“The Department of Energy’s Strategy for Exporting Liquefied Natural Gas”

Before the House Committee on Oversight and Government Reform, Subcommittee on Energy Policy, Health Care and Entitlements

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Testimony of
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Thank you Chairman Lankford and Ranking Member Speier for the opportunity to testify before you and other Subcommittee Members on this important subject. My name is Paul Cicio and I am the President of the Industrial Energy Consumers of America (IECA).

The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with $1.1 trillion in annual sales, over 1,000 facilities nationwide, and with more than 1.4 million employees worldwide. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of energy intensive industries including: chemical, plastics, steel, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, brewing and cement.

The U.S. Department of Energy (DOE) has received applications to export LNG equivalent to just under 50 percent of U.S. demand. Shipments of this volume have significant implications for all domestic consumers and especially the competitiveness of the manufacturing sector that competes globally. The DOE has sponsored two studies to help understand how LNG exports would impact the U.S. economy and consumers. Both studies are flawed. Among other things, domestic demand assumptions used were understated resulting in understated impacts to the economy. The DOE has approved one LNG export terminal for shipments and another 24 have applied, yet the DOE has failed to establish transparent criteria on how to determine the public interest determination.

IECA Urges the DOE to:

- Complete a study that will provide a comprehensive analysis of LNG export implications.
- Develop guidelines for the public interest determination appropriate for LNG export applications through a formal rulemaking process.

Testimony Outline:

1. IECA position on LNG exports
2. Implications of LNG exports for energy-intensive trade-exposed industries and other manufacturing
3. Two reasons why natural gas is different than other trade products and why it is essential to improve the public interest determination
4. DOE should develop guidelines for the public interest determination through a formal rulemaking process
5. Criteria for public interest determination
6. Study recommendations

1. IECA position on LNG exports

It is important to note that IECA is not opposing LNG exports, although we remain very concerned that exports could negatively impact manufacturing competitiveness and jobs. It is for this reason that we urge the DOE to do a better job than what we have seen so far, and improve the public determination test.

Both DOE sponsored studies (that used understated domestic demand assumptions) should give public policymakers pause because they confirm one thing – that any level of exports will increase domestic prices, and that energy-intensive manufacturing industries are greatly impacted. Specifically, the flawed

NERA study confirmed that LNG exports increase energy costs, lower wages, and lowers the return on capital to "all" industries with only trivial net benefit to the economy.

The volume of exports and the timing of when LNG terminals are approved and begin to ship are important public policy decisions that can negatively impact the manufacturing renaissance that has now begun. LNG exports have the potential to slow or stop the manufacturing renaissance. A lot is at stake.

If export terminals are approved over a longer period of time, the domestic market place may have time to adjust, so as to avoid a price spike for domestic consumers. On the other hand, approval of several terminals and shipments starting all at the same time could shock the domestic market and prices could spike for all U.S. consumers. Under this scenario, prices would increase right away in anticipation of the future demand.

2. LNG exports are an important issue to energy-intensive trade-exposed industries and manufacturers that competes globally

IECA member companies are energy-intensive and trade-exposed (EITE). For these industries, the cost of energy can be from 10 to 85 percent of the cost of making their products *(see Appendix, Chart 1)*. Our competitiveness is dependent upon the price of energy relative to our offshore competitors.

Energy-intensive manufacturers are unique and the only sector which requires globally competitive energy, is natural gas- and/or electricity-intensive, and competes globally in an environment of unfair competition (other countries often subsidize energy and manufacturing). Unlike other sectors, we will relocate facilities offshore to be competitive.

The U.S. manufacturing sector is the largest consumer of natural gas, as a fuel and feedstock, and natural gas-fired electricity, consuming approximately 40 percent of all U.S. natural gas. We also consume approximately 30 percent of all electricity.

Energy-intensive manufacturing companies produce the building block commodity products that are used by "all" other manufacturing to produce their products as illustrated in Chart 2 *(see Appendix)*. Energy-intensive products are essential for U.S. economic growth. Chart 3 and 4 *(see Appendix)* illustrate that all other sectors of the economy are dependent upon these energy-intensive products for the manufacture of a wide array of industries that span defense industries to consumer products.

However, when energy prices rise, domestic energy-intensive products have a difficult time competing with imports. This is what happened when natural gas prices rose and peaked in 2008. U.S. manufacturing facilities shut down and imports increased. *(see Appendix, Charts 5 & 6)*.

The manufacturing sector is a highly valued sector. According to the U.S. Bureau of Economic Analysis, every dollar of manufacturing economic activity returns $1.35 of indirect economic activity *(see Appendix, Chart 7)*. This is the highest return as compared to any other sector of the economy. The average of all other sectors is only $0.75 of indirect economic activity for every one dollar. Lastly, according to NAM, for every manufacturing job created there are five to eight more jobs created in the larger economy.

3. Two reasons why natural gas is different than other trade products and why it is important to get the criteria correct for the public interest determination

Both DOE sponsored studies make it clear that "all" consumers are impacted. Natural gas prices have both a direct and indirect impact on peoples' lives, their safety (heating, cooling, electricity), economic growth, exports of manufactured products, and jobs.

Secondly, natural gas production and demand is highly influenced by public policy decisions. Natural gas production can be highly impacted by federal and state public policy decisions and regulations that can either slow production or make it more expensive. And, domestic natural gas demand is highly impacted by federal environmental regulation, although it could also be impacted by Congressional action.

The fact that natural gas supply and demand is highly impacted by public policy decisions is a critically important distinction. When the DOE approves an LNG export terminal, it does so for as long as 30 years. The terminal owner then secures take-or-pay contracts that are then used to secure financing of the terminal. This "locks" in new demand for long periods of time that will impact domestic prices. A lot can happen in 30 years that cannot be anticipated today. During this 30-year time period, all of the imposed regulatory and legislative risks of slower production or higher domestic demand driven by public policy decisions are shifted to the U.S. consumer – and not the producer of natural gas, the terminal owner or the LNG customer.

Examples of public policy issues that could slow natural gas production which would decrease supply and correspondingly increase costs include:

Intangible Drilling Costs (IDCs) tax provision:
The IDCs allow the oil and gas industry to deduct expenses and generate the cash flow needed to invest in drilling. Congress is considering eliminating this provision. If Congress took this provision away, capital available to drill could drop by up to one-third. Production of natural gas would drop precipitously and prices would rise quickly.

U.S. Department of the Interior, Bureau of Land Management (BLM) proposed rule to regulate hydraulic fracturing on federal lands:
The BLM rule will slow permitting, slow-down drilling and increase costs that will be passed onto consumers.

EPA regulation of hydraulic fracturing on private lands:
EPA is leading an inter-agency task force study that is widely believed will result in regulation of hydraulic fracturing. The primary focus is on water protection and these new regulations could result in sensitive regional watersheds being placed off limits to drilling.

Examples of public policy issues that will result in greater natural gas demand include:

National Ambient Air Quality Standards for:

- Ozone – Proposal due 2013, final due 9/14
- Sulfur Dioxide (SO2) – Final 6/10
- Nitrogen Dioxide (NO2) – Final 2/10
- Particulate Matter (PM) – Final 12/12
- Cross State Air Pollution Rule (CSAPR) – Vacated 8/12, rehearing requested

- GHG Rules – Upheld DC Court of Appeals 6/12
- Endangerment Finding – Rehearing denied 12/12
- GHG Tailoring Rule – Final

New Source Performance Standards for:

- GHG for new power plants – Proposed 4/12, final due 3/13
- GHG for existing plants – Unknown, subject to Consent Decree
- National Emissions Standards for Hazardous Air Pollutants (NESHAP)
- Mercury Air Toxics Standards – Final 2/12, new units in reconsideration
- Coal Combustion Residuals Rule – Proposed 6/10, final due 6/13
- Cooling Water Intake Rule [316(b)] – Proposed 4/11, final due 5/13
- Power Plant Effluent Limitation Guidelines – Proposal 4/13, final 4/14
- Greenhouse Gas NSPS for refineries – Required action by EPA under the CAA
- Greenhouse Gas NSPS for industrial facilities – Required action by EPA under the CAA

4. DOE should develop guidelines for the public interest determination through a formal rulemaking process

Over 70 years ago, Congress recognized that the import and export of natural gas, a finite natural resource, can have critical implications for U.S. prosperity. In the Natural Gas Act, Congress charged the executive branch with regulating the import and export of natural gas in accordance with the public interest.

The DOE has extensive experience evaluating import applications, but it has had limited experience with export applications. Perhaps not surprisingly, there are no clearly established criteria for DOE to apply in determining the public interest with regard to natural gas exporting.

IECA supports expanded exports and trade. However, we also believe it is crucial that DOE have the information and analysis necessary to properly apply the Natural Gas Act requirement that exports be consistent with the public interest. We applaud DOE's recent acknowledgement that an economic study that it commissioned is but one data point in the broad array of considerations that are relevant for a public interest determination. In short, IECA supports an approach to such determinations by DOE that are based on objective criteria and metrics, established through a public process and applied on an incremental, case-by-case basis in a consistent and balanced manner.

Today, DOE is considering 24 applications to export LNG. Since the proposed importing countries do not have a particular type of free trade agreement (FTA) with the United States, these applications are not covered by the statute's presumption that an FTA represents a determination that the application meets the public interest test. After approving one such application, DOE has temporarily suspended the processing of "non-FTA" LNG export applications. Implicitly recognizing that more is at stake than can be resolved through its traditional approach to processing export applications, DOE commissioned a report from a private firm to evaluate the macroeconomic effects of higher LNG exports.

As detailed in IECA's January 24, 2013 submission to DOE, the NERA report is fundamentally flawed and underestimates the potential harmful effects of sharply higher LNG exports. More broadly though, commissioning the report should be the first step in developing policies that will enable DOE to administer appropriate public interest determinations for LNG export applications. No economic study can account for the full profile of U.S. values that should inform a determination of the public interest with regard to natural gas exports.

The outstanding authorization requests present what is essentially a new challenge. In the modern era, the U.S. government has not faced the need to determine the public interest in connection with requests to authorize exports of large volumes of natural gas. Congress should encourage DOE to continue its effort to improve the process for evaluating LNG export applications by providing an opportunity for all affected constituencies and the public at large to comment on how best to assess the public interest as it pertains to exports of natural gas.

Newly discovered sources of natural gas present a great opportunity for the U.S. At the same time, natural gas remains a finite natural resource with important implications for U.S. energy security, energy independence and the environment. Exports can have supply and price effects that have major impacts throughout the country. The economic impact of LNG exports is also likely to vary by geographic region and by business center. Consequently, public interest determinations should be thorough enough to evaluate nationwide implications of LNG exports as well as localized effects.

Unchecked LNG export licensing can cause demand shocks, and the resulting price volatility can have substantial adverse impacts on U.S. manufacturing and competitiveness. In the recent past, the price of natural gas was very high and volatile until the advent of substantial shale gas production. Gas supplies and demand are inherently difficult to predict accurately. Thus, IECA urges a cautious, considered, comprehensive and deliberate approach to assessing the public interest.

Currently, DOE regulations provide for the adjudication of LNG export applications on a case-by-case basis in proceedings that depend on the parties to raise issues relevant to a public interest determination and to support their positions with persuasive evidence. DOE interprets the Natural Gas Act's public interest standard as creating a rebuttable presumption that a proposed export of natural gas is in the public interest. This means that DOE is to approve an application unless those who oppose the application can overcome this presumption.

In its principal order to date authorizing exports of LNG to non-FTA countries, DOE identified certain topics as being relevant to its evaluation of the impact of LNG exports on the public interest:

- the domestic need for the natural gas proposed to be exported,
- whether proposed exports threaten the security of domestic natural gas supplies, and
- any other issue DOE deems to be important, including whether the export arrangement is consistent with DOE's policy of promoting competition in the marketplace by allowing commercial parties to freely negotiate their own trade arrangements.

The topics that DOE has identified for evaluating the public interest are too narrow and vague to capture all of the critical national, regional and local issues at stake with LNG exports or to offer any useful guidance. In response to the economic study it commissioned, DOE has received more than 370 submissions from a broad array of stakeholders covering an equally broad array of topics. The sheer number of submitted comments reflects the depth of interest regarding this issue. Unfortunately, the current process provides no assurance that DOE will consider all aspects of the public interest in any given proceeding. This is inevitable for an administrative process that depends on arguments and evidence submitted by the parties to a specific export application process. These parties are representing their specific interests, and may not adequately represent the totality of the public interest.

A timely DOE rulemaking process to formulate criteria for determining the public interest as it relates to LNG exports could ameliorate some of the shortcomings of the current process. All of the major constituencies affected by LNG exports should have an opportunity to be heard, which could enable

DOE to obtain much broader public input and do so efficiently in a single forum. This would increase the likelihood that all relevant considerations will be identified and that cumulative and national effects will be addressed as well as regional effects. The result of such a rulemaking process—establishment of uniform and actionable criteria with measurable metrics—would facilitate balanced, comprehensive consideration of the public interest by DOE, give parties in individual proceedings advance notice of many of the most relevant considerations, and reduce the risk of inconsistent adjudications across applications. DOE would then apply these criteria and metrics incrementally over time in individual application proceedings, which would assure fairness and uniformity, while allowing DOE to consider changes in circumstances from one application to the next.

More importantly, DOE could adopt a mechanism to balance, in the aggregate, exports and U.S. interests that inform the public interest. A new rule of this kind should generally ensure that DOE is presented with adequate and accurate evidentiary records in each licensing proceeding.

5. Criteria for public interest determination

While criteria for determining the public interest should be developed as part of the rulemaking described above, we believe the list below provides a good starting point for identifying specific, concrete and forward-looking criteria that DOE should evaluate in connection with LNG export applications:

- Domestic manufacturing: How will exports impact natural gas prices and the supply/demand balance? Will natural gas supply be reduced? Will there be less feedstock for announced investment projects? Will the jobs created by increased exports exceed jobs lost by the manufacturing industry? Will additional exports displace U.S. consumption?

- U.S. consumers: Will exports reduce the supply of natural gas available for utilities or affect consumer prices or energy costs? Will utilities decrease fuel switching to natural gas?

- Energy security: Will exports reduce the volume of natural gas available for domestic use or increase the need to rely on imported petroleum?

- Employment: How many new jobs will be created or existing jobs impacted? Are employment gains in the oil and gas sector offset by job losses in other areas of the economy affected by relatively higher natural gas prices?

- International trade: Will exports improve the U.S. balance of trade payments sufficiently to offset falling exports in other value-adding sectors of the economy? As to proposed exports to FTA countries, are the exports destined for consumption in the FTA country or will there be transshipment of natural gas to non-FTA countries? How can export applications be disposed of in a manner consistent with U.S. trade obligations?

- Environmental: What would the proposed exports' environmental impact be?

- Strategic interests: Will the exports support a strategic American ally in a meaningful way and consistent with stated policy priorities? Do proposed importing countries accord the United States reciprocal favorable international trade treatment? What are the implications for any current or proposed FTA negotiations?

- Price and volatility: How is the LNG contract being priced, and is it linked to oil in some manner? What is the expected short and long term impact on natural gas and electricity price volatility?

- Other regulatory impacts: What is the potential impact of other regulatory decisions on natural gas demand or supply and what is the interplay between those impacts and exports of natural gas?

DOE should apply criteria that result from this rulemaking to applications on a case-by-case basis and in an incremental fashion. This would entail evaluating whether approving each individual application is in the public interest, and whether the incremental impact of approving that application, in light of DOE's prior approvals, would be consistent with the public interest. Again, the last ten years have seen great fluctuations in domestic gas prices, and circumstances can change as drilling techniques are improved, sources of consumption are expanded or the condition of the economy evolves.

6. Study recommendations

Among the other things needed to evaluate the impact of LNG exports on the U.S., IECA requests that a redo of the DOE study should take into consideration each of the following items:

1. Proprietary economic models, such as that used by NERA Economic Consultants (NERA), should not be used for public policy decisions. Public policy decisions demand the trust and integrity of economic models that have stood the test of time and been peer reviewed. The Office of Management and Budget "Final Information Quality Bulletin for Peer Review," filed in the Federal Register on January 14, 2005, stipulates that proprietary models/data that are not peer reviewed cannot be used in public policy decision making. NERA's model does not meet that test. We encourage the DOE to use EIA for all modeling. In this way, the public knows that trusted experienced public servants, which do not have an agenda, are conducting the analysis.

2. Compare the economic benefits of consuming the same quantities of natural gas domestically as exported under the study. The public interest test for shipment to non-free trade countries is a public policy decision based on comparisons of how the public will be impacted. The public interest test is incomplete without first comparing impacts/benefits of exports versus impacts/benefits of greater domestic consumption. There is just as much potential new domestic demand that can occur as compared to the exports of LNG.

3. Use up-to-date demand forecasts for the industrial, electric generation and transportation sectors. For industrial demand, use current and prudent publically available data on announced capital investments that will rely upon natural gas in the forecasts and update employment data.

4. For the industrial, electric generation and transportation industries, include scenarios of impacts to natural gas demand due to existing, pending (proposed/courts) and anticipated federal and state regulations.

5. For the oil and gas industry, include scenarios of impacts to natural gas demand due to existing, pending (proposed/courts) and anticipated federal and state regulations on production of natural gas.

6. Given that approval of export terminals permits are for 20- to 30-year time periods, and the difficulty of forecasting supply, demand and price over such a long period of time, we encourage the DOE to use EIA's natural gas price forecasting history data base to provide a plus or minus (+/-) price factor to the

LNG export scenario forecasted prices, a price sensitivity analysis. The EIA has an existing database that compares their history of price forecasting to what really happened. Using a price sensitivity analysis based on past experience can illustrate the degree of potential accuracy of the LNG export price impacts over a 20- to 30-year period and provide great insight into relative price uncertainty.

7. The NERA study concluded that everyone will pay higher prices for natural gas and electricity but that the most vulnerable sector was the energy-intensive trade-exposed (EITEs) industries. NERA then erroneously concluded that EITE industries are not important so it doesn't really matter if those jobs are lost. We urge the DOE to study the economic and job creation "value-chain" of natural gas consumption by the EITE industries, to their domestic customers, and to the export of their finished goods – in comparison to exporting specific volumes of natural gas. In this evaluation, DOE must consider that the economics of these industries has changed dramatically because of favorable domestic natural gas and electricity prices and they have a decided competitive advantage over imports. DOE is to use up-to-date EITE competitive market assessments as part of this work.

8. Both DOE studies failed to evaluate peak demand scenarios and potential regional limitations on storage and pipeline capacity on price. As the DOE re-evaluates price impacts of LNG exports, it needs to include scenarios that consider the impacts of U.S. LNG exports during winter and/or summer peak demand periods. This is a reasonable request given that most of the countries that would import LNG from the U.S. are in the northern hemisphere, which means that their LNG demand will be high during the U.S. winter heating season demand and could cause costly price spikes.

Secondly, regional infrastructure such as storage and pipeline capacity needs to be evaluated. The capacity of such infrastructure on a regional basis can have a significant impact on the natural gas basis pricing as we are experiencing today in the northeast. For example, the EIA reported "spot prices of natural gas for delivery between Saturday, January 19 and Tuesday, January 22 exceeded $14 per million British thermal units (MMBtu) at some Northeast locations. This is about four times higher than the $3.54 price for the same delivery period reported at Henry Hub, the benchmark location for pricing natural gas in the United States." As new natural gas-fired power generation plants, new industrial facility demand and export terminal demand are all dependent upon the same infrastructure, prices will rise and accelerate the potential for price spikes.

In closing, the U.S. is at an important crossroad. If we do this right, the U.S. can export LNG and provide an adequate supply of natural gas at affordable prices to domestic consumers. However, it is very important to develop a public interest determination criteria that balances LNG exports and provides the safeguards needed for domestic consumers.

Thank you.

APPENDIX

CHART 1

Examples of Energy Intensity

(Small Energy Price Increases Have Large Competitive Impacts)

- Aluminum: 30-35%
- Recycled steel: 25%
- Integrated steel: 85% energy and raw materials
- Plastics: 80% (feedstock)
- Chemicals: varies greatly 15-20% (fuel only)
- Industrial gases: 70%
- Paper: 10-20%
- Glass: 20-25%
- Nitrogen fertilizer: 80% (feedstock)
- Food processing: 30%
- Cement: 25-35%
- Refining: 15-20% (fuel only)

CHART 2

Energy Price Sensitive Products are Essential for Economic Growth

Building Block Industries	Convert to	Commercial & Consumer Products
Chemicals	→	Food Production
Plastics	→	Defense Industries
Fertilizer	→	Automobiles
Glass/Ceramics	→	Consumer Goods
Steel	→	Construction
Iron Ore	→	Medical Supplies
Aluminum	→	Energy Production
Pulp and Paper	→	Appliances
Cement	→	Household Products
Food Processing	→	Telecommunication

CHART 3

Energy Intensive Products are Essential to Economic Growth

- The aerospace/defense industry uses steel, iron ore, aluminum, plastics and chemicals.
- The air transport industry uses steel, iron ore, aluminum, plastics and chemicals.
- The auto and truck industries use steel, iron ore, aluminum, plastics, chemicals.
- The beverage industry uses aluminum, steel, iron ore, paper, glass and plastic.
- The biotechnology industry uses chemicals.
- The commercial and home building construction industry uses brick, steel, iron ore, aluminum, wood, cement and glass.
- The oil and gas industry uses steel, iron ore, chemicals, cement.
- The chemical industry uses chemicals, steel, iron ore, cement and glass.
- The computer industry uses plastics, chemicals, and glass.
- The electrical equipment industry uses steel and iron ore.
- The electric and gas utility sector uses steel, iron ore and cement.
- The food industry uses fertilizer, chemicals, plastics and paper.

CHART 4

Energy Intensive Products are Essential to Economic Growth

- The heavy construction industry uses steel, iron ore and rubber.
- The home furnishing industry uses wood, glass, chemicals.
- The home appliance industry uses steel, iron ore, aluminum, glass and wood.
- The household products industry uses chemicals, plastic; paper, glass.
- The machinery industry uses steel, iron ore, chemicals and plastics.
- The maritime industry uses steel and iron ore.
- The packaging industry uses plastics, paper, aluminum, steel and iron ore.
- The paper / forest products industry uses steel, iron ore and chemicals.
- The refining industry uses steel, iron ore, chemicals and cement.
- The pharmaceutical industry uses chemicals, glass, steel and iron ore.
- Railroads use steel and iron ore.
- The toiletries/cosmetics industry uses chemicals, plastics, paper, and glass.

CHART 5

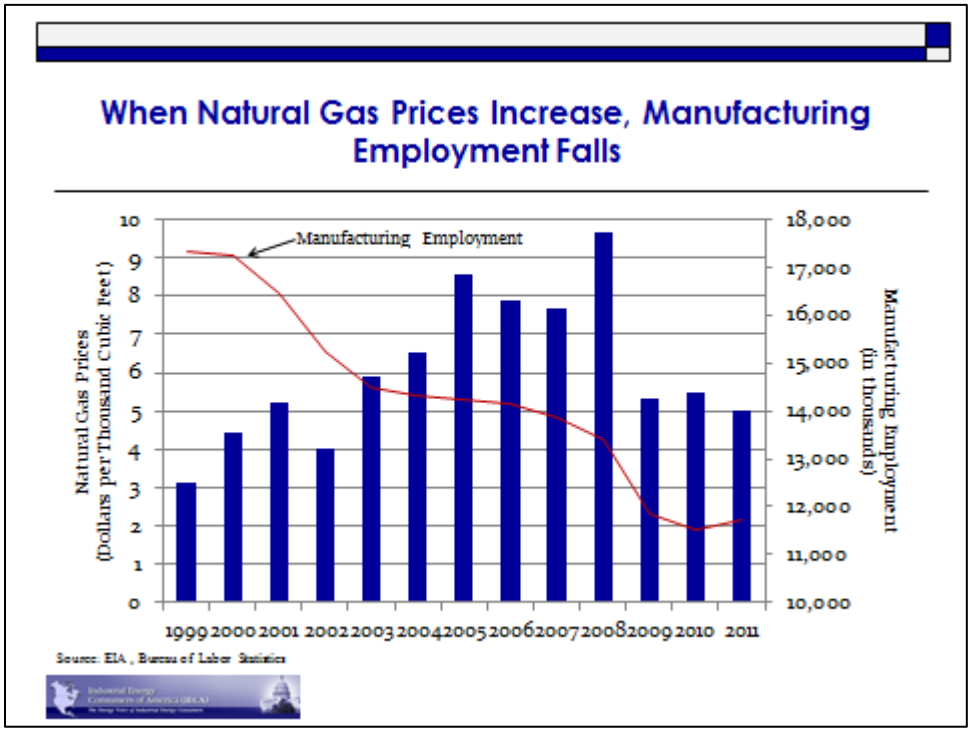


CHART 6

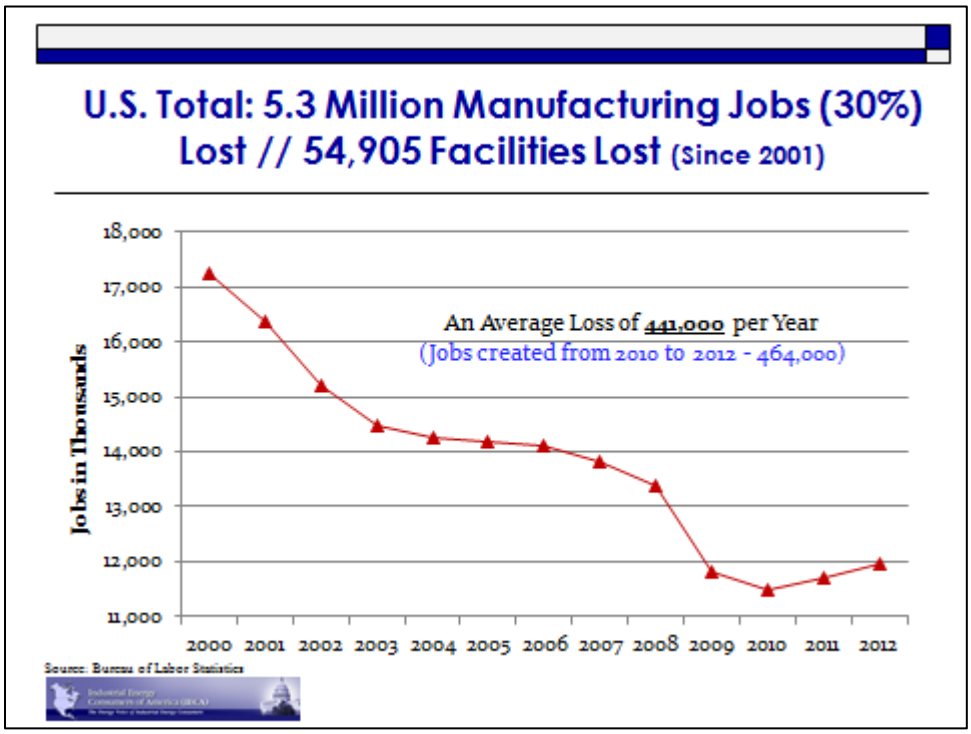
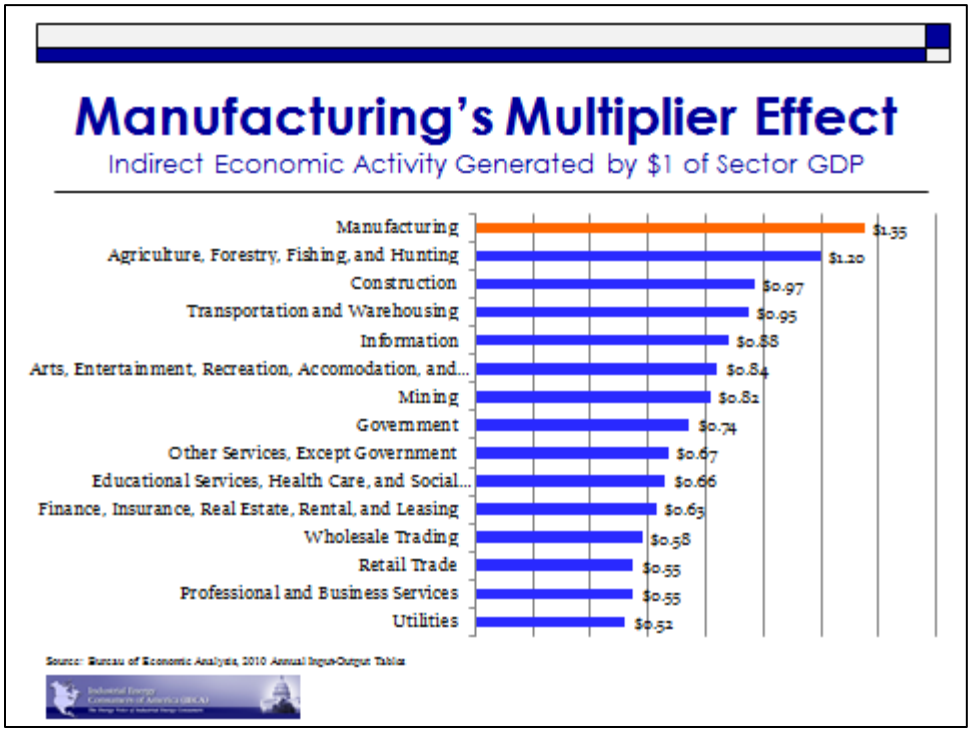


CHART 7


Manufacturing's Multiplier Effect
Indirect Economic Activity Generated by $1 of Sector GDP
Manufacturing $1.35
Agriculture, Forestry, Fishing, and Hunting $1.20
Construction $0.97
Transportation and Warehousing $0.95
Information $0.88
Arts, Entertainment, Recreation, Accomodation, and... $0.84
Mining $0.82
Government $0.74
Other Services, Except Government $0.67
Educational Services, Health Care, and Social... $0.66
Finance, Insurance, Real Estate, Rental, and Leasing $0.63
Wholesale Trading $0.58
Retail Trade $0.55
Professional and Business Services $0.55
Utilities $0.52
Source: Bureau of Economic Analysis, 2010 Annual Input-Output Tables