



House Public Utilities and Energy Committee

HB 251
State Building Energy Efficiency

Submitted by:
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**TESTIMONY OF THE OFFICE OF THE OHIO CONSUMERS' COUNSEL BY
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EFFICIENCY H. B. No. 251**

I. Introduction

The Office of the Ohio Consumers' Counsel (OCC) is pleased to have the opportunity to provide written testimony on the subject of energy efficiency in State Buildings, procurement practices and fleet vehicles as addressed in H. B. No. 251. As the residential utility consumer advocate, the Ohio Consumers' Counsel supports this important legislation and commends Representative Joseph Uecker for his admirable efforts. And we thank the Representative for allowing our office to play a consulting role in the bill drafting process. H. B. 251 will move state government forward and show that Ohio places a priority on controlling energy costs and understands that energy efficiency is a key component. As the residential advocate, our Office believes this is truly a bill that allows our state government to lead by example. How can we expect residential consumers to buy energy efficiency appliances? How can we expect more energy efficient homes to be constructed, unless Ohio, as a government, places a priority on achieving those same benefits? The State of Ohio can show, by example, that controlling our energy will provide benefits in four different ways: financial benefits, energy price benefits, employment benefits and environmental benefits.

1. Financial benefits: This bill makes economic sense because energy prices across the board are high and will most likely go even higher. As of May 15, 2005, the average cost of natural gas for commercial customers in major Ohio cities was \$11.68 per Mcf.¹ This compares the \$2-3 per Mcf during the 1990s.² For electricity the May 15 cost was 9.0 cents/kWh or 12.5 % higher than the same period last year.³ Finally, the price of regular

¹ Ohio Utility Rate Survey, PUCO, May 15, 2005.

² On average, Midwest households paid 55 percent more for natural gas heat this winter than they did in 2001-2002 according to the US Energy Information Administration. See "House Passage of Energy Bill Marks Important Step Toward Lower Natural Gas Prices, AGA Says" AGA News, April 21, 2005.

³ Ohio Utility Rate Survey, PUCO, May 15, 2005.

gasoline in Ohio is 85% higher than in 2002.⁴ Controlling the consumption of energy is therefore vital. As is true in our homes, the less energy we use, the lower our electric and natural gas bills will be. If the State can lower its energy bills, taxpayers will be the beneficiaries. In light of the current state budget woes, I believe that energy efficiency is one area where major budget savings can be attained. Our Office recently helped sponsor a study by the American Council for an Energy Efficient Economy.⁵ That study showed that significant energy savings would accrue to Ohio consumers if energy efficiency programs were implemented by the utility companies. Under this scenario, the benefits of these programs outweighed the costs by 4 to 1. For commercial buildings, the majority of State buildings, the economics are even greater. According to the report, the cost of conserved energy of commercial energy efficiency is \$0.86 per Mcf of natural gas and 2.4 cents/kwh for electricity.⁶ The following table shows average payback periods and return on investments (ROI) for a sample of single and multiple technology projects tracked by Energy User News.⁷

Products/Systems Upgraded	# of Projects Tracked	Average Payback Period (Years)	Average ROI ⁸
Lighting and Motors and Drives	7	1.6	63%
HVAC and Lighting	24	2.3	43%
Motors and Drives	9	2.5	40%
Lighting	124	2.5	40%
Controls	69	2.6	38%

⁴ Comparing latest March 2005 figure with March 2002 figure according to the Energy Information Administration. http://www.eia.doe.gov/emeu/states/oilprices/oilprices_oh.html.

⁵ See “Examining The Potential For Energy Efficiency To Help Address The Natural Gas Crisis In The Midwest” by Martin Kushler, Dan York, and Patti Witte, produced by the American Council for an Energy-Efficient Economy, December 2004

⁶ Id. pages 32-33.

⁷ See www.energizeamerica.org/commercial/faqs.htm and www.energyusernews.com/CDA/ArticleInformation/features/BNP_Features_Item/0,2584,6080,00.html.

⁸ Return on investment (ROI) is a commonly used statistic and is also sometimes referred to as the simple rate of return or the investor's rate of return. ROI expresses the percentage of the investment cost that will be returned annually by savings.

HVAC and Motors and Drives	18	3.0	33%
HVAC	84	3.9	26%
On-site Power	14	4.3	23%

By having state government do some of this important work itself, this bill moves Ohio forward and will produce long-term cost savings for the state.

2. Environmental benefits: Energy efficiency is good for our quality of life and this bill would show that state government is committed to doing its share when constructing new buildings and purchasing new appliances and vehicles. In the near future, environmental regulations will likely impose more costs on Ohio’s energy producers, so investing in energy efficiency provides a good hedge against future price increases. Cinergy, the parent company of Cincinnati Gas & Electric, expects to spend between \$1.7 and \$2.2 billion through the next decade to comply with new Nox, Sox and mercury pollution control regulations by EPA.⁹ For American Electric Power (AEP), the cost is approximately \$3.5 billion through 2010. Compliance with greenhouse gas provisions for AEP range from \$0.5 billion to 6.4 billion depending on what future legislation is adopted in the U. S. Congress.¹⁰ The obvious corollary is that the less energy we use, the less our power plants have to produce, thus reducing pollution. This also has the added benefit of increasing our reserve margins and our reliability.

3. Energy price benefits: Whenever good, comprehensive energy efficiency programs are put into effect, there is the possibility that energy prices could be impacted. If there is less demand for electricity and natural gas, the price could lower for everyone. According to ACEEE, “because of the very tight and volatile natural gas market, a reduction of about 1 percent per year in total gas

⁹ Cinergy, “Air Issues, Report to Stakeholders: An Analysis of the Potential Impact of Greenhouse Gas and other Air Emissions Regulations on Cinergy Corporation”, December 2004, page 10.

¹⁰ AEP, “An Assessment of AEP’s Actions to Mitigate the Economic Impacts of Emissions Policies”, August 31, 2004, page 10.

demand could result in wholesale natural gas price reductions of 10 to 20 percent.¹¹ In addition, less demand helps maintain a reliable electric system. If a large consumer of energy like the State of Ohio is able to control its usage, it could mean a more efficient and effective electric grid that we all rely on for power.

- 4. Employment benefits:** Since March of 1996, Ohio has lagged the nation in job growth and has lost jobs from January 2001 to February 2004.¹² The Ohio April unemployment rate of 6.1% was the seventh highest in the country.¹³ Since Ohio is a net importer of energy, (87% of gas, over 60% of coal, 97% oil), the ACEEE study estimates that Ohio consumers will pay \$24 billion on imported energy in 2006.¹⁴ This ever increasing dollar drain is detrimental towards the state's economic development. In contrast, energy efficiency is more labor intensive. For every \$ 1 million invested in energy efficiency, 24 net new jobs are created.¹⁵ Since I speak from the residential consumer point-of-view, it is also important to note that one of the impacts of this bill could be encouraging the manufacturing of energy efficient appliances and the development of more energy efficient businesses and homes. The "lead by example" factor will show that Ohio is serious about being efficient and that there is a market in our state for the products and services needed to produce long-term energy savings. Consumers deserve to have as many options as possible to control their energy use and we hope that state government's leadership will open more doors to residents as they try to reduce their usage. In summary, this bill is good for Ohio. We are pleased to support this worthwhile bill and look forward to working with Representative Uecker in any way possible. Attached is an Appendix containing detailed OCC bill revision recommendations. Thank you.

¹¹ Kushler et al, page 5.

¹² See monthly total job growth, Ohio and rest of U.S, Bureau of Labor Statistics, U.S. Labor Department CES and CEOGC.

¹³ <http://www.bls.gov/web/laumstrk.htm>

¹⁴ Martin Kushler presentation "The Midwest Energy Crisis & Why Energy Efficiency Should Be a Top Priority", May 25, 2005.

¹⁵ Kushler et al, 2004, page 36.

Appendix: OCC Bill Revision Recommendations

1. Energy Saving Targets: The bill should consider setting an overall goal or target for energy savings for state agencies (facilities). For example, the original goals for federal buildings were 10% energy savings per sq. ft. from 1985 to 95, then 20% by 2000 (using the same 1985 base), and now 30% by 2005. Pending federal energy legislation calls for 2%/year added savings, for the next 10 years or more. California has a target of saving another 20% in state buildings over the next 10 years. If it is not clear how to determine an appropriate savings target for Ohio state buildings, the legislation could direct the Office of Energy Efficiency (OEE) to establish one within three to six months, based on a review of existing data on state facilities (energy intensities, energy audits, etc.) and a consideration of examples from other states.¹⁶

2. Sec. D New Construction: For new construction, there should be separate energy performance targets. A combination of Leadership in Energy and Environmental Design (LEED)¹⁷ Silver (which covers many aspects of sustainability) combined with a specific energy target based on some percentage beyond ASHRAE 90.1 2004 reference¹⁸ (or IECC 2003) (or IEC) . Both elements are needed, since the current LEED standard has a fairly loose minimum requirement for energy efficiency, and it is possible to earn a LEED Silver rating mainly through non-energy credits.

I believe the idea of advance disclosure and sign-off of operating costs and first costs may be plausible in theory, but in practice, my view is that this is not a substitute for a clearly defined energy performance target that each new building must meet.

In general, saying "do a life-cycle cost analysis and pick the minimum level" is not as effective as picking a specific performance target, and then directing agencies (and their architects, etc.) either to meet that target or, if they fall short, to justify in writing why a

¹⁶ These comments were developed with substantive input from Jeffrey Harris of the Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory 901 D Street SW, Suite 950 Washington DC 20024.

¹⁷ <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>

¹⁸ <http://www.acuitybrandsighting.com/sustainability/LEED/ASHRAE-2004.asp>

lower level of energy performance is more cost-effective in the specific case. In other words, the idea is to reverse the usual burden of proof. Instead of asking the proponent to do something extra to justify upgrading efficiency from a standard-practice, lowest-first-cost level, the policy should set a reasonably high target for every building (but one that is achievable and cost-effective), and then allow exceptions if someone is willing to do the extra work of justifying a lower efficiency level on the basis of life-cycle economics. In addition to setting a target at the design stage (when "compliance" can only be estimated based on computer modeling of energy use) there should be a requirement to commission the building and then follow up to assure that the expected performance is, in fact, achieved.

3. Sec. 123.911 [definitions]: It is not clear what is intended by "energy consumption analysis" - is this a one-time (or occasional) energy audit? Or is the intent to develop a more or less continuing process of energy performance benchmarking (which our Office favors)? Of course, these two – audits and continuing benchmarking – can also be complementary. (Section B(2)) on the next page refers to "building audit" but with no definition. Is the intent that this is the same as an "energy consumption analysis"? For "Energy Performance Index", the phrase "a full year" is less ambiguous than "an entire seasonal cycle."

For "Life-Cycle Costs" (LCC), the analysis needs to be done on a Net Present Value (NPV) basis to combine costs and savings on consistent terms.

4. Commissioning: A third specific requirement should be to commission new buildings by making the "additional commissioning" credit in LEED a further requirement for state buildings. The recommended place to put this is Sec. C(3), as broad guidance to the OEE in adopting its detailed rules. A definition of commissioning is "the process of ensuring that building systems are designed, installed, functionally tested, and capable of being operated and maintained according to the owner's operational needs. Commissioning also can restore existing buildings to high productivity through renovation, upgrade and tune-up of existing systems." I am increasingly convinced that performance benchmarking is an important tool for public agencies especially. It applies mainly to the existing stock of

buildings but to some extent new construction, as a follow-up, to assure that the design intent is translated into actual energy performance.

5. Sec. F [procurement]: There is a general reference to the OEE setting "rules to ensure that energy efficiency... will be considered in state purchasing." This could be made more specific. Later, in Sec. 125.09(B) and 125.11(A)(2) there are more specific references to the use of Department of Energy (DOE) and the Environmental Protection Agency (EPA) efficiency. As I understand the intent here, more specific wording would omit the reference to "services" and require that all products must:

"...meet the requirements for the ENERGY STAR label or the criteria for products designated by the US Department of Energy Federal Energy Management Program as being among the highest 25 percent of equivalent products for energy efficiency."

This section appears to refer only to product acquisitions that are competitively bid (i.e., through large, multi-year contracts). I assume that there is also a significant amount of procurement done through small purchases, especially for replacing or adding individual pieces of equipment. The statutory language should make it clear that the energy efficiency requirements apply to all such purchases. Also, rather than rely primarily on life-cycle costing to guide normal day-to-day procurement decisions and assure energy efficiency, I would once again strongly urge some rewording of section F, to emphasize specific efficiency criteria, and refer to use of life-cycle costing in only two circumstances:

- a) for LARGE purchases (over \$50 K or so), and
- b) as a basis for justifying an exemption to the more specific requirements (buy efficient products that meet the Energy Star and FEMP criteria) in any specific case where this is not LCC-justified. Sample language can be: "Any product for which the Federal Energy Management Program of the United States Department of Energy has issued product energy efficiency recommendations [Note: this includes Energy Star labeled products] shall achieve no less energy efficiency or flow rate than the minimum recommended, provided that there are at least three manufacturers that produce such products."

The list of "means to implement purchasing measures" is good, and our Office suggests adding 3 additional provisions:

- (6) Providing guidelines and consultation with product vendors
- (7) Incorporating the same energy efficiency specifications in construction guidelines and in all service contracts that include provision of energy-using equipment
- (8) [if applicable] Incorporating energy efficiency criteria in electronic commerce (e-procurement) systems.

6. Tracking and Reporting: Add provisions for tracking and regularly reporting the status of each agency's progress towards an energy efficiency goal. Reporting on an agencywide ("fleet-average") basis may be more practical than asking for reports at the building level where there may be too much data to handle efficiently. For example, NYC also has a provision for reporting procurement compliance:

24-6005 Annual Report. "The commissioner, in consultation with the Mayor's Office of Environmental Coordination, shall submit an annual report to the city council and the comptroller by October 1 of each year detailing the city's progress in meeting the goals and requirements of this chapter, including a list of any product or service subject to this chapter, broken down by agency, with an indication of the following for each product or service:

- (1) identification of any provision of this chapter that is applicable to such product or service; and
- (2) whether such product or service complies with the provisions in this chapter, or whether such product or service was purchased or leased pursuant to an exception to the provisions of this chapter."

7. Sec. 3345.52 [higher education]: Require the same energy efficiency performance for new buildings at state universities and colleges, rather than a more generic reference to "use energy efficient designs"

These comments are complementary to prior unofficial OCC suggestions of H.B. 251.