

H.B. 114

Written Proponent Testimony

By David F. Ciarlone PE, President
Ohio Energy Group

Before the Senate Energy & Natural
Resources Committee
June 14, 2017

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Introduction

Good afternoon Chairman Balderson, Vice Chairman Jordan and Ranking Minority Member Skindell and members of the Senate Energy & Natural Resources Committee.

Politicians at all levels and of all stripes say things like:

- 'manufacturing and good paying manufacturing jobs are the foundation of our economy'
- 'manufacturing is the glue that secures the middle class' or
- 'advanced manufacturing is the future'

All of this is true, and the latest Ohio Fact sheet from the National Association of Manufacturers (attached) proves that with 17.66% of its total gross state product arising from manufacturing, Ohio is truly a manufacturing state.

However, you are to be commended for actually soliciting the views of Ohio's largest manufactures and the largest providers of family sustaining jobs and working to incorporate these insights into state policy.

Who We Are

My name is David Ciarlone and I am President of the Ohio Energy Group. OEG is a trade organization formed in 2003 by large energy-intensive industrial companies with one or more plants in Ohio to promote low-cost, reliable electric power. Our 25 members¹ spend more than \$1 billion annually on gas and electricity and we provide more than 55,000 good paying direct jobs in Ohio, plus multiples of indirect jobs, taxes and other various kinds of threads that form the fabric of life in Ohio – *Bob & Betty Buckeye*, if you like. My opinions are informed by over 35 years of experience managing energy, as well as by what I learn from my OEG colleagues who have compiled hundreds of years in experience managing large volumes of energy in Ohio and elsewhere.

For today's discussion it is best to view OEG member companies as Energy-Intensive, Trade-Exposed (EITE) businesses. The term, EITE is defined in two parts. Energy-Intensive means that our production processes demand large quantities of energy and that even very small increases in price become large changes in cost and operating income. Trade-Exposed means that cost increases cannot be passed on to customers without the risk of losing that customer to competitors not burdened by such costs.

¹ Current OEG membership: Air Products and Chemicals, Inc., AK Steel Corporation, Arconic Inc., Amsted Rail Company, Inc., BP-Husky Refining, LLC, Cargill, Incorporated, Charter Steel, Elyria Foundry, Fiat Chrysler Automobile US LLC, Ford Motor Company, GE Aviation, General Motors LLC, Greif, Inc., Johns Manville (Berkshire Hathaway), Linde, LLC, Martin Marietta Magnesia Specialties, LLC, Materion Brush, Inc., Miller Coors LLC, Nature Fresh Farms USA LLC, North Star BlueScope Steel, LLC, POET Biorefining, Praxair, Inc., PTC Alliance Holding Corporation, TimkenSteel Corporation and Worthington Industries, Inc.

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Among the immutable consequences of this DNA, EITE businesses have a survival instinct to pursue energy efficiency - relentlessly. As Figure 1 shows, America's industrial sector has aggressively implemented energy efficiency measures and reduced the energy intensity of our production processes by over 45.5% since 1987².

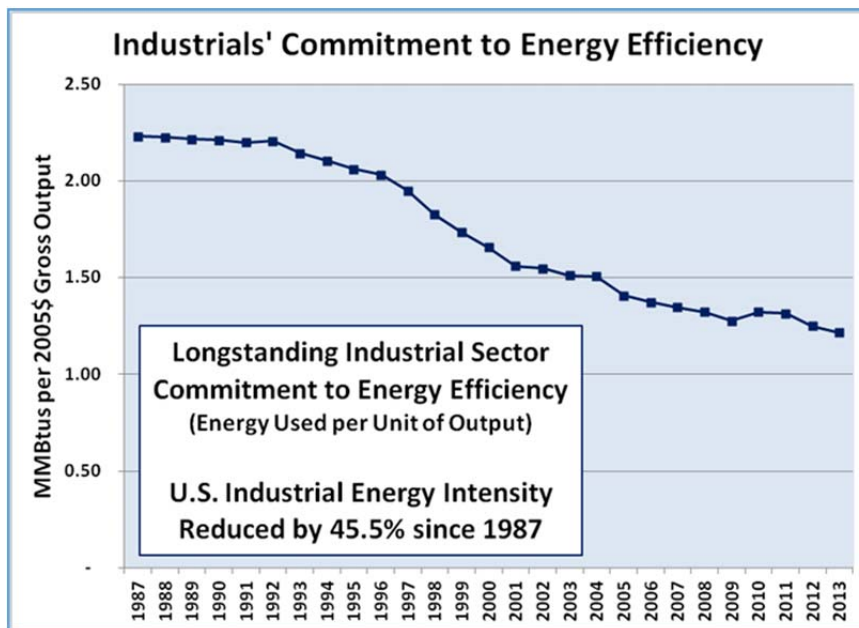


Figure 1

Figure 2 makes the same point, but compares the Industrial sector to the Residential, Commercial and Transportation sectors. While all of these sectors have steadily increased their energy consumption since 1970, energy use by the industrial sector has remained more or less flat, while output has increased by almost 4-fold³. Again, this result is not possible without a sustained focus on energy-intensity and by implementing every energy efficiency measure that makes sense.

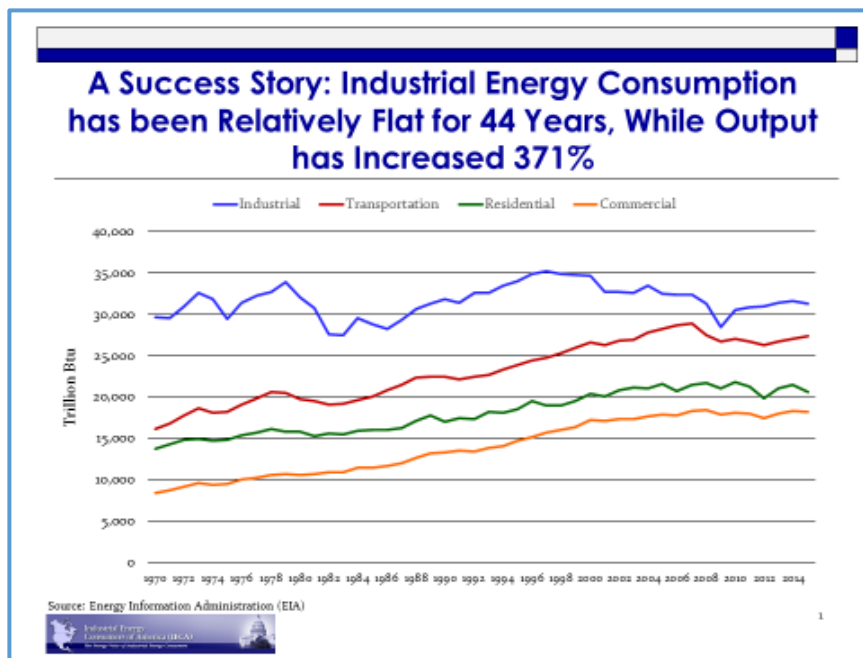


Figure 2

² U.S. Energy Information Administration www.eia.gov and U.S. Bureau of Economic Analysis www.bea.gov.

³ U.S. Energy Information Administration www.eia.gov, via Industrial Energy Consumers of America.

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Renewable Energy is becoming increasingly important to EITE businesses. Many OEG members and many of our peers across the country are announcing public commitments to make Renewable Energy a larger and growing part of their energy supply portfolio. Some of these commitments to growing Renewable Energy reflect changing attitudes within the leadership of these corporations. Some reflect branding strategies and the effort to align with certain customer groups. However, in more and more individual cases on the plant level, Renewable Energy makes better economic sense. It is important to note that these changes are not being driven by regulation. Instead, it appears that EITE businesses along with large data centers might be part of a shifting paradigm where growth in Renewable Energy is not being driven by a *Regulatory Push* but by a *Market Pull*.

How We Assess Energy Policy – Five Guiding Principles

OEG invites the Committee to include in its toolbox the same five measures or guiding principles applied by large industrial – EITE – businesses across the country when we assess energy policy: Affordability; Reliability; Stability; Predictability; and Sustainability.

Affordability is the measure by which our energy costs compare favorably to the costs paid by our competition and sister facilities in other states and other countries. Due to international competition, this comparison is not a simple comparison of energy costs. It includes consideration of the degree to which energy costs contribute to a competitive advantage in total cost of production. Each production facility must contribute to overall profitability if it is to win growth capital for future investment. While a single adverse change in energy cost will rarely close a facility by itself, it can affect decisions on the future investment of growth capital. We hardly need note that the minute a business stops growing, it starts dying.

Reliability is important in three dimensions. First is our ability to maintain production schedules and customer retention by keeping our promises to our customers on delivery dates. Many customer contracts supporting time-sensitive production processes include large penalties for late delivery. Second is our ability to maintain our production facilities and production equipment free of damage due to unscheduled disruptions in operations. Finally, and most important, is our ability to maintain a safe work place. Sudden, unplanned stoppages to energy-intensive operating equipment is extremely hazardous.

Stability is important because our stakeholders demand financial results that do not vary wildly month to month. Energy prices that are not stable discourage investment in future growth projects.

Predictability is important because our stakeholders need to trust that we can write long-term business plans on which we can reliably deliver. Unpredictable energy costs undermine the confidence in our long-term business plans, which also discourages investment in future growth projects.

Sustainability has two dimensions. The first is our responsibility to be good stewards of the environment. The second is our responsibility to be good customers – to guard the long-term success of our business by identifying and retaining affordable and reliable suppliers up and down our supply chains. Maintaining focus on both of these dimensions requires a focus and a commitment to the long-term.

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What is Leakage?

Figure 3 develops, for each of a number of countries, a ration of Tonnes of CO₂ produced by industries in that country to the manufacturing value added by the industries in that country⁴. This data shows that goods produced by industry in the U.S. and in the EU result in significantly less CO₂ than if the same goods were to be produced in many other countries – particularly China and India. These ratios are key to understanding the consequences of Leakage.

Global Industrial Sector Comparison CO₂/Value Added (2014)			
Country	Manufacturing - Value Added (\$Billions)	Manufacturing Industries and Construction (Million tonnes of CO ₂)	Million Tonnes of CO ₂ /Manufacturing Value Added
Australia	93.5	42.9	0.46
Mexico	217.2	58.0	0.27
Canada	189.3 (2012)	66.8	0.35
S. Korea	388.0	77.5	0.20
Japan	850.9	228.0	0.27
Russia	242.5	180.8	0.75
India	301.8	533.4	1.77
EU	2,561.1	406.0	0.16
U.S.	2,068.1	448.0	0.22
China	2,857.0 (2013)	2,890.0	1.01

Source: International Energy Agency (IEA), The World Bank, <http://data.worldbank.org/indicator/NV.IND.MANF.CD>

Figure 3

A recent paper by researchers at leading universities commissioned by the California Air Resources Board (CARB)⁵ defines “Leakage”⁶ and demonstrates why it is important. This study proves that when energy-intensive businesses face increasing energy costs their production is shifted to areas with lower energy costs, frequently off-shore. The ratios in Figure 3 lead to a further and cautionary conclusion: policies aimed at reducing the production of greenhouse gas in one jurisdiction could actually increase global production of greenhouse gas if that policy failed to be sufficiently sensitive to its impact on cost. For example, this data indicates that production moved from the U.S. to China would load the atmosphere with 459% of the CO₂ that would have been produced in the U.S. For production moved to India, the atmosphere would receive 805% of the CO₂ that would have been the case in the U.S.

To illustrate, consider an example in which the EITE businesses of a jurisdiction view the state of *Affordability* and *Sustainability* to be in a condition of balance. If some change were introduced that achieved higher Sustainability, but also a higher and less Affordable cost, the EITE business would be forced to weigh termination against migration to a jurisdiction where an acceptable balance of Sustainability and Affordability could be achieved. The cited Leakage paper demonstrates that any such migration away from the U.S. or the EU would yield the following three bundled consequences: the first jurisdiction would lose the economic activity linked to the departed business; the global economy would

⁴ International Energy Agency (IEA), The World Bank, <http://data.worldbank.org/indicator/NV.IND.MANF.CD> via Industrial Energy Consumers of America.

⁵ “Measuring Leakage Risk”, Meredith L. Fowlie (U.C. Berkeley), Mar Reguant (Northwestern University) and Stephen P. Ryan (University of Texas at Austin), May 2016. An investigation to inform policy implementation commissioned by the California Air Resources Board (CARB).

⁶ Defined as reduction in greenhouse gas (GHG) emissions within a state that is offset by an increase in GHG emissions outside the state.

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also lose some of this economic activity because the migration would not be perfectly efficient; and most important, the global production of greenhouse gas would increase – thus defeating the purpose of the policy.

Policies Should Reflect and Respond to the Conditions of Their Time

OEG continues to be proud of the significant role we played through 2007 and 2008 in developing and passing SB221. That legislation gave the Public Utilities Commission of Ohio (PUCO) some real tools to limit the runaway customer costs, and it put into law some of the mechanism that will be useful as we work to stabilize our retail electricity market in Ohio. SB221 was a collection of measures designed to respond to a true crisis.

This is not to say, however, that any law should be a ‘set it and forget it’ proposition. The conditions we faced in Ohio in 2007 were dire.

- Natural gas prices were forecasted to stay near or above \$10 per MMBtu and electricity prices for Ohio’s industrial customers were forecasted to stay well above \$90/MWH for on-peak power, both for several years.
- The economy was nearing the peak of a bubble.
- Generation owners were exploiting the rules⁷ they helped write for the federally regulated wholesale PJM “market”⁸ so thoroughly that their coal and nuclear plants, which were either fully depreciated or fully recovered via “stranded costs”⁹, functioned as virtual ATM machines.
- Renewable energy had not yet made a significant penetration into the market or forecasts.

The conditions of 2017 could not be more different.

- The development of hydraulic fracking, and the identification of significant natural gas reserves in multiple shale formations have set energy commodity prices on an entirely different trajectory at levels far below those forecasted in 2007.
- The Financial crisis destroyed a great deal of industrial demand and much of it has never quite returned (mix of lost business, energy efficiency, demand response and alternative energy).
- Ohio’s utilities and energy companies are facing significant financial stress.
- Renewable energy is a significant and growing part of the supply mix, including a growing number of significant commitments being made by many industrial companies that have little to do with any state or federal requirement to do so (i.e. *demand pull vs regulatory push*). While challenges remain (e.g. 24/7 power) effective work-arounds are becoming more available.

Given the breadth and depth of these differences, it seems reasonable to revisit rigid targets set in 2007.

I look forward to addressing your questions.

⁷ The last price to clear the market in any time interval set the price for all electricity sold during that time interval. This was called the Locational Marginal Price or LMP. Quite often the LMP was set by high cost natural gas units which allowed the much less expensive coal and nuclear units to collect very large infra-marginal revenues.

⁸ PJM is said to be a wholesale market, but close inspection reveals that it is based upon a series of administratively determined factors such as the Cost of New Entry (CONE) or the postulated shape of the demand curve used in the capacity auction.

⁹ “Stranded Costs” was the estimated value of the regulated assets (power plants) that would not be recovered as Ohio transitioned from cost of service regulation to restructured “market” pricing. These stranded costs were fully recovered by the utilities through non by-passable riders added to customer invoices for a period of years.