



# ECONOMIC RESEARCH CENTER at THE BUCKEYE INSTITUTE

## The Buckeye Institute Policy Brief

### Renewables Mandate: A Drag on Ohio's Economy

By Tyler Shankel  
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The Buckeye Institute discourages policies that transfer wealth from Ohio households to special interests, whether as subsidies paid with tax dollars, or regulations that create higher prices for necessities, such as electricity. As The Buckeye Institute's Greg Lawson recently told a subcommittee of the Ohio General Assembly, "Any subsidy given to one entity puts other competitors at a disadvantage. And using the power of government to disadvantage market competitors makes for bad public policy."<sup>1</sup> Ohio's alternative energy mandate, more commonly called renewable portfolio standards (RPS), are regulations that raise consumer electricity prices by favoring renewable energy sources and disadvantaging fossil fuel energy providers. House Bill 6, now being considered in the Ohio General Assembly, would effectively repeal the RPS mandate by making compliance optional and replace it with a new program to subsidize carbon-free energy and emissions reductions.<sup>2</sup> Without considering the costs of the nuclear plant bailout, such an effective repeal of the RPS mandate would ease the financial and regulatory burdens currently faced by Ohio households and businesses.

The RPS mandate reduces carbon emissions by requiring a gradual increase in renewable-sourced electricity generated in Ohio. Similar mandates have proliferated across the country, with 29 states and the District of Columbia passing their own versions of renewable energy requirements. They range from California's ambitious goal of 60 percent renewable-sourced energy by 2045 to Texas' token, already-achieved goal of 10,000 megawatts. The potential electricity generation from wind and solar power—the dominant forms of renewable energy being developed in the United States—vary greatly across locations, with vast differences in potential generation between states. Ohio's position outside the wind-rich Great Plains and the southern Sunbelt means that both sources suffer from limited potential.<sup>3</sup>

Renewable energy generation costs have dropped precipitously in recent years, but transitioning to them still passes higher costs on to consumers.<sup>4</sup> New unsubsidized wind and solar power

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<sup>1</sup> Greg R. Lawson, research fellow, The Buckeye Institute, Interested Party Testimony on House Bill 6 Before the Ohio House Energy and Natural Resources Subcommittee on Energy Generation, "**Subsidies Make for Bad Public Policy**," April 24, 2019.

<sup>2</sup> **House Bill 6**, The Ohio Legislature (Last visited April 25, 2019).

<sup>3</sup> Austin Brown, Philipp Beiter, Donna Heimiller, Carolyn Davidson, Paul Denholm, Jennifer Melius, Anthony Lopez, Dylan Hettinger, David Mulcahy, and Gian Porro, *Estimating Renewable Energy Economic Potential in the United States: Methodology and Initial Results*, National Renewable Energy Laboratory, August 2016.

<sup>4</sup> **Tumbling Costs for Wind, Solar, Batteries Are Squeezing Fossil Fuels**, BloombergNEF, March 28, 2018.

projects have become cost-competitive with new fossil fuel plants in many cases.<sup>5</sup> However, comparing new renewable projects to new fossil fuel plants, however, does not accurately reflect the reality of today's energy sector. Assessing the cost of replacing *existing* fossil fuel generation against the costs of new renewable projects provides a more apt comparison. Bringing new renewable projects online entails higher costs than simply operating existing fossil fuel generators because existing plants have already paid the up-front construction costs—a major expense for any energy project.<sup>6</sup> RPS mandates that prematurely retire fossil fuel plants in order to construct new renewable projects creates significant new costs for ratepayers.

Ohio enacted its RPS mandate in 2008, setting a goal of 12.5 percent generation from renewable sources, with at least 0.5 percent of that generation specifically coming from solar power by 2026. Generating utilities may satisfy the mandate in two ways: 1) by building new generation capacity using carbon-free sources; or 2) by purchasing renewable energy certificates that are created by producing electricity from renewable sources. Renewable energy certificates stimulate demand for renewable energy generation, and allow utilities that cannot otherwise efficiently or cost-effectively comply with the mandate to come into compliance.<sup>7</sup>

Under either method of complying with Ohio's RPS mandate, the mandate's costs are ultimately borne by Ohio consumers. The law allows utilities to pass the costs of developing new generation sources on to ratepayers.<sup>8</sup> Thus, Ohio households and businesses pay the costs of the policy to the energy sector through riders added to electricity bills.<sup>9</sup> The costs for renewable energy certificates are also passed along, with the primary beneficiaries being energy producers inside and outside the state who sell the credits to Ohio utilities.

In practice, the RPS requirements transfer wealth from electricity consumers to electricity producers through the electricity bill rather than the tax code. The mandates make the cost of living and doing business in Ohio more expensive. Residential electricity demand does not vary greatly with price,<sup>10</sup> meaning that rate increases do not reduce household electricity use, but they do reduce remaining disposable household income. For businesses, electricity is either a fixed cost (*i.e.*, keeping the lights on) or a vital input to production (*i.e.*, powering machines). In both cases, higher electricity rates affect economic activity—families purchase fewer goods and live on tighter budgets, and businesses must find ways to cut other costs or see their profits decline.

In 2017, The Buckeye Institute used a dynamic economic model to estimate the potential consequences of Ohio's RPS mandate on the state's economy and to measure the effects that electricity price changes have on Ohio's employment. By examining the higher electricity prices

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<sup>5</sup> **Lazard's Levelized Cost of Energy Analysis – Version 12.0**, Lazard, November 2018.

<sup>6</sup> **Cost and Performance Characteristics of New Generating Technologies, Annual Energy Outlook 2019**, U.S. Energy Information Administration, January 2019.

<sup>7</sup> **Ohio Revised Code 4928.01 (2019)**.

<sup>8</sup> **Ohio Revised Code 4928.64 (2019)**.

<sup>9</sup> **Renewable Portfolio Standard / Rate Impacts 2nd Quarter 2019**, Public Utilities Commission of Ohio (Last visited April 24, 2019).

<sup>10</sup> James M. Gillan, *Dynamic Pricing, Attention, and Automation: Evidence from a Field Experiment in Electricity Consumption*, University of California at Berkeley Agricultural and Resource Economics Department, March 5, 2018; M.A. Bernstein, and J. Griffin, *Regional Differences in the Price-Elasticity of Demand for Energy*, National Renewable Energy Laboratory, February 2006.

paid by Ohio businesses, the study revealed that Ohioans pay a heavy price for the RPS program. Assuming Ohio utilities buy renewable energy certificates to comply with the mandate, and that the certificates kept their 2014 value of \$15,<sup>11</sup> the additional costs borne by commercial and industrial electricity consumers could result in 34,200 fewer jobs and a state gross domestic product that would be 0.7 percent lower in 2026 than it would be without the mandate.<sup>12</sup>

The Buckeye Institute's dynamic model analysis is consistent with other studies that have analyzed the effects that RPS mandates have on electricity prices and labor markets. Other research has shown, for example, that because Ohio has limited potential solar and wind capacity compared to other states (*e.g.*, Arizona, Iowa), the costs per megawatt generated here are higher and electricity prices are more adversely affected by the mandates.<sup>13</sup> Looking at labor markets specifically, Deschenes (2010) found that a one percent change in the price of electricity leads to a 0.13 percent to 0.12 percent reduction in full-time employment.<sup>14</sup>

Ohio families and businesses rely heavily on electricity. Anything that increases electricity prices will affect households and business. Higher electricity prices leave wage-earners and families with less money to spend on other essential goods services. And those same higher prices increase the cost of doing business in Ohio, causing businesses to raise prices, reduce wages, or slow hiring. The RPS mandate raises electricity prices across the state and dampens Ohio's economic growth. Effectively repealing those mandates by making them optional will make Ohio more affordable for residents and businesses.

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<sup>11</sup> Eric O'Shaughnessy, Jenny Heeter, Chang Liu, and Erin Nobler, *Status and Trends in the U.S. Voluntary Green Power Market (2014 Data)*, National Renewable Energy Laboratory, October 2015.

<sup>12</sup> Orphe Divounguy, Rea S. Hederman, Jr., Joe Nichols, and Lukas Spitzwieser, *Economic Research Center Analysis: The Impact of Renewables Portfolio Standards on the Ohio Economy*, The Buckeye Institute, March 3, 2017.

<sup>13</sup> Constant Tra, "**Have Renewable Portfolio Standards Raised Electricity Rates? Evidence from US Electric Utilities**," *Contemporary Economic Policy* Volume 34, Issue 1 (January 2016) p. 184-189.

<sup>14</sup> Oliver Deschenes, *Climate Policy and Labor Markets*, working paper, National Bureau of Economic Research, No. 1611, June 2010.

## About the Author



Tyler Shankel is an economic policy analyst with The Buckeye Institute's Economic Research Center. In this role, he analyzes the economic impacts of government policies on government budgets and taxpayers.

Prior to joining Buckeye's Economic Research Center, Shankel was a research contractor at the Institute for Humane Studies at George Mason University. In that role, he reviewed the works of scholars from around the world and provided recommendations on how to best work with them to forward the organization's mission.

Shankel attended the University of Colorado Boulder's economics doctorate program before returning to Columbus. While at the University of Colorado, he worked on a project that examined the causal factors relating to internal migration patterns within Canada, to be compared with their effects on new immigrants settling throughout Canada.

Shankel earned his bachelor's degree in economics and a minor in Persian from The Ohio State University. There, he worked on a comprehensive policy analysis project examining land tenure reform on Indian reservations, and other policy issues relating to economic development in Native American communities.



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