



Renewable Energy: The Ohio Experience

Presented to:

Toledo Metropolitan Area
Council of Governments

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Advanced Distributed Generation
American Wind Energy Association
Bay, Inc.
Central Ohio Chapter, NECA, Inc.
The Cleveland Foundation
Doty & Miller Architects & Planners, Inc.
EBO Group Companies
Edison Welding Institute
EMTEC
Energent Solutions LLC
GrafTech International, Ltd.
Horizon Wind
Hull & Associates, Inc.
IBEW Local Union 583
Invenergy Wind, LLC
McMaster Energy Enterprises
Melink Corporation
Owens Corning
Parker Hannifin Corporation
Pilkington
Rudolph Libbe
Solar Fields, LLC
SunEdison, LLC
University Of Toledo
Xunlight Corporation

Manufacturers and suppliers of advanced energy technology products and services in the areas of solar, wind, fuel cells, bioenergy, efficiency, and others have come together to promote a coherent economic growth strategy for Ohio. Noting our state has lost 200,000 manufacturing jobs in the last decade, these companies have established a business association - Ohio Advanced Energy (OAE) - to seek a new course for our State.

The members of OAE recognize that the world's energy troubles represent a rare business opportunity for Ohio. This business opportunity can stimulate the growth of many profitable businesses, which in turn will accelerate job creation and increase the tax base. OAE also recognizes that advanced energy can yield significant environmental benefits - but our motivations are purely commercial. We want advanced energy in Ohio for our success, which will help revitalize our economy.

As one of the great manufacturing and distribution hubs in North America, Ohio is strategically well-positioned to capitalize on the emerging advanced energy industry. And as established Ohio companies and start-ups alike enter the advanced energy industry, they are finding that the supply chain they need is already here.

However, other states are already moving to capture the advanced energy opportunity, and Ohio is behind. The State of Ohio must act to craft an energy policy and create an energy market environment that will allow advanced energy companies to thrive here. If we miss this window, other markets will mature and companies will have invested capital elsewhere, in facilities that will not be easily relocated. Jobs that we could create in Ohio will be created somewhere else.

The mission of Ohio Advanced Energy is to seek policies in Ohio that facilitate the growth of advanced energy markets and businesses in our State. Currently, OAE is advocating two policies which are critical to allow Ohio to capitalize on its advanced energy strengths.

1. **Advanced Energy Portfolio Standard ("AEPS"):** Through an AEPS, Ohio can create a market for advanced energy products by mandating a timeline for utilities to obtain an increasing proportion of electricity from advanced energy sources. 23 states, including our neighbor Pennsylvania, already have such a standard in place, and are already attracting investment by advanced energy companies. Ohio needs an AEPS to keep pace.
2. **Interconnection and Stand-By Reform:** Electricity customers should be encouraged to adopt innovative advanced energy solutions that can save them money and reduce emissions - generating power on-site and selling back excess electricity to the grid. However, archaic interconnection regulations and excessive "stand-by" charges in Ohio discourage investments in advanced energy solutions. These regulations need to be reformed.

If your company would like to learn more about this statewide effort, please contact Terrence O'Donnell at todonnell@bricker.com or 614.227.2345.



Ohio Senate Bill 221

Alternative Energy Portfolio Standard

Alternative Energy Technologies	2025 R.P.S. Benchmarks	In-State Requirements	Renewable Energy Credits	Enforcement/ Compliance Payments																																																			
<p>Renewable ORC 4928.01(A)(35)</p> <ul style="list-style-type: none"> Solar – Photovoltaic Solar – Thermal Wind Hydropower Certain Solid Waste Biomass Bio-Methane Gas Fuel Cells Wind Turbines – Lake Erie Off Peak Storage Facilities Utilizing Renewables Distributed Generation Facilities Utilizing Renewables 	<p>Renewable and Solar Benchmarks: 12.5% + ORC 4928.64(B)(2)</p> <table border="1"> <thead> <tr> <th>Y</th> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr><td>2009:</td><td>.25%</td><td>.004%</td></tr> <tr><td>2010:</td><td>.50%</td><td>.010%</td></tr> <tr><td>2011:</td><td>1.0%</td><td>.030%</td></tr> <tr><td>2012:</td><td>1.5%</td><td>.060%</td></tr> <tr><td>2013:</td><td>2.0%</td><td>.090%</td></tr> <tr><td>2014:</td><td>2.5%</td><td>.120%</td></tr> <tr><td>2015:</td><td>3.5%</td><td>.150%</td></tr> <tr><td>2016:</td><td>4.5%</td><td>.180%</td></tr> <tr><td>2017:</td><td>5.5%</td><td>.220%</td></tr> <tr><td>2018:</td><td>6.5%</td><td>.260%</td></tr> <tr><td>2019:</td><td>7.5%</td><td>.300%</td></tr> <tr><td>2020:</td><td>8.5%</td><td>.340%</td></tr> <tr><td>2021:</td><td>9.5%</td><td>.380%</td></tr> <tr><td>2022:</td><td>10.5%</td><td>.420%</td></tr> <tr><td>2023:</td><td>11.5%</td><td>.460%</td></tr> <tr><td>2024:</td><td>12.5%</td><td>.500%</td></tr> </tbody> </table>	Y	R	S	2009:	.25%	.004%	2010:	.50%	.010%	2011:	1.0%	.030%	2012:	1.5%	.060%	2013:	2.0%	.090%	2014:	2.5%	.120%	2015:	3.5%	.150%	2016:	4.5%	.180%	2017:	5.5%	.220%	2018:	6.5%	.260%	2019:	7.5%	.300%	2020:	8.5%	.340%	2021:	9.5%	.380%	2022:	10.5%	.420%	2023:	11.5%	.460%	2024:	12.5%	.500%	<p>At least ½ of renewable energy resources to be implemented by the utilities shall be met through facilities located in Ohio.</p> <p>The remainder shall be met with resources that can be shown to have been delivered into this state. ORC 4928.64(B)(3)</p>	<p>Utilities may use R.E.C.s in any of the 5 calendar years following acquisition to comply with both the renewable and solar energy resource requirements.</p> <p>1 R.E.C. shall equal 1 Mw Hour of electricity from renewable resources. ORC 4928.65</p>	<p>1) Annual PUCO Review ORC 4928.64(C)(1)</p> <p>2) If Not in Compliance: ORC 4928.64(C)(2)</p> <p>A) Solar Benchmark \$ per Mw hour :</p> <p>2009: \$450 2010: \$400 2012: \$350 2014: \$300 2016: \$250 2018: \$200 2020: \$150 2022: \$100 2024: \$50</p> <p>B) Renewable Benchmark 2009: \$45 Adjusted annually per CPI</p>
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<p>Advanced ORC 4928.01(A)(34)</p> <ul style="list-style-type: none"> Clean Coal Advanced Nuclear Energy Efficiency Fuel Cells Co-gen Certain Solid Waste <p>Mercantile Sited ORC 4928.01 (A)(1)</p> <ul style="list-style-type: none"> Real/Reactive Power Waste Heat Efficiency Demand/Load storage Advanced/Renewable 	<p>Advanced Energy Requirement: 12.5% ORC 4928.64(B)(1)</p>	<p>Key A.E.P.S. Cost Containment Mechanisms</p> <table border="1"> <thead> <tr> <th style="background-color: #4f7942; color: white;">3% Cost Cap</th> <th style="background-color: #4f7942; color: white;">Force Majeure Provision</th> </tr> </thead> <tbody> <tr> <td style="background-color: #f1f3e4;">Utilities not required to comply with benchmark to the extent compliance will result in 3+% increase in electricity production or acquisition costs. ORC 4928.64(C)(3)</td> <td style="background-color: #f1f3e4;">Utility may request PUCO to determine whether renewable resources are sufficiently available to enforce R.P.S. benchmark requirement. If utility shows good faith effort to comply with renewable benchmarks but cannot, PUCO may reduce obligation. Modification does not automatically reduce future benchmarks. ORC 4928.64(C)(4)</td> </tr> </tbody> </table> <p>For more information contact:</p> <table border="0"> <tr> <td>Terrence O'Donnell</td> <td>614.227.2345</td> <td>tdonnell@bricker.com</td> </tr> <tr> <td>Kurt Tunnell</td> <td>614.227.8837</td> <td>ktunnell@bricker.com</td> </tr> <tr> <td>Brett Bretschwerdt</td> <td>614.227.2301</td> <td>bbretschwerdt@bricker.com</td> </tr> </table>			3% Cost Cap	Force Majeure Provision	Utilities not required to comply with benchmark to the extent compliance will result in 3+% increase in electricity production or acquisition costs. ORC 4928.64(C)(3)	Utility may request PUCO to determine whether renewable resources are sufficiently available to enforce R.P.S. benchmark requirement. If utility shows good faith effort to comply with renewable benchmarks but cannot, PUCO may reduce obligation. Modification does not automatically reduce future benchmarks. ORC 4928.64(C)(4)	Terrence O'Donnell	614.227.2345	tdonnell@bricker.com	Kurt Tunnell	614.227.8837	ktunnell@bricker.com	Brett Bretschwerdt	614.227.2301	bbretschwerdt@bricker.com																																						
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Proposed S.B. 221 Administrative Rules

- Biomass: Federal Lands
- Clean coal: “Design Capability”
- Double Counting: Efficiency and Advanced Energy & Marketing Claims
- Blanket Waiver Authority: Unbridled PUCO Discretion?
- New Technologies: Renewable v. Advanced
- Force Majeure: “Reasonably Available in Sufficient Quantities”



Proposed S.B. 221 Administrative Rules

- 3% Cost Cap: Formula- PUCO “may” compare overall generation rate with RPS and without RPS.
- 3% Cost Cap: Environmental Surcharges
- Competitive Bidding: Required?
- RECs: Customer-sited projects
- Timeline for Final Rules: Any Day Now!