



AMERICAN PETROLEUM INSTITUTE  
**Ohio**

Ohio Senate Energy and Natural Resources Committee  
The Honorable Troy Balderson, Chairman

Written Testimony In Support Of  
House Bill 114

Respectfully Submitted By:  
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Chairman Balderson, Vice Chairman Jordan, Ranking Member O'Brien and distinguished members of the committee, thank you for the opportunity to submit written testimony in support of HB 114.

The API is the only national trade association representing all facets of the oil and natural gas industry, which supports 9.8 million U.S. jobs and 8 percent of the U.S. economy. The API's more than 625 corporate members include major oil companies to the smallest of independent organizations. They are producers, refiners, suppliers, marketers, pipeline operators, and marine transporters, as well as service and supply companies that support all segments of the industry. They provide most of the nation's energy and are backed by a growing grassroots movement of more than 40 million Americans. In Ohio, API member operations and investments have added billions of dollars in economic value throughout our state and the larger Appalachian region, and represent leaders in the development of the Utica/Point Pleasant shale play.

As you consider Ohio's renewable and energy efficiency mandates, I respectfully ask that you take note of the connection between natural gas production, low prices, economic benefits, and emissions reductions. Clean, affordable and reliable natural gas produced right here in Ohio will significantly reduce power generation emissions at a lower cost than mandates and competitive market structures will drive energy efficiency decisions.

The greatest improvements in power plant air emissions are now coming from increases in natural gas-fired generation. In 2014, researchers from the National Oceanic and Atmospheric Administration (NOAA) found that increased use of natural gas-fired power generation has led to a 40 percent reduction in NOx and a 44 percent reduction in SO2 since 1997.<sup>1</sup> Additionally, according to EIA data, more than 60 percent of the CO2 reductions in the electric power sector from 2005 to 2016 have been the result of fuel switching from higher emission generation to natural gas generation.<sup>2</sup> As older, less efficient plants retire and new natural gas plants come online, emissions are decreasing without costly mandates.

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<sup>1</sup> J. A. de Gouw, D. D. Parrish, G. J. Frost and M. Trainer, Reduced emissions of CO2, NOx, and SO2 from U.S. power plants owing to switch from coal to natural gas with combined cycle technology, *Earth's Future*, 2, 75-82.

<sup>2</sup> U.S. Energy Information Administration, U.S. Energy-Related Carbon Dioxide Emissions, 2015; *Monthly Energy Review*, March 2017.

Thanks to our nation's great abundance of natural gas, driven by shale development, gas-fired power plants are the most cost-effective way to reduce CO2 emissions. Gas-fired plants are less expensive to build and maintain than wind, solar and nuclear generation.

We are already seeing the environmental benefits of natural gas-fired power plants. Last year, natural gas surpassed coal in becoming the nation's leading power generation fuel source.

The U.S. Energy Information Administration (EIA), the statistical and analytical agency in the Department of Energy, projects in their reference case, which includes all existing state and federal regulations and law, as well as incremental technological improvements, that there is enough natural gas available in the United States to keep prices at or below \$5 per MMBtu through 2040. When using EIA's high oil and gas resource and technology case, natural gas prices are projected to remain below \$3.50 per MMBtu through 2040.<sup>3</sup> When looking at actual production versus recent EIA projections, natural gas production has not only been higher than EIA's reference case projections, but has also been closer to or higher than EIA's high oil and gas supply case projections.<sup>4</sup>

To put into perspective just how much recoverable natural gas we have, consider this; in 2016, the entire country consumed 27.5 trillion cubic feet of natural gas. The research firm IHS recently found that over 1,400 trillion cubic feet of natural gas is recoverable at a break-even price of \$4 per MMBtu or less, and of that 1,400 trillion cubic feet, 800 trillion cubic feet is available for \$3 per MMBtu or less.<sup>5</sup> That's over 50 years of natural gas based on today's consumption levels.

In Ohio, our annual natural gas production has increased by a factor of thirteen between 2013 and 2016.<sup>6</sup> EIA's most recent Utica production report estimates that Ohio will produce 4.2 Bcf per day of natural gas this month<sup>7</sup>, compared to only 0.6 Bcf per day in early 2014.<sup>8</sup>

Utilizing more natural gas will also help create jobs and grow our economy. Ohio is fortunate to have enormous natural gas shale deposits. As more natural gas is used to produce electricity, demand for the resource will increase, providing a sustainable boost to Ohio's economy.

Based on a 2012 study, by the respected research firm ICF, for every additional billion cubic feet per day of natural gas produced, approximately 13,000 upstream and midstream direct and indirect jobs are created.<sup>9</sup> When the economic benefits of the end-use of that same natural gas are included, another 2,000 to 8,000 direct and indirect jobs are created. And when induced job impacts are included, between 25,000 and 65,000 jobs are supported. The metrics from ICF's study is in line with the latest Ohio Department of Jobs and Family Services Quarterly Shale Report<sup>10</sup>, that shows employment in core

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<sup>3</sup> U.S. Energy Information Administration, "Annual Energy Outlook, 2017 – Natural Gas Supply, Disposition, and Prices," January 2017, <https://www.eia.gov/outlooks/aeo/data/browser/#/?id=13-AEO2017&region=0-0&cases=ref2017~highrt&start=2015&end=2050&f=A&linechart=~ref2017-d120816a.30-13-AEO2017~highrtd120816a.30-13-AEO2017&map=&sourcekey=0>

<sup>4</sup> U.S. Energy Information Administration, Annual Energy Outlooks, 2012-2016; Historical Natural Gas Dry Production, 2012-2016

<sup>5</sup> IHS, "Shale Gas Reloaded: The Evolving View of North American Natural Gas Resources and Costs," February 2016, <http://news.ihsmarkit.com/press-release/north-americas-unconventional-natural-gas-resource-base-continues-expand-volume-and-de>

<sup>6</sup> ODNR, Division of oil and Gas Shale Production: <http://oilandgas.ohiodnr.gov/production>

<sup>7</sup> EIA Drilling Productivity Report, June 12, 2017: <https://www.eia.gov/petroleum/drilling/#tabs-summary-2>

<sup>8</sup> ODNR, Division of Oil and Gas 2014 Shale Production Report: <http://oilandgas.ohiodnr.gov/production>

<sup>9</sup> [http://www.cleanskies.org/wp-content/uploads/2012/11/icfreport\\_11012012\\_web.pdf](http://www.cleanskies.org/wp-content/uploads/2012/11/icfreport_11012012_web.pdf)

<sup>10</sup> Ohio Department of Jobs and Family Services, "Ohio Shale: Quarterly Economic Trends for Ohio Oil and Gas Industries," April 2017, [http://ohiolmi.com/OhioShale/Ohio%20Shale%20Report\\_3Q\\_2016.pdf](http://ohiolmi.com/OhioShale/Ohio%20Shale%20Report_3Q_2016.pdf)

and ancillary shale-related industries account for over 195,000 Ohio jobs and nearly 14,000 shale-related business establishments spread across the state.

New natural gas-fired power plants are the best way for Ohioans to take advantage of resources right here in our own state. Over 10,000 megawatts of new, clean-burning natural gas-fired power plants are in various stages of development in Ohio. That's enough electricity to power over 10 million homes, with reduced emissions and lower costs for consumers. Two new gas-fired plants are scheduled to open later this year, and by early 2021, as many as eleven new plants could be operational. This would increase demand for natural gas by almost 2 Bcf per day or nearly 50 percent more than Ohio's current estimated production.

For those customers who still prefer to maximize renewable energy sources, our state already has optional green energy pricing programs in which they can participate through their electric supplier. Green pricing programs in Ohio offer customers the opportunity to support alternative energy sources by paying a premium in addition to their regular utility bill, a market based approach to supporting renewable energy without burdening all customers with the additional cost of mandates.

Another factor to consider is that energy savings measures resulting from the shale gas revolution were not factored into the decision-making process when Ohio's mandates were developed. The situation is much different now.

Ohio companies are implementing energy efficiency measures, not because they are mandated, but because they make good business sense. The competitive marketplace drives companies to keep energy costs down on an ongoing basis. Each company knows best how to reduce its costs and implement energy efficiency programs that work best for them. Mandating certain measures over others is picking winners and losers, utilizing dollars to meet quotas rather than installing technologies that truly work. Ohio companies need the freedom to constantly evaluate their energy choices. Mandates act as anti-competitive quotas that must be met without regard to the most effective measure that a company may select.

In summary, total electric power generation production costs are lowest when market forces drive the future resource mix, rather than relying on government mandates for energy efficiency or renewables. The simplest, most cost-effective way for Ohio leaders to reduce CO2 emissions and increase energy efficiency is to continue to allow energy markets to work. Mandating renewables and energy efficiency will result in higher costs, than if markets are allowed to drive power generation.