



MEMORANDUM

Date: August 20, 2019
To: The Ohio Manufacturers' Association
From: John Seryak, PE and Jordan Nader (RunnerStone, LLC)
RE: Amended Substitute House Bill 6 and the Nuclear and Renewable Generation Funds – Impact to Manufacturers

Amended Substitute House Bill No. 6 (H.B. 6) was recently signed into Ohio law. H.B. 6 significantly reworks Ohio's electricity policy in a way that substantially affects manufacturers. OMA energy counsel Kim Bojko has separately provided a legal analysis on what H.B. 6 does, and how it works.

In summary, H.B. 6 creates a \$150 million annual fund for nuclear power plants, a \$20 million annual fund for select solar power plants, extends a "power purchase agreement" for legacy, uneconomical coal plants in Indiana and Ohio that currently cost Ohioans tens of millions of dollars, defunds Ohio's competitive renewable portfolio standard, effectively eliminates Ohio's energy efficiency standards on investor-owned utilities, creates a mechanism for utility-backed renewable energy projects, and jeopardizes Ohio's participation in competitive wholesale electricity markets.

These changes in Ohio's electricity policy negatively impact three issues of interest to Ohio's manufacturers: cost, competition, and carbon-dioxide emissions.

Cost

H.B. 6 creates a net increase in customer costs, including the potential to increase manufacturers' electricity bills. First, and most obviously, H.B. 6 creates new customer charges

Impact of H.B. 6

- \$150 million/year in new subsidies for nuclear power, from 2021 through 2026
- Extends subsidies for legacy, uneconomic coal plants in Indiana and Ohio, which cost Ohio tens of millions of dollars each year through 2030
- \$20 million/year for select solar power projects, from 2021 through 2026
- Likely removes significant portions of Ohio generation and consumer load from competitive wholesale capacity auctions
- Likely to increase capacity prices
- Effectively eliminates renewable energy standards
- Utility efficiency programs
 - Continue through 2020
 - Mandate effectively eliminated starting in 2021
 - Subject to mercantile customer opt-out in 2020
- Creates reasonable arrangement mechanisms for trade-exposed industrial manufacturers



for the Nuclear Generation Fund and Renewable Generation Fund - \$10.20 per year for residential customers, \$28,800 /year for large consumers who use over 45 million kWh per year, and a charge to be determined later by the Public Utilities Commission of Ohio for other commercial and industrial businesses¹. Ohio's four investor-owned utilities will be required to collect the combined \$170 million per year for the Nuclear Generation Fund and Renewable Generation Fund. Because residential customers and large consumers have prescribed, capped charges, all remaining revenue must be collected from small and mid-sized commercial and industrial businesses.

Second, H.B. 6 extends a subsidy for the Ohio Valley Electric Corporation (OVEC) through 2030. OVEC owns two legacy, uneconomical power plants, Clifty Creek in Indiana and Kyger Creek in Ohio. The OVEC subsidy currently collects tens of millions of dollars each year from customers of AEP Ohio, Duke, and DP&L. FirstEnergy customers would receive new charges to subsidize OVEC.

Third, H.B. 6 reduces Ohio's Renewable Portfolio Standard from 12.5% by 2026, to 8.5%. It also eliminates a 0.5% by 2026 carve-out for solar energy projects, and creates a large-user opt-out of the compliance. The Renewable Portfolio Standard requires retail electric suppliers and electric distribution utilities to procure this percentage of their supply from renewable energy, and is currently at a 5.5% requirement in 2019. For context, we estimate that the renewable standards cost about \$40 million in 2017², and around \$60 million in 2019³.

Fourth, H.B. 6 directs the PUCO to authorize new power purchase agreements (PPA) for utility renewable energy and customer-sited renewable energy for 3-year terms or longer. The private market currently provides 3-year or greater terms for PPAs to customers who are seeking such projects.

Longer term, H.B. 6 will have an impact on wholesale electricity markets, and the impact could be severe and costly to manufacturers. The exact cost is still elusive. This is because of a domino-effect of state-level nuclear power plant subsidies has left the regional grid operator, PJM, without a FERC-approved capacity auction construct. Based on recommendations from FERC, electricity generators receiving funds from the Nuclear Generation Fund, or via a PPA, would be subject to a "bifurcated" capacity auction, in which the state of Ohio would likely set capacity prices for these power plants instead of PJM, and this potentially higher price would be flowed through to Ohioans.

On energy efficiency, the requirement for a utility to run an efficiency program is effectively eliminated, allowing utility run efficiency programs through 2020. Additionally, a "mercantile opt-out" of the efficiency programs would be enacted in 2020, wherein any customer that consumes over 700,000 kWh/year will be allowed to opt-out of paying into the efficiency programs, but will then not be allowed to receive financial assistance from the programs. While there is no allowance in

¹ Previous versions of H.B. 6 prescribed charges of \$180 per year per meter for commercial customers, and \$3,000 per year per meter for industrial customers. The per-account rate structure created issues for manufacturers that have multiple electric meters. It is not clear if the PUCO will adopt a rate structure similar to previous versions of H.B. 6, or something completely different.

² Renewable Portfolio Standard Report to the General Assembly by the Public Utilities Commission of Ohio for the 2017 Compliance Year.

³ Pro-rated from 2017's RPS benchmark to the 2019 RPS benchmark. Costs would increase to \$142 million by 2026 at 2017 prices, though could be held in check if renewable energy credit prices fall.



H.B. 6 for utilities to continue offering energy-efficiency program, it does not expressly prohibit offering efficiency programs either. For context, during a previous legislative “freeze” of efficiency program requirements in 2015-16, AEP Ohio, Duke, and DP&L continued their programs, while FirstEnergy suspended theirs. In testimony on the original H.B. 6, AEP Ohio, Duke, and DP&L have all expressed interest in operating energy-efficiency programs. Manufacturers should note that there is sharp disagreement over whether efficiency programs represent a cost, or a net benefit, to customers.

Competition

H.B. 6 significantly erodes competition in electricity markets by subsidizing old nuclear and fossil fuel power plants, and favoring specific renewable energy projects over others. H.B. 6 creates subsidies for older generating technologies that have already received cost-recovery from Ohio’s ratepayers several times, are unable to compete in the wholesale electricity markets, and are announced for retirement.

Put another way, H.B. 6 creates subsidies to reverse the competitive electricity market formation that Ohio has supported for 20 years. This is serious - competitive electricity markets save Ohio’s manufacturers, businesses, and residents around \$3 billion per year⁴.

Carbon

H.B. 6 no longer explicitly discusses reduction in carbon or other emissions as objectives. However, purported environmental benefits have been used to justify H.B. 6. When considering carbon emissions, it is important to note several trends:

- Many global manufacturers and their supply chains are adopting greenhouse gas reduction goals, energy reduction goals, or renewable energy supply goals. Thus, the carbon intensity of the regional electric grid is important to a growing number of manufacturers. The carbon intensity of the electric grid counts towards a manufacturer’s internal accounting of Scope 2 emissions and thus impacts a manufacturer’s ability to meet their own corporate emissions reductions goals.
- The US has canceled implementation of the Clean Power Plan, and announced withdrawal from the global Paris Treaty. As a result, there is thus no current federal carbon emissions policy for electricity generation.
- States that have created their own carbon reduction policy for the electricity sector often join regional carbon markets to reduce costs, such as the Regional Greenhouse Gas Initiative comprised of mid-Atlantic and New England states.
- Competitive wholesale electricity markets produce efficiencies of several types, lowering not just cost but carbon emission as well, as producers reduce waste in order to stay competitive.

⁴ “Electricity Customer Choice in Ohio: How Competition Has Outperformed Traditional Monopoly Regulation”, Thomas, A., Bowen, W., Hill, E., Kanter, A., Lim, T. https://engagedscholarship.csuohio.edu/cgi/viewcontent.cgi?article=2420&context=urban_facpub

Thus, maintaining competitive markets is an important aspect of reducing wastes and improving efficiencies, as supported by multiple academic studies⁵.

- Ohio's existing diverse electricity generation mix is keeping costs low, as well as reducing emissions by 38% from 2005 levels⁶. This lower carbon transformation has occurred in a competitive wholesale electricity market.

In light of these trends, a state policy intended to cost-effectively reduce carbon dioxide emissions from the electric sector would likely have the following components:

- Preserve competitive electricity markets.
- Develop a carbon market, typically with regional partners and a fluctuating price.
- Allow broad competition for carbon credits that is technology neutral, and would include nuclear, large scale renewable energy, smaller scale renewable energy, behind-the-meter generation, and energy efficiency.

H.B. 6 does none of this, and in fact, subsidizes uneconomical coal plants. It could impair Ohio's already successful trend of reducing carbon-dioxide emissions in several ways. First, it erodes competitive electricity markets by introducing subsidies for specific technologies and plants. Even zero-carbon nuclear plants are shown to reduce more emissions when they are in competitive markets⁷. Second, H.B. 6 creates subsidies for the OVEC coal plants. Third, H.B. 6 eliminates support for renewable energy technologies and their significant associated emissions reductions.

In conclusion, H.B. 6 is a major reworking of Ohio's energy policy, and could result in significantly higher electricity prices for Ohio's manufacturers, would erode functioning electricity markets, and could even increase Ohio's carbon-dioxide and other emissions from the electricity sector.

⁵ Cicala, Steve. 2015. "When Does Regulation Distort Costs? Lessons from Fuel Procurement in US Electricity Generation." *American Economic Review*, 105 (1): 411-44

Fabrizio, Kira, R., Nancy L. Rose, and Catherine D. Wolfram. 2007. "Do Markets Reduce Costs? Assessing the Impact of Regulatory Restructuring on US Electric Generation Efficiency." *American Economic Review*, 97 (4): 1250-1277.

Craig, J. Dean, and Savage, S., 2013, "Market Restructuring, Competition and the Efficiency of Electricity Generation: Plant-level Evidence from the United States 1996 to 2006", *The Energy Journal*, 34 (1): 1-31

⁶ Ohio EPA letter to the US Environmental Protection Agency, Oct. 30th, 2018, Docket ID No. EPA-HQ-OAR-2017-0355

⁷ Davis, L., Wolfram, C., 2012. "Deregulation, Consolidation, and Efficiency: Evidence from US Nuclear Power," *American Economic Journal: Applied Economics*, American Economic Association, vol. 4(4), pages 194-225, October.