



Industrial Energy Consumers of America

The Voice of the Industrial Energy Consumers

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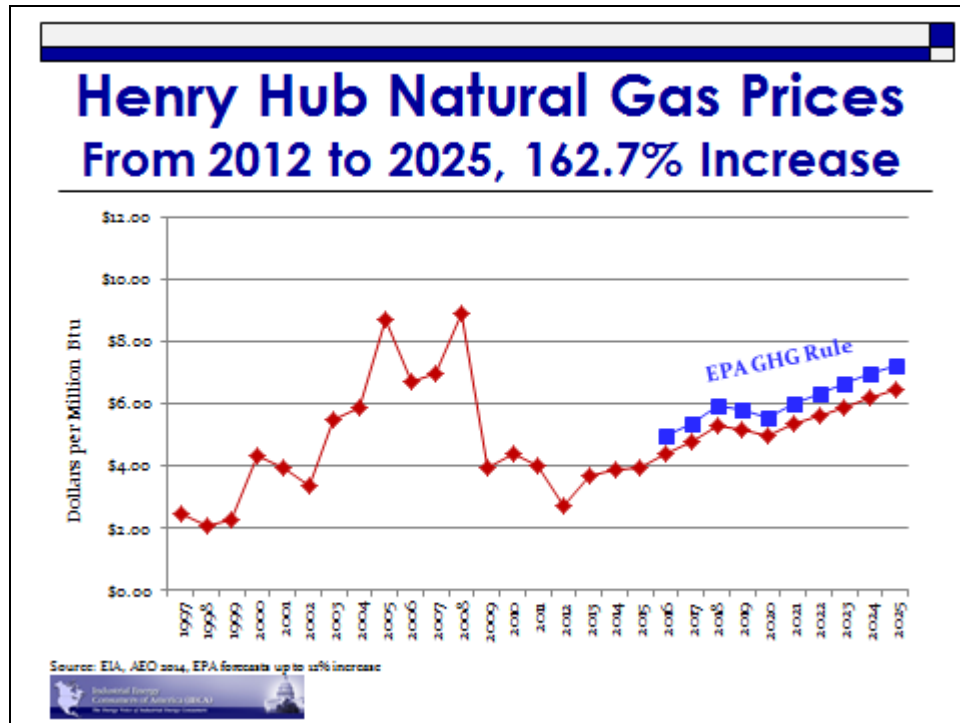
June 19, 2014

WHY MANUFACTURERS ARE CONCERNED ABOUT UNFETTERED LNG EXPORTS

1. If the U.S. has a lot of affordable natural gas, why then are prices increasing?

A lot has been said about the significant and affordable natural gas resources that we have as a country. Why then is the Henry Hub price forecasted to rise 162.7 percent by 2025 as compared to 2012, according to the Energy Information Administration (EIA)? IECA has added the EPA's estimate of the increased cost of natural gas of the proposed EPA GHG regulation for existing electrical generating units to the EIA forecast.

Importantly, the EIA AEO 2014 forecast only includes 2.72 Tcf of the 4.0 Tcf of LNG exports that has already been approved by the DOE for shipment to non-free trade countries. It is highly likely that the actual 2025 price will be much higher because EIA has not included the full impact of the retirement of 50,000 to 60,000 MWs of coal-fired electric generators due to the Mercury MACT, the Industrial Boiler MACT, (both of which are forcing coal to natural gas fuel switching), and the anticipated lower EPA ozone standard.



2. Relatively small changes to energy costs have large impacts to energy-intensive trade-exposed (EITE) industries.

Energy-intensive trade-exposed industries consume more than 80 percent of all energy consumed by the manufacturing sector.

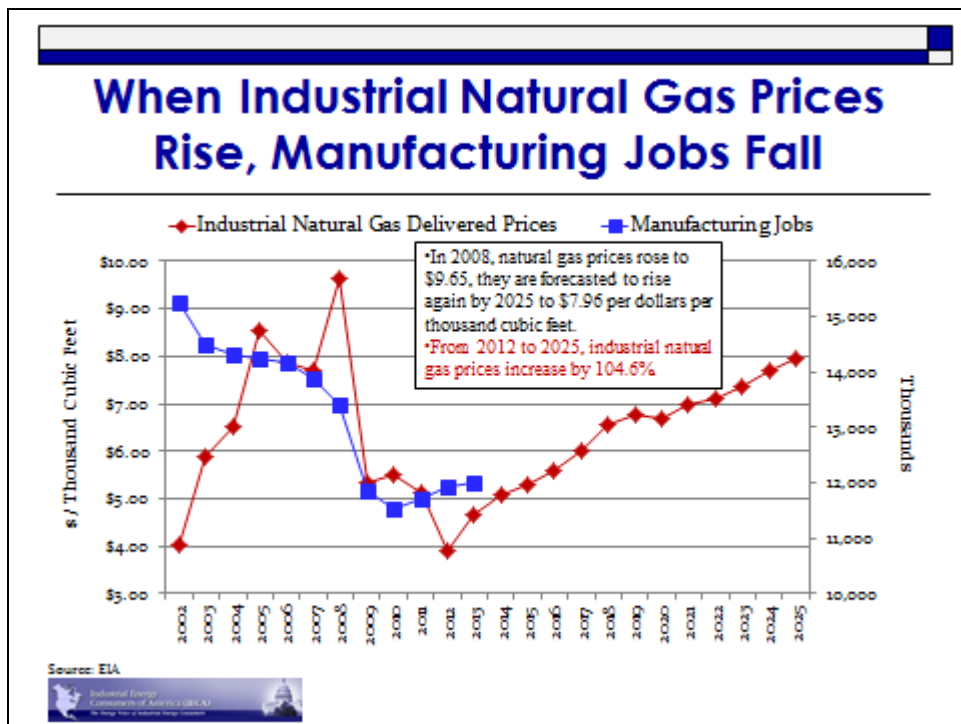
Examples of Energy Intensity (Small Energy Price Increases Have Large Competitive Impacts)

Sector	% of Operating Cost
Aluminum	30-35%
Recycled Steel	25%
Integrated Steel	85% (energy and raw materials)
Plastics	80% (feedstock)
Chemicals	Varies greatly 15-20% (fuel only)
Paper	10-20%
Glass	20-25%
Fertilizer	80% (feedstock)
Food Processing	30%
Cement	25-35%
Refining	15-20% (fuel only)

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3. When natural gas prices rise, manufacturing jobs decline.

When natural gas prices rise, manufacturing employment falls. This is a historic correlation. And, when prices increased over 200 percent from 2000 to 2008, manufacturing companies closed over 40,000 facilities nationwide.



4. Unlike natural gas, exports of crude oil and coal do not have an impact on manufacturing competitiveness.

The manufacturing sector consumes 29 percent of U.S. natural gas and 26 percent of all electricity that is increasingly dependent upon natural gas, according to the EIA. Plus, national demand for natural gas is at record highs and accelerating. Crude oil on the other hand is only used for transportation fuels and back up electric generation fuel for manufacturing. Crude oil is used as a feedstock for refining, one of our EITE industries. Manufacturing consumes less than 5 percent of U.S. coal which is used as a fuel for industrial boilers. This demand will also decrease due to the EPA Industrial Boiler MACT that is forcing coal to natural gas fuel switching.

5. DOE has already approved LNG exports greater than Qatar, the largest LNG exporter.

The DOE has already conditionally approved LNG export volumes, to countries with which the U.S. does not have a free trade agreement, which exceeds the current largest LNG exporter volume, Qatar. However, Qatar does not have the largest manufacturing sector in the world that is truly dependent upon natural gas and natural gas-fired electricity for their competitiveness. Qatar's manufacturing is insignificant. The point is that exporting a lot of LNG puts the 12 million direct jobs and 5.2 million indirect jobs in the U.S. manufacturing sector at risk. We are price sensitive industries that compete globally.

6. Australian LNG exports have tripled natural gas prices for their domestic consumers.

What happened to Australia can happen here in the U.S. with time. Like the U.S., both countries are endowed with vast natural gas resources and both are producing at record levels. What is different is that Australia started exporting LNG in 1989, and continues to increase export capacity which has tripled their domestic price of natural gas to an equivalent of about \$9 mmBtu (wholesale price on the East Coast of Australia) and this price is expected to rise to \$11-\$12 mmBtu next year as new export terminals begin to ship. Manufacturers are closing their doors and power companies are taking action to switch from natural gas to coal. The cost of home heating and cooling has soared.

In Australia, domestic consumers are being asked to pay the Asian LNG export "net-back" price, which is the price of LNG in places like Japan and China which is at \$16 per mmBtu, less the costs of liquefaction and transportation between those countries and Australia. For example, \$16 per mmBtu of gas in China minus \$4-5 liquefaction and transportation costs, nets back to Australia at \$10 to \$11 mmBtu. That is the price that Australian consumers will be asked to pay next year.

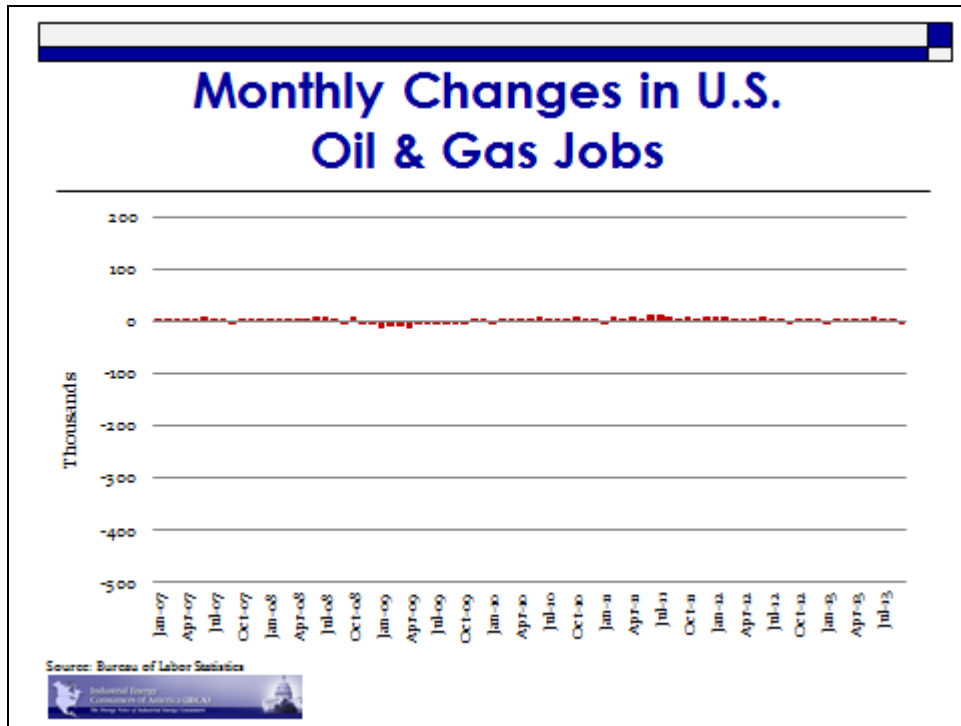
The government of Australia allowed unfettered approval of LNG exports and their domestic consumers have been severely impacted. The Australian government failed to protect their consumers from OPEC cartel crude oil-linked LNG pricing.

The U.S. net back price is \$16 mmBtu, less \$6 for liquefaction and transportation costs or \$10 mmBtu. This means that LNG exports will drive U.S. prices to at least \$10 mmBtu before they are equivalent to Asia's prices, then the U.S. will have lost its advantage.

7. Drilling for natural gas and oil does not create many jobs.

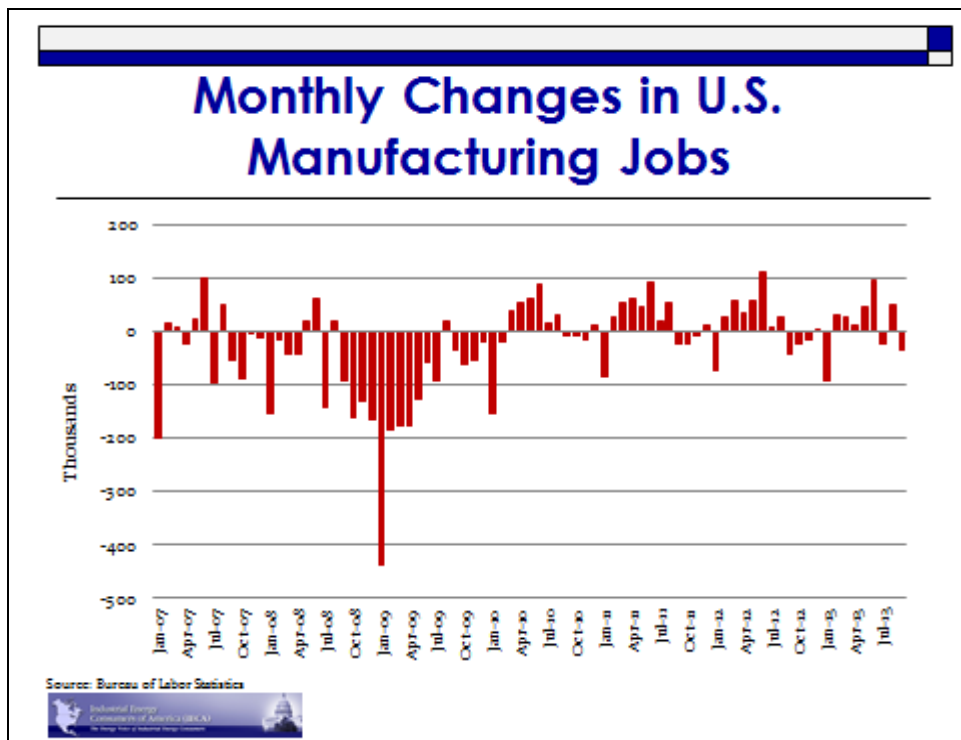
The figure on the next page shows monthly job changes for the oil and gas industry since 2007. Since then, production of oil and gas has significantly increased yet few jobs have been created. Specifically, from 2010 to 2013, only 59,527 jobs have been created. This fact speaks loudly to the LNG export issue. It implies that even if there are significant LNG exports, few U.S. jobs will

be created. And, since every study concludes that LNG exports increase natural gas prices domestically, manufacturing jobs will decrease and offset those gains. Higher prices will also slow the entire economy.



8. It is in the “consumption” of natural gas domestically where jobs are created.

Manufacturing, on the other hand increased 568,108 jobs from 2010 to 2013. It is in the consumption of low cost natural gas and electricity where the U.S. can maximize job growth and a growing economy.

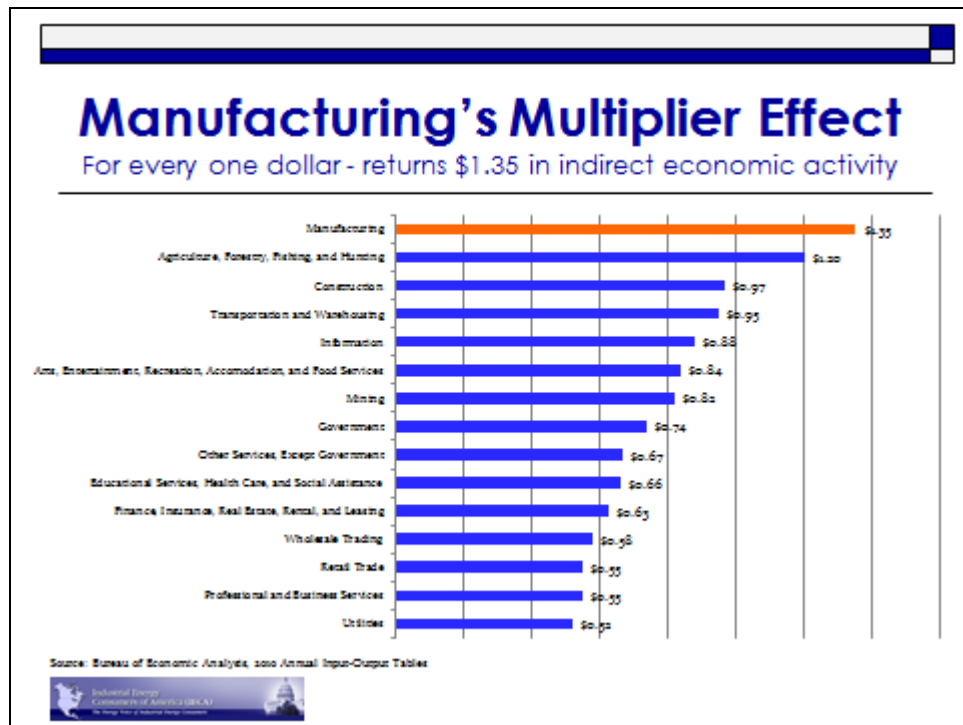


9. Using natural gas in manufacturing creates more jobs than LNG exports.

A 2013 study by Charles Rivers Associates compared the economic contributions of exporting 5 Bcf/day of LNG versus using the same amount of natural gas in manufacturing. The comparison makes clear that using natural gas in manufacturing creates superior benefits to the U.S. economy.

	DIRECT VALUE ADDED	TOTAL ON-GOING EMPLOYMENT	DIRECT CONSTRUCTION EMPLOYMENT
Manufacturing	\$4.9B	180,000 jobs	104,000 person years
LNG Exports	\$2.3B	22,000 jobs	23,000 person years

10. For every \$1.00 invested by manufacturing, it yields \$1.35 of indirect economic activity, the highest of any sector of the U.S. economy.



11. There is significant opportunity to create manufacturing jobs by reducing our manufacturing product trade deficit.

Manufacturing Goods Trade Deficits (2013)

Country	Imports to U.S. (U.S. Dollars)	Exports from U.S. (U.S. Dollars)	Difference (U.S. Dollars)
Japan	133,862,457,648	54,506,797,575	-79,355,660,073
South Korea**	60,351,758,042	35,436,057,425	-24,915,700,617
China	430,472,857,624	87,311,285,411	-343,161,572,213
Spain	10,405,569,071	7,935,139,247	-2,470,429,824
India	39,323,090,516	19,494,664,646	-19,828,425,870
Taiwan	35,770,932,454	21,851,127,632	-13,919,804,822
UK	44,692,780,421	39,952,168,682	-4,740,611,739
France	39,179,296,115	29,149,358,647	-10,029,937,468
Turkey	6,061,860,745	7,876,676,240	1,814,815,495
Italy	36,540,307,575	13,745,513,299	-22,794,794,276
Argentina	2,859,814,119	9,747,300,055	6,887,485,936
Mexico**	229,994,474,558	204,664,909,531	-25,329,565,027

Source: Foreign Trade Division, U.S. Census Bureau

****Free Trade Agreement with U.S.**

12. Natural gas demand is at record highs and accelerating.

The chart below illustrates that demand for natural gas is accelerating. EIA AEO 2014 forecasts net demand to increase by 17.3 percent by 2020, a seven year period. From 2000 to 2013, a 13-year period, U.S. demand rose only 11.6 percent. Manufacturing demand for natural gas is forecasted to increase 8.4% from 2013 versus 2020. Electricity demand is forecasted to increase 8.1 percent. The below EIA data does not include demand due to the EPA GHG proposed rule for existing electrical generating units. Note that we will still be import dependent in 2020, importing about 7.5 percent from Canada.

Natural Gas "Net" Demand to Significantly Increase by 17.3% by 2020 (Bcf/day)

	Actual Demand 2013	EIA Forecast 2020	2013 vs. 2020 Difference
Industrial	20.44	22.06	8.4%
Residential	13.53	12.22	-9.7%
Commercial	9.01	8.66	-3.9%
Electric	22.34	24.14	8.1%
Transportation	0.088	0.29	148.9%
Loss & Plant Fuel	3.87	4.77	23.5%
Pipeline & Distribution Use	2.03	2.00	-1.5%
Exports of LNG	--	5.70	--
Exports to Mexico	1.80	3.01	67.2%
Exports to Canada	2.50	2.96	18.4%
Total Demand	75.61	85.84	13.5%
Imports from Mexico	-0.0029	-0.00	-100.0%
Imports from Canada	-1.63	-6.00	-21.4%
Imports from LNG	-0.26	-0.41	57.7%
Total Imports	-1.89	-6.41	-48.8%
NET TOTAL (Bcf/d)	67.71	79.43	17.3%
NET TOTAL (Tcf/y)	24.72	29.00	17.3%

Source: EIA - AEO 2014, Net Demand

13. The global price of LNG is determined by OPEC cartel crude oil indexed pricing while the U.S. natural gas price is set by a “free market.” Long term, LNG exports will convert the U.S. “free market” into an OPEC LNG determined market price.

The U.S. natural gas market is the largest natural gas market in the world whose price is determined by supply and demand. This is a “free market” and all U.S. consumers benefit from it. Crude oil and global LNG prices are set, not by free markets, but by OPEC cartel crude oil indexed prices.

There is a lesson to be learned from the OPEC controlled crude oil market that is relevant to LNG exports. Today’s U.S. gasoline prices are largely determined by global crude oil supply constraints set by OPEC countries. Controlling supply keeps prices high. This is why even though the U.S. has increased production of crude oil, domestic gasoline prices have not markedly decreased in price. As the U.S. LNG exports increase long-term, driven by OPEC crude oil indexed prices, U.S. prices will rise to the Asia LNG “net back” price that is estimated at about \$10 mmBtu. When this happens, the U.S. will lose its competitive advantage.

14. Natural gas is not a renewable resource.

These resources provide a once in a lifetime treasure upon which to build our economy and manufacturing sector for future generations to come. Unfettered LNG exports undermine the economy by raising natural gas and electricity costs. Every study concludes that LNG exports raise domestic natural gas prices.

15. EIA also forecasts that natural gas pipeline and LNG exports will exceed the size of residential demand by 2025.

