NATIONAL ASSOCIATION OF Manufacturers

Leading Innovation. Creating Opportunity. Pursuing Progress.

Testimony

of Ross Eisenberg
Vice President
Energy and Resources Policy
National Association of Manufacturers

before the Senate Committee on Energy and Natural Resources

on "Hearing to examine oil and gas pipeline infrastructure and the economic, safety, environmental, permitting, construction and maintenance considerations associated with that infrastructure"

June 14, 2016

TESTIMONY OF ROSS EISENBERG
VICE PRESIDENT, ENERGY AND RESOURCES POLICY
NATIONAL ASSOCIATION OF MANUFACTURERS

BEFORE THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

"Hearing to examine oil and gas pipeline infrastructure and the economic, safety, environmental, permitting, construction and maintenance considerations associated with that infrastructure"

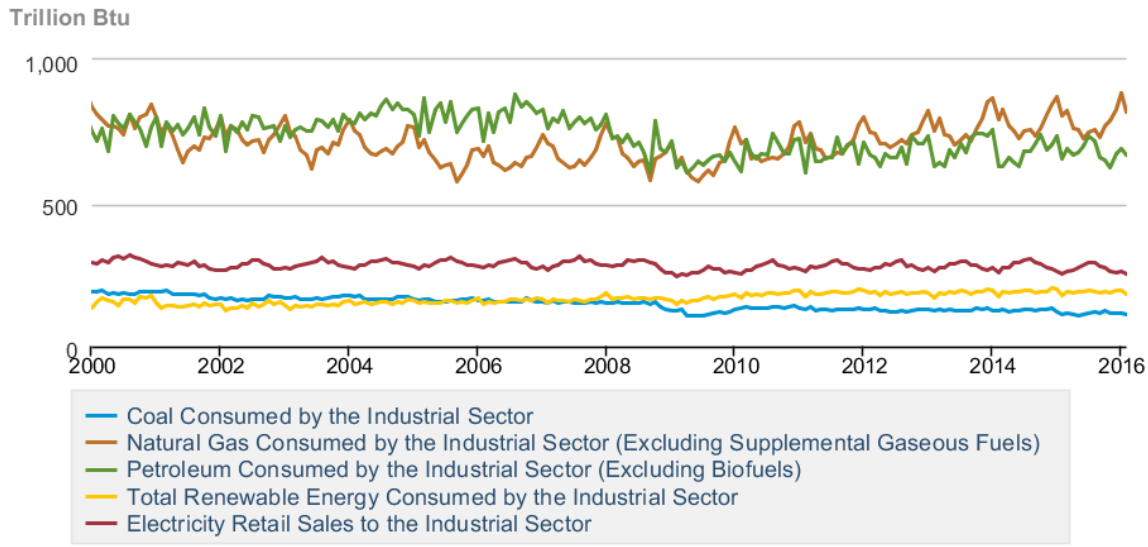
JUNE 14, 2016

Good morning, Chairman Murkowski, Ranking Member Cantwell and members of the Senate Committee on Energy and Natural Resources. My name is Ross Eisenberg, and I am vice president of energy and resources policy at the National Association of Manufacturers (NAM). The NAM is the nation's largest industrial trade association, representing nearly 14,000 small, medium and large manufacturers in every industrial sector and in all 50 states. The NAM appreciates the opportunity to discuss oil and gas pipeline infrastructure and its importance to manufacturers today and in the future.

The NAM's message today is simple and direct: manufacturers' already high demand for oil and gas will increase dramatically over the next decade, and we will need adequate pipeline infrastructure to ensure that the nation's ample supply of these resources are delivered efficiently, safely and securely to the end users who need it. Manufacturers appreciate the Committee's attention to this topic and stand ready to support any efforts to ensure pipelines are built to meet our sector's growing energy demand.

How Manufacturers Use Energy

Manufacturers are major energy consumers, using one-third of the energy consumed in the United States. As demonstrated by the chart below from the U.S. Energy Information Administration (EIA), manufacturers use all forms of energy, both as direct inputs and as sources of electricity generation. The NAM supports an "all-of-the-above" energy strategy that embraces all forms of domestic energy production, including oil, gas, coal, nuclear, energy efficiency, alternative fuels and renewable energy sources.



eia Source: U.S. Energy Information Administration

Two facts are immediately evident from the EIA chart above. First, manufacturers have an outsized reliance on oil and gas relative to all other energy sources. Second, after a decade of relatively stable natural gas demand, industrial consumption of natural gas has grown steadily since 2009 and is trending upward.

A great deal of research already exists showing America's oil and gas abundance and its positive impact on manufacturing—several supported or commissioned by the NAM.[1] Last year, urged by our members, our attention turned to oil and gas pipeline needs. We commissioned and released two studies from global research firm IHS Economics, one on oil pipelines[2] and the other on natural gas pipelines.[3] Together the studies examine the impact pipelines have on U.S. manufacturing growth and employment, not only from construction, operations and maintenance of the pipeline itself but also from the fuels carried by the pipelines used by manufacturers.

NAM Study on Natural Gas and Natural Gas Pipelines

The relationship between natural gas and manufacturing is strong. Manufacturers use natural gas as a fuel for direct process uses, such as drying,

[1] *See, e.g.*, http://www.pwc.com/us/en/industrial-products/publications/shale-gas-transforming-manufacturing.html.
[2] http://www.nam.org/Issues/Energy-and-Environment/Crude-Oil-Pipeline-Impact-Study.pdf.
[3] http://www.nam.org/Data-and-Reports/Reports/Natural-Gas-Study/Energizing-Manufacturing/.

melting, process cooling, machine drive and refrigeration; as a fuel for direct non-process uses in manufacturing establishments, such as heating, ventilation, HVAC and lighting; as a fuel for indirect purposes, such as boilers used to produce electricity and steam; and as a feedstock in refining, chemicals and primary metals sectors. Domestic natural gas has transformed the U.S. economy, made our companies more competitive, created jobs and put money back in the pockets of working Americans.

However, the story does not end here. IHS forecasts that over the next decade, total demand for natural gas will increase by 40 percent. Key drivers will be manufacturing and power generation. At the same time, IHS forecasts U.S. supply of natural gas to grow by 48 percent, more than enough to meet growing demand. The uncertain part of the chain is the midstream infrastructure—the pipelines—and IHS concludes that we will need major investments in new pipeline infrastructure to ensure manufacturers have a steady, reliable stream of natural gas.

The NAM's natural gas pipeline study features testimonials from manufacturers large and small, each of whom is benefitting from natural gas and natural gas pipelines. Here are several notable stories.

- **ACME Brick Company** is the largest brick manufacturer in the United States, making the bricks that build schools and homes across America for 125 years. ACME writes, "we produce a product that is heavy, so moving natural gas via pipelines to where the bricks are made is far more efficient than moving heavy bricks long distances." For ACME, "[d]irect access to natural gas pipelines is vital to local production and environmental stewardship."

- **Biad Chili Company**, a New Mexico-based grower and processor of chili peppers, including the famed Hatch green chiles, is investing in Presidio, Texas because of a new natural gas pipeline built near the town. For Biad, the pipeline is a game-changer for small manufacturers: "It's the difference between whether or not our company is profitable or not profitable."

- **Caterpillar** is both an energy user and supplier. They "rely on energy as we design, test and build our products," and "Caterpillar machines also help build the pipelines, and our reciprocating engines, gas turbines and compressors are used to produce the gas and move it through pipelines to businesses and communities across America."

- **CF Industries** partnered with Northern Natural Gas to construct a new pipeline in Nebraska and Iowa to bring natural gas safely and efficiently to CF Industries' expanded plant site in Sergeant Bluff, Iowa. According to CF Industries, "[t]his will allow our site—located in America's Corn Belt—to produce enough fertilizer to nourish more than 10 percent of the total area planted to corn nationally."

- **CNH Industrial** designs, produces and sells "machines for work" such as tractors, combines and powertrain solutions for on and off road and marine. CNH Industrial writes, "[w]ithout natural gas and the pipeline infrastructure to access these energy resources, not only would our production and competitiveness be impacted, so would the 6,000 men and women who work on our shop floors. Energy and energy infrastructure like pipelines is essential to our businesses and success."

- **Covestro** uses natural gas "both as a fuel source and a raw material to manufacture products that save far more energy than it takes to produce them." Covestro writes, "our polyurethane insulation can significantly reduce a building's energy consumption, while our lightweight polycarbonate increases fuel efficiency in vehicles, thereby reducing CO2 emissions."

- **Marble King**, a 28-person small manufacturer based in Paden City, West Virginia, produces more than 1 million marbles per day and is one of the only marble manufacturers left in the United States. According to their president, Beri Fox, abundant supplies of natural gas help make this possible. She writes, "We're a high-volume gas consumer, and when gas prices were off the charts, it was crazy—we couldn't be competitive with China . . . Today, we can be more competitive and a lot of that is because of the lower gas costs."

- **UPS** is a company whose core business depends on fuel to power its trucks. At the end of 2015, UPS had more than 6,500 alternative fuel and advanced technology vehicles in operation, a ground fleet that has traveled more than 500 million miles since 2000. More than half of that alternative fuel fleet operates on natural gas, which UPS began investing in during the 1980s. In 2014, all new tractor trailers that UPS purchased for its domestic, small-package delivery business ran on

natural gas. By year's end, UPS had more than 1,000 compressed natural gas (CNG) medium "package cars" and 1,297 heavy tractors operating on liquefied natural gas (LNG) or CNG. UPS has also invested in more than 30 LNG and CNG fueling operations across 10 U.S. states, with planned additions in several others.

The economic value of natural gas to all Americans remains high. IHS estimates that as a result of the increase in domestic shale gas production, we saw real GDP increase by $190 billion and 1.4 million more jobs in 2015. That translates into more than $150 billion more in real disposable income, meaning the average American family had an extra $1,337 in disposable income because of shale gas.

For manufacturers, lower natural gas prices not only reduce the cost of purchasing natural gas for fuel but also contribute to less expensive electricity. IHS estimates that the combination of increased access to shale gas and the pipelines that deliver that affordable energy to manufacturers meant 1.9 million jobs in 2015 alone.

Total natural gas demand is poised to increase by 40 percent over the next decade—double the growth of the past 10 years. By improving technology and increasing productivity, supply growth continues at a strong pace despite falling prices for both gas and oil and significantly lower rig activity. But, according to IHS, "[t]here is a mismatch, geographically, in the growth in natural gas demand and supply in the U.S. lower 48." The rapid growth of low-cost production out of the Marcellus and Utica plays has created a bottleneck, as producers are unable to find pipeline capacity to move gas from the well to consumer markets.

When pipeline access is not available, manufacturers suffer. Several NAM members, who were required to install natural gas boilers to meet the Environmental Protection Agency's (EPA) recent Boiler MACT regulations, have struggled to meet the EPA's deadlines because they were unsure they could gain timely approval for additional gas capacity. In the northeastern U.S., some manufacturers are forced to truck CNG to their facilities due to stiff local opposition to new pipelines; this imposes a significant competitive disadvantage on the manufacturer, who could have relatively easy natural gas access in other parts of the country.

IHS believes some of the pipeline capacity can be achieved by re-engineering existing pipelines that historically imported gas into the northeastern United States and reverse the flow, so that low-cost Appalachian gas could now

be sent to other regions. However, the potential for reversal of existing pipelines will be exhausted and further supply growth will still be necessary. The only way to meet this growth is construction of brand-new pipeline capacity.

Pipeline construction means more than just reliability and energy security. It generates manufacturing jobs across the supply chain for products such as steel pipe, coatings, construction equipment, compressor motors, gauges and instruments, sand and gravel. IHS estimates the construction of new natural gas transmission lines meant more than 347,000 jobs in 2015, with almost 60,000 of those in manufacturing. In all, construction of new pipelines and the operation and maintenance of the existing pipeline system in 2015 contributed nearly $50 billion in GDP to the U.S. economy.

NAM Study on Oil Pipelines

In 2015 and 2016, 13,252 miles of new crude oil transmission pipelines will have been constructed in the U.S. at a cost of $25.6 billion. This is on top of 61,379 miles of onshore crude oil pipelines operating in the U.S. at the end of 2014. These new pipelines are being constructed to take advantage of new domestic oil supplies.

Like natural gas pipelines, oil pipelines deliver a significant boost to manufacturers across the supply chain. IHS found that in 2015, construction and operation of crude oil pipelines created 207,000 jobs and contributed $21.8 billion to GDP. IHS further projects that oil pipelines will contribute 243,167 jobs in 2016, of which 28,438 will be in manufacturing, and $25.1 billion in GDP.

Between 32 and 37 percent of the cost of constructing an oil pipeline is directly for manufacturing inputs. The major types of manufactured goods used include equipment, line pipe, fittings, coatings and booster stations, including pumps. As a result, at least 66 different manufacturing subsectors (out of 86 total) benefited from the construction of crude oil pipelines by $10 million or more in 2015. These include iron and steel, fabricated metals, cement, machinery and paints and coatings.

Conclusion and Recommendations

Manufacturers benefit from pipeline construction and maintenance. As our pipeline network grows, so does manufacturing opportunity. For this reason, it is imperative that the oil and gas pipeline system keep pace with supply and demand growth.

Like any infrastructure project, the permitting process for a pipeline can be daunting. Particularly for major interstate pipelines, navigating state and federal laws and regulations can take years—a timetable that only seems to be increasing. There are no shortage of issues that must be managed, including environmental, safety, and land use. All of these issues can and should be addressed quickly and efficiently.

When building an infrastructure project, time is the most valuable commodity. In the case of pipelines, so much new capacity will be needed over the next decade that prolonged delays could cause major problems for manufacturers. The NAM appreciates the attention this Committee is giving the issue of oil and gas pipelines and stands ready to support any efforts to ensure pipelines are built to meet our sector's growing energy demand.