

# **Sub. H. B. No. 251 (ORC Sec. 3345.69)**

## **Energy Efficiency and Conservation Guidelines**

approved by IUC and OACC Presidents  
June 2007

### **Introduction**

In accordance with the requirements of House Bill Number 251, the Inter-University Council (IUC) of Ohio and the Ohio Association of Community Colleges (OACC), in consultation with the Office of Energy Services of the Department of Administrative Services, have developed guidelines for use by the board of trustees of each state institution of higher education to ensure energy efficiency and reduce energy consumption in both on- and off-campus facilities.

### **Energy Efficiency and Conservation Guidelines**

The following energy efficiency and conservation guidelines are presented to state institutions of higher education:

- (1) The goal of each institution shall be to reduce on- and off-campus building energy consumption by at least 20 percent by the end of the fiscal year ended 2014 compared to fiscal (not calendar) year 2004 as the benchmark year. A secondary goal of each institution shall be to obtain, as best possible, a similar reduction of carbon dioxide emission levels. As stated in the House Bill, the goals of each institution should recognize the diverse nature and different energy demands and uses of such buildings and measures already taken to increase building energy efficiency and conservation. Moreover, an institution's goals should be adjusted to reflect their previously recognized efforts in energy conservation within the context of their academic mission.
  - (a) It is recommended that mmBTU per gross square foot by campus be the comparison measure for benchmarking, as defined within the Higher Education Information (HEI) system. This shall be calculated each fiscal year. Where possible, it should also factor in heating and cooling degree days, as well as conditioned and non-conditioned space. Benchmarks shall be finalized by the Board of Regents, in consultation with the public colleges and universities.
- (2) It is recognized that building design plays a significant role in energy efficiency. As a result, until such time that the state building standards are changed to place more emphasis on energy efficiency, the following goals are set forth for on- or off-campus

capital improvement projects with anticipated construction costs in excess of \$100,000:

a. For projects with programming / design work commencing after July 1, 2008:

i. Exceed ASHRAE 90.1.2004 (as referenced in the current building code) by 10 percent for new construction projects and 7.5 percent for renovation and other projects.

b. For projects with programming / design work commencing after July 1, 2010:

i. Exceed ASHRAE 90.1.2004 (as referenced in the current building code) by 20 percent for new construction projects and 15 percent for renovation and other projects.

(3) The commitment to energy efficient construction should also be applied to leased off-campus space. For such leases for space of 20,000 square feet or more, the following goals should be observed:

a. For newly built space, the lessor should be expected to observe the goals identified in section (2) above.

b. For existing space, all effort should be made to comply with the goals identified in section (2) above wherever practical.

i. It should be recognized that the lease for existing space should be evaluated on an individual basis and on its own merits, with an emphasis on the overall financial value of the arrangement, with consideration provided to not allow energy efficiency to impact or impede a desirable and financially sound business arrangement.

(4) The evaluation and consideration of best practices related to energy efficiency and conservation provides the opportunity for learning from industry leaders and a basis for continuous improvement measures. Such best practices shall be disclosed bi-annually within the institution's Six-year Capital Plan, for the capital biennium commencing July 1, 2010, as submitted to the Ohio Board of Regents for the purposes of State Capital Appropriations requests. Furthermore, sections (1), (2), (3), and (5) within these guidelines shall be considered best practices and serve to set the metrics for performance relative to energy efficiency and consumption.

(5) Each state institution's board shall develop a fifteen-year plan for phasing in energy efficiency and conservation projects by December 31, 2008. The plan should incorporate the requirements set forth within these guidelines, along with consideration that:

- a. Each institution is different and must evaluate its own unique operating environment.
  - b. The plan should include capital budget planning, changes in personnel, changes in level and types of service, as well as innovative initiatives such as, but not limited to, alternative or renewable energy, and the alternative method for awarding performance contracts through ORC 3345:61-66, and others.
- (6) Each capital project undertaken and developed within the context of these guidelines shall be evaluated by the institution through a project impact assessment report, disclosing the fiscal effects of the energy efficiency and conservation measures pursued within the project; i.e. life-cycle cost analysis.
- (7) Reporting and evaluating results is a key component to monitoring progress and performance of energy efficiency and conservation among all institutions of higher education in Ohio. Each institution shall report its energy consumption as follows:
- a. The standard unit of measure shall be as defined in section (1) a.
  - b. In order to maximize the utilization of existing state-wide institutional reporting mediums, energy consumption data shall be reported:
    - i. From a historical view: On a fiscal year basis, using a standard template to be developed by the Ohio Board of Regents, including actual energy consumption in units and dollars and carbon footprint information.
      1. In order to provide the comparable annual performance data, it is expected that the actual energy consumption data for fiscal years 2004 through 2008 shall be provided with the fiscal year 2008 HEI submission in February 2009.
    - ii. From a prospective view: Bi-annually, commencing July 1, 2010, each institution shall provide a prospective view of their respective accomplishments, future plans, and challenges. The view shall be submitted in a narrative format as part of the institution's Six Year Capital Plan.
  - c. Once the data has been compiled by the Ohio Board of Regents, and reviewed in consultation with the committee, the Regents shall incorporate the results into their annual performance report.

## **Conclusion**

The guidelines set forth above have been developed in an effort to meet the requirements of Sub. H. B. No. 251 (ORC Sec. 3345.69) House Bill Number 251 and the intended energy efficiency  
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and conservation measures. As Governor Strickland noted in his Executive Order 2007-02S, “It is the responsibility of state government to lead by example in reducing energy consumption in this era of steep energy prices, mounting environmental concerns, and persistent energy security risks. By improving energy efficiency, and adopting advanced energy utilization technologies, we can make the most of our existing energy resources and also stimulate activity and investment in the energy efficiency services sector.” We feel confident that these guidelines meet the spirit of the enacted legislation and the Governor’s Executive Order.

**HB 251 Survey - Campus Energy Use and Production & Water Use [RETURN BY 4/6/07]  
FOR THE PERIOD JULY 1, 2005 TO JUNE 30, 2006**

**INSTITUTION**

**CAMPUS**

**TOTAL PURCHASED OR PRODUCED ENERGY SOURCES  
FOR EDUCATIONAL & GENERAL USES  
AUXILIARY USES, AND EXTERNAL ORGANIZATIONS**

| Description   | Unit    | Direct Purchase |             | Central Utility   |                         |
|---------------|---------|-----------------|-------------|-------------------|-------------------------|
|               |         | Quantity        | Expenditure | Quantity Produced | User Rate per Unit Sold |
| Oil #1        | Gallons |                 |             |                   |                         |
| Oil #2        | Gallons |                 |             |                   |                         |
| Oil #3        | Gallons |                 |             |                   |                         |
| Oil #4        | Gallons |                 |             |                   |                         |
| Oil #5        | Gallons |                 |             |                   |                         |
| Oil #6        | Gallons |                 |             |                   |                         |
| Coal          | Tons    |                 |             |                   |                         |
| Wood          | Tons    |                 |             |                   |                         |
| Electricity   | kWh     |                 |             |                   |                         |
| Steam         | kLbs    |                 |             |                   |                         |
| Hot Water     | Therm   |                 |             |                   |                         |
| Chilled Water | kTon-h  |                 |             |                   |                         |
| Natural Gas   | MCF     |                 |             |                   |                         |
| Other         |         |                 |             |                   |                         |

**TOTAL WATER & SEWER SERVICES  
FOR EDUCATIONAL & GENERAL USES,  
AUXILIARY USES, AND EXTERNAL ORGANIZATIONS**

| Description | Unit     | Direct Purchase |             | Central Utility   |                         |
|-------------|----------|-----------------|-------------|-------------------|-------------------------|
|             |          | Quantity        | Expenditure | Quantity Produced | User Rate per Unit Sold |
| Water       | 1000 gal |                 |             |                   |                         |
| Sewer       | 1000 gal |                 |             |                   |                         |



**HB 251 Survey - Campus Energy Use and Production & Water Use  
FOR THE PERIOD JULY 1, 2005 TO JUNE 30, 2006**

**STATEWIDE SUMMARY OF RESPONSES AS OF APRIL 16, 2007**

**TOTAL PURCHASED OR PRODUCED ENERGY SOURCES  
FOR EDUCATIONAL & GENERAL USES  
AUXILIARY USES, AND EXTERNAL ORGANIZATIONS**

| Description                    | Unit    | Quantity Consumed | mmbTU             | CO2 -Tons        | Expenditure           | Central Utility   |
|--------------------------------|---------|-------------------|-------------------|------------------|-----------------------|-------------------|
|                                |         |                   |                   |                  |                       | Quantity Produced |
| Oil #1                         | Gallons |                   |                   |                  |                       |                   |
| Oil #2                         | Gallons | 628,409           | 86,720            | 7,371            | \$ 1,176,650          |                   |
| Oil #6                         | Gallons |                   |                   |                  |                       |                   |
| Coal                           | Tons    | 87,938            | 2,251,219         | 236,378          | \$ 7,390,091          |                   |
| Bio-mass                       | Tons    |                   |                   |                  |                       |                   |
| Electricity                    | KWh     | 1,725,503,238     | 5,889,143         | 1,656,483        | \$ 92,313,132         | 108,937,711       |
| Steam                          | Klbs    | 147,555           | 147,555           | 8,632            | \$ 2,220,350          | 5,299,031         |
| Hot Water                      | Therm   | 2,555,260         | 255,526           | 14,948           | \$ 2,845,511          |                   |
| Chilled Water                  | KTon-h  |                   |                   |                  |                       | 157,736           |
| Natural Gas                    | MCF     | 11,551,787        | 11,852,134        | 693,350          | \$ 76,144,947         | 139,134           |
| Pioneer Coals                  | tons    | 12,587            | 322,227           | 33,834           | \$ 162,070            |                   |
| <b>ANNUAL TOTAL</b>            |         |                   | <b>20,804,524</b> | <b>2,650,996</b> | <b>\$ 182,252,751</b> |                   |
| <b>20% Reduction</b>           |         |                   | <b>4,160,905</b>  | <b>530,199</b>   | <b>\$ 36,450,550</b>  |                   |
| <b>mmbTU,CO2 -tons, \$/GSF</b> |         |                   | <b>0.2051</b>     | <b>0.0261</b>    | <b>\$ 1.80</b>        |                   |

**TOTAL WATER & SEWER SERVICES  
FOR EDUCATIONAL & GENERAL USES,  
AUXILIARY USES, AND EXTERNAL ORGANIZATIONS**

| Description                    | Unit     | Direct Purchase |                      | Central Utility   |
|--------------------------------|----------|-----------------|----------------------|-------------------|
|                                |          | Quantity        | Expenditure          | Quantity Produced |
| Water                          | 1000 gal | 14,757,329      | \$ 8,619,021         |                   |
| Sewer                          | 1000 gal | 12,348,494      | \$ 9,257,289         |                   |
| <b>TOTAL EXPENDITURE</b>       |          |                 | <b>\$ 17,876,310</b> |                   |
| <b>WATER &amp; SEWER\$/GSF</b> |          |                 | <b>\$ 0.18</b>       |                   |

**STATEWIDE SUMMARY OF CAMPUS ENERGY AND WATER USE REPRESENTS 92% OF EDUCATIONAL AND  
AUXILIARY GROSS SQUARE FOOTAGE**