.
3. American Chemistry Council, "Pennsylvania: Shale Gas Can Lead to New Investment, Jobs, Wages and Tax Revenue for Pennsylvania," at <http://bit.ly/Atlct0>.
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5. TransCanada, "TransCanada Releases Detailed Keystone XL Job Creation Data," Jan. 10, 2012 at <http://www.transcanada.com/5921.html>.
6. TransCanada, "75 per cent of Keystone XL Pipe would be 'Made in America,'" Feb. 17, 2012 at <http://www.transcanada.com/5951.html>.
7. The INGAA Foundation, "Jobs & Economic Benefits of Midstream Infrastructure Development," Feb. 15, 2012 at <http://www.ingaa.org/File.aspx?id=17744>.

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**Pipelines Are Safer Than Trucks** – An accident is 3,000 times more likely to occur with a truck than a pipeline.

## Pipelines Are Safe

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- Pipeline operators spent at least \$2.7 billion on inspection and maintenance of their pipelines over a six year period, and \$600 million ensuring the safety of their storage tanks.<sup>1</sup>
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**Operators Support Research & Development** – Techniques to diagnose and maintain pipeline integrity are a high priority.



**Operators Share Best Practices** – Capturing and sharing best practices and lessons learned is a key way enhance safety



**Pipelines Replace Trains and Trucks**  
A single pipeline can remove the need for hundreds of train cars and trucks clogging the rails and roads.

**Seven New Pipeline Safety Initiatives Started** – In 2011, pipeline operators formed teams of executive leaders and operational personnel to focus on specific pipeline safety improvement areas.

- **Research and Development / Enhanced Technology** – in-line inspection capabilities to detect cracking and dents with metal loss, in-line inspection capabilities to assess pipelines currently unpiggable, leak detection capability improvement, and enhanced excavation damage prevention technologies, including remote right-of-way detection.
- **Leak Detection** – capture and share best practices in existing leak detection programs across pipeline operators. Consider development of an industry standard with minimum capabilities under various operational and release scenarios.
- **Enhanced Data Integration** – consideration of a platform to better generate, collect, process, share, and integrate data on pipeline safety, operational excellence, integrity management and failure risk.
- **Sharing Safety Practices and Lessons Learned** – exploring use of the existing operator-led Pipeline Performance Tracking System to include more granular data, metrics for awareness, incident lessons learned and follow-up action. Wider dissemination of internal industry forums to review safety lessons and distribute best practice strategies.
- **Damage Prevention** – complete development and promotion of Model One-Call provisions, advocate for strong damage prevention laws and enforcement, engage directly with excavator groups and develop public education programs with other stakeholders.
- **External Communications** – foster a high-quality dialogue with government agencies, safety advocates and the public at large, to better understand stakeholder concerns and improve industry responsiveness to those concerns.
- **Strategic Planning** – develop a regular process to ensure that executives are engaged in the work of our safety improvement teams.

### Notes:

1. Testimony of Andrew Black, Association of Oil Pipe Lines before the U.S. House Subcommittee on Energy and the Environment, Sep. 23, 2010, at <http://bit.ly/GlCbpg>.
2. American Petroleum Institute, "Facts About Pipeline Safety and Canadian Crude," Jan. 4, 2012, <http://bit.ly/GKbr2m>.
3. API/AOPL, "'Pipeline Safety of On-Shore Hazardous Liquid Pipelines,' Docket No. PHMSA-2010-0229 Comments of American Petroleum Institute and Association of Oil Pipe Lines," Feb. 18, 2011, at <http://bit.ly/GHA9Bp>.
4. American Petroleum Institute, "Integrity Data for Hazardous Liquid Pipelines Designated as Not Affecting High Consequence Areas"
5. Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, P.L. 112-90.
6. U.S. Bureau of Transportation Statistics, "Transportation Accidents by Mode," at <http://l.usa.gov/GfiiGe>.
7. Minot Daily News, "McKenzie County Welcomes Projects," Jan. 12, 2012, <http://www.minotdailynews.com/page/content/detail/id/562314.html>.