

An Economic Analysis of Ohio's Renewable Energy Portfolio Freeze: Justification for Repealing Ohio Senate Bill 310

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Executive Summary: Energy security and independence are major concerns to the state of Ohio and the nation as a whole. The manner in which energy is procured, produced, and distributed has important implications to economic stability, environmental and public health, and the retail price of energy. The state of Ohio must balance the need to bolster energy security and independence with the need to protect the health of the economy, the environment, and the general public. In 2007 the Ohio State Senate passed a bill that promoted investments in renewable energy; however, in 2014, Senate Bill 310 was adopted which placed a freeze on implementation of SB 221. Senate Bill 310 creates challenges to developing and diversifying the energy portfolio of Ohio, introduces unknown variability in the marketplace, and continues Ohio's reliance on non-renewable resources. Senate Bill 310 does a major disservice to Ohio energy consumers, creates uncertainty for manufacturers, and effects Ohio's ability to address air quality and climate change. This memorandum examines the problems associated with the current freeze on the renewable energy requirement in Ohio's energy portfolio and provides a resolution for Ohio legislators and other state legislation that might consider halting progression of current renewable energy standards and the market they create. We conclude by recommending that SB 310 be repealed and energy portfolio requirements established in SB 221 be re-instated.

I. Senate Bill 221

In the summer of 2007, Ohio's former Democratic Governor Ted Strickland asked the legislature to adopt a bill that would provide growth for advanced and renewable energies as well as implement reforms in regulations for utility companies. Advanced energies include: technologies that increase site efficiency, fuel cells, nuclear, clean coal technology, and waste conversion technologies. Renewable energies consist simply of energy derived from resources that are in essence clean and inexhaustible sources such as wind or solar. On October 10, 2007 Senate Bill 221 was passed by the Ohio Senate 32-0 and after further revision the House passed the bill 93-1 in April of 2008 (Bricker & Eckler 2008). In July of 2008, amidst near unanimous bipartisan agreement, SB 221 was enacted creating Ohio's Advanced Energy Portfolio Standard (AEPS). Ohio's AEPS required that 25% of

the electric sold by Ohio utilities be generated from alternative energy sources by 2025, with 12.5% of that being fulfilled by renewables such as solar, wind, or geothermal energy. Furthermore, Ohio specifically required that half of the 12.5% renewable standard be generated from in-state facilities with 0.5% generated from solar energy (Romich 2010). The percentage is a prorated incremental increase in the yearly benchmark requirement to ensure the target percentage is reached in 2025 (Table 1). Under SB 221 over time the AEPS would create a regulated market for renewable energy as well as create energy efficiency standards, greenhouse gas emission reporting, and prominent regulatory revisions for utility companies as necessary with the creation of a new renewable energy market.

The Public Utilities Commission of Ohio (PUCO) is an organization charged with determining

| Year | Renewable Resource | Solar Energy |
|------|--------------------|--------------|
| 2009 | 0.25% | 0.00% |
| 2010 | 0.50% | 0.01% |
| 2011 | 1.00% | 0.03% |
| 2012 | 1.50% | 0.06% |
| 2013 | 2% | 0.09% |
| 2014 | 2.50% | 0.12% |
| 2015 | 3.50% | 0.15% |
| 2016 | 4.50% | 0.18% |
| 2017 | 5.50% | 0.22% |
| 2018 | 6.50% | 0.26% |
| 2019 | 7.50% | 0.30% |
| 2020 | 8.50% | 0.34% |
| 2021 | 9.50% | 0.38% |
| 2022 | 10.50% | 0.42% |
| 2023 | 11.50% | 0.46% |
| 2024 | 12.50% | 0.50% |

Table 1: Renewable energy yearly benchmark requirements set by SB 221

administrative policies and regulating utility services to ensure residential and business consumers have access to reliable, safe, and fairly priced services (The Public Utilities Commission of Ohio 2015). The utilities department of PUCO works to establish utility rates through technical investigations, implementation of the regulatory policies, and monitoring the specific utility marketplace. PUCO has a board of five commissioners, each on a five year rotation with one seat becoming available every year. Commissioners must not be employed by utility companies or have any financial stake in the utility industry to apply for Governor appointment. The Energy and Environment department of PUCO provides technical analysis, environmental reviews, and studies of energy availability to produce electricity and gas demand forecasts (The Public Utilities Commission of Ohio 2015). PUCO, with guidance from the Energy and Environment department, made the recommendation to the Governor and the State Legislature to halt implementation of SB 221 to study the economic impacts of the bill on Ohio's economy.

PUCO made recommendations to freeze implementation of renewable energy requirements due to concerns such requirements would maintain higher energy costs in relation to other sources, in part because of an increase in new gas drilling, and the requirement that half of renewable come from

sources produced in Ohio. Because of new, cheaper forms of energy available, a renewable energy market established by the original SB 221 was no longer seen as economically prudent (Pelzer 2014). These claims have some validity; however, they only address Ohio's most present energy situation. The volatility of the oil and gas market is seen daily in fluctuating gas prices. SB 221 does not deal explicitly with what is the most economical energy today, but rather addresses how Ohio can develop an energy market that establishes long-term stability, reduces costs, and provides better options than the prevailing oil and coal methods which produce environmental and social externalities.

II. Senate Bill 310

In summer, 2014 Ohio's Republican Governor John R. Kasich signed Senate Bill 310 in private, in what was touted as a two-year pause of the SB 221 renewable energy portfolio standards to study the economic impact of the requirements on working families and businesses (Mufson and Hamburger 2014). Upon closer inspection of SB 310, it is evident this bill seeks to dismantle the progress achieved through SB 221 and directly benefits investor-owned electricity utility companies providing non-renewably sourced energy to consumers. SB 310 implements renewable energy, energy efficiency, and peak demand reduction mandates as well as some other energy related issues; however, this memorandum seeks to examine the inherent problems with the mandate inhibiting progression towards renewable energy and provide reasonable justification for it to be repealed.

SB 310 freezes benchmark requirements at the 2014 level of 2.5% from renewable energy and the 0.12% solar component for the years 2015 and 2016, and then resumes the 2015 SB 221 percentage levels in 2017 (McClelland 2013). SB 310 does more than just set Ohio behind by lack of progression; the bill also works retroactively to move Ohio backwards by introducing a number of ill-advised mandates. One mandate eliminates the advanced energy requirement that, along with the renewable energy requirement, would fulfill the 25% required by electric utility companies in 2025. SB 310 also eliminates the in-state requirement that half of the 12.5% renewable energy standard be produced by facilities in Ohio which may result in a loss of future investment in the renewable energy sector of the Ohio economy and jobs in Ohio.

SB 310 also creates a 13 member Energy Mandates Study Committee which is tasked with delivering a cost-benefit analysis of the energy mandates proposed by SB 310, recommendations for future mandate reviews, and other energy cost related analyses (McClelland 2013). It should be noted that 9 of the voting members of the current study committee voted to pass SB 310, and 5 of the members sit on the Senate's Public Utilities Committee while an additional 6 members sit on the House's Public Utilities Committee (Kowalski 2014). The members of this committee are tasked with an incredibly important task with far-reaching implications to the energy market in Ohio, as such it is paramount that neither personal bias nor political partisanship have any part in their analyses and recommendations.

Governor Kasich has reneged on his initial promise that "[t]he pursuit of clean alternative, renewable and advanced energy sources, and their supportive technologies, is the pursuit of the future, and our commitment to them shouldn't [waver] despite the fact that their costs aren't yet where we want them to be." (Cleveland 2014, p. 1). SB 310 was passed amid diverse and widespread disapproval. The economic benefits resulting from Ohio's SB 221 and its subsequent AEPS, from all reasonable standpoints, were either dramatically devalued or more likely were ignored completely when drafting this economically and environmentally toxic bill. SB 310 was privately signed into legislation by Governor Kasich on Friday the 13th of June 2014 without fanfare or official statement (Mufson and Hamburger 2014).

III. Justifications for Repealing SB 310

The following arguments provide substantial justification for why SB 310 is a seriously flawed approach to Ohio energy policy currently and for the future. The arguments include economic reasoning, environmental health, and consumer benefit. This memorandum introduces these arguments in hopes that reason will prevail and we begin our independence on oil & gas approaches to energy policy.

Economic Impact: The overuse of fossil fuels as our main source of energy creates a toxic environment and may increase economic instability. The use of fossil fuels for energy is advertised to the general public as being economically profitable and a major contributor to job production. However, the

2014 U.S. Energy Information Administration (EIA) report shows oil and natural gas companies receive enormous subsidies and borrow money with dubious repayment programs. The industry has lost more than \$100 million from 2011 to 2014 (U.S. Energy Information Administration 2014). These losses are masked by the selling off of company assets to raise capital. This allows the companies to delude investors and the public into believing that oil and gas are profitable. A prevalent argument made by proponents of the oil and gas industry is the creation of jobs. They attempt to support this argument by providing statistics published prior to the implementation of renewable energy. Since the implementation of the solar Investment Tax Credit (ITC) in 2006, over 150,000 renewable energy jobs have been created (Resch 2015). In comparison, coal accounts for 37% of electricity production but employs just 90,000 (Solar Energy Industries Association 2014). The job growth caused by just the solar industry is growing exponentially and in less than a decade employs more people than the already mature coal industry; however, the freeze in SB310 is inhibiting this growth.

The negative impacts of SB 310 on the Ohio economy are eye-opening. Since the signing of the bill, over fifty companies have publicly stated their intent to relocate outside of the state's borders. Many of these companies, such as Rudolph/Libbe inc and Honda, are not major stakeholders in the energy industry but do benefit from renewable energy production (Newpoff 2014). The loss of these major companies and potential future companies can result in a \$6 billion loss in potential capital investment within the state of Ohio (Nickie J. Antonio Press 2014)(Neubauer, Foster, Elliott, White, & Hornby, 2013)(Kushler, 2014). It would be asinine to ignore the job growth and potential economic investment that is being inhibited by SB 310.

Environmental Impact: The environmental and health impacts resulting from oil and gas extraction, refinement, and consumption are reputed by anthropogenic climate change presently at work in all parts of the world. The current demand for energy is causing oil and gas companies to deplete their current reserves and to pursue riskier reserves, such as the Marcellus Shale and Utica Shale (U.S. Energy Information Administration 2014). Additionally, burning fossil fuels causes emissions that are the root source of acid rain, which destroys the integrity of water bodies and forests and causes

harm to the human body (MacDonald 2015). The EPA has estimated these emissions are causing serious health issues that are negatively impacting quality of life, resulting in over \$50 billion of healthcare associated costs (Helman 2014). These issues are of serious concern in Ohio because of its relative energy production and consumption. In 2011 the EIA reported that Ohio's industrial sector was the fifth largest consumer of energy (U.S. Energy Information Administration 2014). Furthermore, 69% of net electricity production was from coal sources, 15% from natural gas, and a mere 12% from nuclear energy in 2014 (U.S. Energy Information Administration 2014). The lack of energy production from renewable sources is worrisome from many standpoints. The purpose of SB 221 was to reverse this dependence on nonrenewable sources; however, the passing of SB 310 is diametrically opposed to facilitating the necessary innovation.

The national government set standards in the Clean Air Act to engender the reduction of harmful emissions into our environment. These standards required that major sources employ technology that allows the source to achieve the maximum degree of reduction (U.S. Environmental Protection Agency 2015). A major implication of SB 221 is to reduce the amount of pollution emitting sources while maintaining energy production. Conversely, a major implication of SB 310 is to halt this reduction and allow Ohio energy companies to continue to emit a dreadful amount of air pollution. SB 310 is not environmentally conscientious.

Consumer Impact: Consumers have been direct and indirect beneficiaries since the passing of SB 221 and will continue to be if SB 310 is overturned. Since the bill's passing in 2008, the efficiency program has saved Ohioans \$1 billion dollars nationally (Mufson and Hamburger 2014). According to the utility companies these savings are projected to increase to \$4 billion in the next 10 years (Nickie J. Antonio Press 2014)(Munson, 2014). Instead of allowing these savings to increase, Governor Kasich has inhibited them by signing SB 310. The freeze directly affects consumers by a \$150 projected rate increase for residential consumers and \$31,000 for commercial consumers over a two year period (Nickie J. Antonio Press 2014)(Knox, 2014). In addition to these direct impacts, there are

many negative consequences that can indirectly affect consumers. These indirect effects include health conditions caused by decreased air quality, loss of potential jobs in the renewable energy industry, and loss of current jobs if companies, like Honda, decide to relocate outside of Ohio's borders. Unfortunately there is little published documentation on these indirect impacts. PUCO and the Energy Mandates Study Committee should research the significance and relevance of these indirect effects to the residents of Ohio. While the evidence on the effects of SB 310 on the quality of life of Ohio residents is unclear, there is strong evidence on how the bill will negatively impact residents' future utility prices and future job growth.

IV. Recommendation

The purpose of this memorandum is to stress the negative implications of SB 310 and to provide an impactful resolution. The first recommendation is that the Energy Mandates Study Committee (previously discussed in SB 310 section), its actions, recommendations, and close ties to major electric utility companies be constantly monitored for collusion and corruption. The proposed resolution of this memorandum is to dissolve SB 310 and reinstate SB 221 in its original form. The original form of the bill promotes a balanced renewable energy portfolio while stimulating job growth in Ohio and neighboring states. In addition, SB 221 is environmentally conscientious by fostering renewable and clean energy production. Coupled with the rate savings benefiting private and commercial consumers it is indefensibly archaic to ignore the benefits of SB 221 that are being directly inhibited by SB 310.

According to a Gallup poll done in 2014, 67% of Americans support spending government money in developing solar and wind power and 48% believe the government is doing too little to protect the environment (Gallup 2014). The general public strongly supports investing in programs, like SB 221's mandated AEPS, that protect the integrity of the environment. With the strong support of the general public and the bipartisan support of SB 221, it is increasingly necessary to repeal SB 310.

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Conor Long

Conor is entering his senior year in the Environment, Economy, Development, and Sustainability (EEDS) undergraduate program at The Ohio State University. The EEDS program is part of the School of Environment and Natural Resources in the College of Food, Agricultural, and Environmental Science. His specialization is in sustainable business practices. He attends school on full tuition, academic scholarship known as the Chick Evans Caddie Scholarship. Conor has recently been appointed to serve as a deputy director on the Sustainability Committee in Ohio State's undergraduate student government. Professionally, Conor has plans of entering the renewable energy industry and has a specific desire to work in photovoltaic segment.

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Ajay is a PhD Candidate in the School of Environment and Natural Resources at The Ohio State University affiliated with the Environmental and Social Sustainability Lab and with the Human Dimensions of the Environment, a University-wide interdisciplinary collaboration. He studies the role of science and public opinion in explaining support for environmental policy and behaviors. Ajay's dissertation work pertains to the development and support for climate mitigation and adaptation policies in the United States.