

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OHIO**

Proposed Rule Review)	Case No's:
Ohio Energy Efficiency Programs;)	13-651-EL-ORD
Alternative Energy Resource Standard;)	13-652-EL-ORD
Implementation of Am. Sub. S.B. 315)	12-2156-EL-ORD

**INITIAL COMMENTS OF THE MIDWEST COGENERATION ASSOCIATION;
PROPOSED OHIO PUBLIC UTILITY COMMISSION REGULATIONS
FOR CHP/WER ENERGY EFFICIENCY PROGRAM**

Please accept for e-Filing with the Public Utility Commission of Ohio (Commission) the following Initial Comments of the Midwest Cogeneration Association (MCA) responding to the Commission's Proposed Regulations implementing S.B. 315 and establishing regulations for utility energy efficiency programs for combined heat and power (CHP) and waste energy recovery (WER).

The MCA is a not-for-profit professional association dedicated to promoting clean and energy efficient CHP and WER technologies in eight Midwest states, including Ohio. MCA members include representatives of CHP and WER technology manufacturers, distributors, and project developers, energy efficiency analysts, and energy and environmental consultants and attorneys. Our members have expertise in CHP and WER technologies and project financing and development. They have "boots on the ground" in the Midwest and know the reasons CHP and WER projects get built or don't get built.

MCA members have been closely following SB 315 and other energy policy developments in Ohio and appreciate the opportunity to present comments in this proceeding. The following comments represent our broad, initial response to the questions posed by the Commission in this docket. We look forward to continuing participation in the process and will provide more detailed comments at that time.

GENERAL COMMENTS

The MCA applauds Governor Kasich and the State of Ohio for establishing the aggressive energy savings goal of 22% by 2025 and for expanding and diversifying Ohio's energy savings portfolio in SB 315 by expressly authorizing "Waste Energy Recovery Systems" (WER) and "Combined Heat and Power Systems" (CHP) as technologies which can help Ohio achieve that goal.

To effectuate the intent of SB 315, the rules enacted by the Commission in this proceeding for WER and CHP should be equally aggressive. The goal of these regulations should be to establish the parameters for utility CHP/WER programs that incentivize the greatest amount of cost-

effective CHP and WER energy savings as possible within the limits established in SB 315. While the MCA commends the Commission for offering a flexible approach for consideration of CHP/WER projects, we believe the regulations as proposed by the Commission “miss the mark” in certain important respects.

SUMMARY OF COMMENTS

As proposed, we fear the Commission regulations will not address the major barriers that have been dampening CHP and WER technology deployment in Ohio for decades. The structure of the incentive program is especially important to encouraging investment in CHP and WER projects. Ohio’s mercantile self-direct program offers flexibility, but lacks transparency and consistency. MCA recommends that the Commission consider offering a targeted CHP / WER program which would provide “split” design, construction and production incentives together with transparent eligibility and program parameters. Because CHP/WER projects entail significant upfront capital expenditures, with the economic benefits of energy savings accruing later over the operating lifetime of the units, it is critical that CHP and WER incentive programs be “front-loaded.” The Commission’s proposed regulations are “back-loaded.” Finally, the proposed rules misconstrue the nature of CHP/WER projects, and thus provide a low incentive level as compared to other states’ CHP/WER programs.

There are a number of targeted CHP and WER programs that have been adopted in other states which demonstrate how utility programs can be structured to incentivize the large public and private sector investments needed for CHP and WER projects. The MCA recommends that the Commission consider these successful programs and adopt regulations that provide the framework for Ohio utilities to incorporate similar programs in their energy efficiency plans.

SPECIFIC COMMENTS ON THE PROPOSAL AND RECOMMENDATIONS FOR A WELL-STRUCTURED CHP/WER PROGRAM

I. Commission regulations should provide the parameters for utilities to include a Targeted CHP/WER Program in their energy efficiency plans.

The proposed regulations appear to assume CHP and WER projects will be proposed and evaluated within the framework of the Commission’s existing Ohio mercantile self-direct programs, which are essentially a form of a “custom” program with few stated parameters. Indeed, the proposed regulations provide sparse guidance to project developers and the utilities as to how to propose, evaluate and incentivize projects. Custom incentive programs such as these are a “black box” to developers and require more time and guess-work by the utility and the developer. Uncertainty can be the death-knell for large capital investments. This “custom” approach is unnecessary for CHP/WER technologies where the parameters of a program can be readily stated.

MCA recommends that the Commission include in its regulations an option for utilities to adopt a “split incentive” program specifically designed for CHP and WER projects. In our experience, targeted incentive programs, expressly tailored for CHP and WER, are the most effective means of encouraging the deployment of CHP and WER technologies. A targeted CHP/WER program

need not be particularly complicated, but it must have stated eligibility and program parameters that are transparent to project developers and can be applied consistently by utilities.

We believe the key elements of a successful targeted CHP program are:

- 1) Significant overall incentives that help defray the high capital costs of these projects;
- 2) Split incentives, with some up-front incentive payments during the design and construction stages and the lion's share of the incentive paid based on demonstrated production and energy savings over the first 12- 18 months of system operation;
- 3) Transparent eligibility requirements, incentives and program parameters, including:
 - a. A stated method for determining and crediting energy savings that can be readily and consistently used by prospective project developers and evaluators;
 - b. Stated system efficiency requirements, such as the 60% efficiency and 20% useful thermal energy requirements stated in SB 315; and
 - c. Express timeframes for required actions and payments.
- 5) A robust outreach program to end-users.

A prominent example of a successful targeted CHP/WER program is Baltimore Gas & Electric's (BGE) Smart Energy Savers CHP Program for the 2012-2014 EmPower Maryland energy efficiency program.¹ One year after program startup in August of 2012, the BGE CHP program was over-subscribed, with 16 applications and 11 projects likely to go forward with an estimated energy savings of 81,000 MWh and demand reduction of 10.5 MW produced. In 2013, BGE requested that the program funding be doubled to allow another 12 projects to proceed and to allow it to more extensively market the program to increase market awareness. Maryland Commission staff noted the programs "large amount of energy savings, as well as program cost effectiveness," and recommended that the program budget be increased and that the timeframe for eligible project completion be extended.² The Public Service Commission of Maryland approved BGE's request for an additional \$10 million dollars for its CHP Program on Nov. 12, 2013, Order No. 85987.

¹ www.bgesmartenergy.com/business/chp

² Recommendation of the Maryland Public Utility Commission Staff, August 6, 2013 in Case No. 9154, Re: Baltimore Gas and Electric Company's Request to Increase Budget and to Provide Incentives for Projects Completed after 2014 for BEG's Combined Heat and Power Program; Approved by the Public Service Commission of Maryland, Nov. 12, 2013, Order No. 85987.

The BGE program offers a production incentive package which is equivalent to \$750/kW of the system's capacity. This incentive is split between upfront incentives to be paid during the project construction and design phases, and a \$0.07/kWh production incentive based on the system's first 18 months of production.

Massachusetts' Mass SAVE program also offers a successful targeted CHP program with rebates of \$750/kW of capacity and funds 50% of the cost of feasibility studies.³ That program has resulted in generating CHP/WER projects that meet over 30% of the Massachusetts commercial and industrial energy efficiency targets and at the lowest cost per kWh saved of all Mass SAVE energy efficiency measures.^{4 5}

Here in the Midwest, the Illinois Commerce Commission in December 2013 approved a similar targeted CHP /WER program with split incentives equivalent to \$750/kWh for the public sector incentive programs run by the Illinois Department of Commerce and Economic Opportunity. That program includes a \$0.08/kWh production incentive based on the first 12 months of operation, as well as 1/3 of the incentive payments made upfront for design and construction. The program template for that Illinois is attached here as *Attachment A*.

We note that creating a Targeted CHP /WER Program will allow Ohio utilities to actively market their programs' parameters to CHP/WER end-users. BGE makes publicly available on its webpage a Manual with details on the technical parameters for qualifying projects. See <http://www.bgesmartenergy.com/chp>. BGE also has an aggressive marketing campaign to end-users, including advertising in trade publications, email blasts to stakeholders, and seminars. MCA believes such outreach, coupled with readily available, transparent technical guidance, is critical to increasing applications for CHP projects. With a transparent target program, businesses that are considering CHP projects can evaluate project engineering requirements and feasibility as well as compare the energy savings and financial merits of various CHP systems against each other and against traditional separate heat and power technologies.

II. The Commission's proposed incentive level of \$0.005 is far too low and is out of step with incentives offered in other states and .

As stated above, CHP/WER projects are capital intensive. MCA members who sell these systems and develop these projects can attest to the fact that high upfront capital costs are a major reason that projects don't get built and the lack of substantial incentive programs are a major reason the Midwest states have so much unrealized potential for CHP/WER energy savings. MCA agrees with the Ohio Coalition that the \$0.005/kWh production incentive that would be prescribed by the proposed regulations is woefully inadequate to substantially "move the needle" for CHP/WER project deployment.

This low level of incentive is very disappointing given the wide-spread expectation that the adoption of SB 315 would be a catalyst for significant CHP/WER project deployment in Ohio. We understand that this incentive would be paid annually over the life of the CHP/WER system

³ <http://www.epa.gov/chp/policies/incentives/mamasssaveutilityenergyefficiencyprogramchp.html>

⁴ http://www1.eere.energy.gov/manufacturing/distributedenergy/pdfs/chp_california_2009.pdf

⁵ <http://aceee.org/files/pdf/white-paper/chp-and-electric-utilities.pdf>

or the life of the Ohio program, which ends in 2025. But, even assuming that a CHP/WER project were proposed immediately after these regulations are finalized, that would allow only approximately a 10 year payment period. Over 10 years, this incentive level would be the equivalent of only \$0.05/kWh when compared to a single year payment as is offered in other state programs. Furthermore, for projects proposed later in the program's life – e.g. in 2016, 2017 and later -- the total incentive would obviously be even lower.

As noted earlier, the production incentives offered in Maryland and Illinois range from \$0.07 to \$0.08. Also, these other states' programs offer split incentives that pay an additional 1/3 or more of the incentive upfront for initial design and construction expenses. As the Commission's proposed level of incentive is out of step with what successful CHP/WER programs are offering, our experience indicates it will incentivize fewer CHP/WER projects in Ohio.

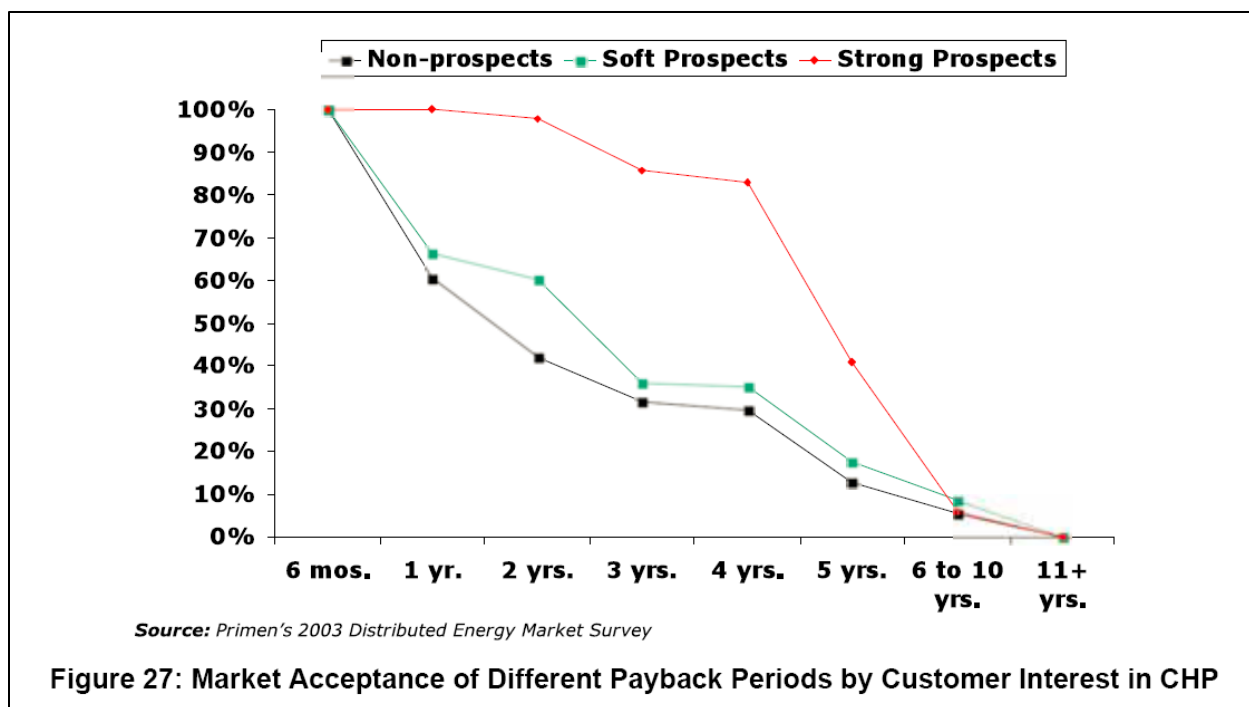
III. Payment of the production incentive over the life of the project or the program fails to address the barrier posed by the upfront capital cost of CHP and WER systems.

MCA wishes to emphasize that the purpose of this Ohio program should be to incentivize CHP projects that are economically viable, but otherwise would not be built due to the upfront capital costs. Payment of the production incentive over the life of the program or project – as we understand the Commission to be proposing -- will provide less incentive for CHP/WER projects than faster payments, e.g. payments based on actual production efficiency measured over the first 12 or 18 months, as is done in the successful Targeted CHP Programs referenced above.

As CHP/WER projects are major capital projects for end-users, the timing of the return on investment or "payback period" is often a critical consideration -- particularly for industrial facilities, a sector where there is great unrealized CHP/WER potential. The greater the incentive program is "front loaded," the greater it will defray the upfront design, construction and equipment costs; thereby, shortening the time required for the return on these investments. In the experience of MCA members, end-user industrial facility owner/operators generally seek a return on major capital investments within 3-5 years.

An October 2009 study by ICF International, prepared for the California Energy Commission, titled "Combined Heat and Power Market Assessment," took a detailed look at the effect of payback periods on CHP project deployment in the State of California.⁶ It found that where payback periods were in excess of 5 years, minimal CHP project development took place, reflective in the acceptance curves utilized in the study. (See Figure 27 below from the ICF International study). ICF noted, "Almost 90 percent of strong prospects would consider a payback of 4 years, but acceptance begins to drop rapidly once paybacks reach 5 years." The aversion to longer payback projects has had a significant impact on CHP project development, especially in the industrial sector which faces greater competition for capital funds. When discussing the acceptance rates with MCA members, many stated similar rates (less than 4 years) would typically be viewed by managers of industrial facilities as a favorable return on major capital investments, such as CHP/WER, confirming the values presented in the ICF International study.

⁶ http://www1.eere.energy.gov/manufacturing/distributedenergy/pdfs/chp_california_2009.pdf



Commission rules will better incentivize CHP projects by providing higher incentives within a shorter timeframe. Shorter term production incentives are more in line with how investments are evaluated by businesses and lenders. In contrast, smaller, longer term incentives pose greater uncertainty and create difficulty in monetizing the benefits for investors. In addition to standard investment risks, investors and lenders may rightfully be concerned about the continuation of the program and whether the program terms will change over time. We also note that short term evaluation of energy savings and prompt payment of incentives (e.g., within 12 months or immediately following installation and verification) has been the hallmark approach for state CHP incentive programs and for most other energy efficiency rebate programs.

IV. CHP and WER are not “behavioral measures.”

The fact that the Commission has proposed the low \$0.005/kWh production incentive suggests that Commission is considering CHP and WER to be akin to “behavioral measures,” such as turning off lights or turning down the thermostat. This is an entirely improper way to categorize CHP and WER technologies.

As noted in a February 2011 study performed by Energy+Environmental Economics for the Customer Information and Behavior Working Group of the State and Local Energy Efficiency Action Network, behavior-based energy efficiency may have a capital investment component, e.g. purchase of an efficient HVAC system or appliance, but the focus of behavioral energy efficiency programs are on changing energy consumers’ habits. That report notes that this does not include “the high-cost, one-time investments such as the choice of whether to buy a more efficient appliance, which falls under the traditional incentive-based energy efficiency programs.” “Overview of Residential Energy Feedback and Behavior-based Energy Efficiency,” prepared for the Customer Information and Behavior Working Group of the State and Local

Energy Efficiency Action Network February 2011, at p. 9.⁷

In contrast to “behavioral” energy saving “habits,” CHP/WER turbines and engines are very expensive energy efficiency technologies with well-established efficiencies and 24/7 operating protocols. Historic data demonstrates that CHP/WER turbines and engine systems are highly reliable, experiencing only 5% downtime on average, and only 2 ½ % downtime during peak hours.⁸ While any energy generating unit can be run more or less efficiently, that does not convert the entire technology into a “behavioral” measure. MCA knows of no other state that has so categorized CHP or WER technology.

As stated above, MCA members believe a well-structured CHP/WER incentive program should withhold a portion of the incentives until energy savings are demonstrated during actual operation – i.e., within the first 12- 18 months. But CHP/WER should not be held to different standards than are other energy efficient technologies. There is no evidence or reason to believe that companies will make expensive investments in time and money to install CHP/WER systems and then not operate them at maximum efficiency. On the contrary, CHP/WER systems involve a large investment by the owner in order to obtain the economic benefits of the energy savings – so owners are inherently motivated to optimize efficient operation. Furthermore, this motivation will only increase over time as coal-fired power plants are phased out and the cost of electricity increases.

V. MCA supports the Commission’s proposed methodology for calculating energy savings from CHP projects.

It is our understanding that the Commission is proposing that the production incentive be paid based on 100% of the electric energy produced by the CHP system. This is a simple, straightforward method that can be easily communicated and implemented for both CHP and WER projects.

MCA agrees with the Ohio Coalition that a method for determining energy saving should be clearly stated in the Commission’s regulations. Providing a standardized approach for CHP projects is important for insuring consistency and fairness in how incentive monies are allocated and maximizing energy savings. To maximize CHP project development, it is also important that the method be transparent and easy to use. The Commission’s proposed straight-forward method of determining the savings and credits based on total kWh production will allow project developers to readily assess the economics of various CHP technologies under this program.

While there are other methodologies for calculating the energy savings from CHP projects, those methods are more complicated and require more site-specific and grid-specific inputs which make them harder to apply.

⁷http://www1.eere.energy.gov/seeaction/pdfs/customerinformation_behavioral_status_summary.pdf

⁸ “The Legal Case against Stand-By Rates”, Casten and Karegianes, The Electricity Journal, November 2007, Vol. 20, Issue 9, pp. 37-38. http://www.recycled-energy.com/_documents/articles/sc_electricity_journal11-07.pdf

Once again, the MCA appreciates the opportunity to comment on the Commission's proposed regulations and looks forward to continuing participation in this process.

Respectfully submitted on behalf of the Midwest Cogeneration Association,



Member of the Midwest Cogeneration Association
www.cogeneration.org

A handwritten signature in black ink, appearing to read "Cliff Haefke", written in a cursive style.

Cliff Haefke

President
Midwest Cogeneration Association
Date: March 3, 2014

Patricia F. Sharkey

Patricia F. Sharkey

Policy Committee Chair
Midwest Cogeneration Association
Date: March 3, 2014

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Summary: Comments Initial Comments of the Midwest Cogeneration Association; Proposed Ohio Public Utility Commission Regulations for CHP/WER Energy Efficiency Program electronically filed by Ms. Patrica F Sharkey on behalf of Midwest Cogeneration Association and Sharkey, Patricia