



State of Ohio 2007 Energy Initiative Executive Order 2007-02S & USEPA Portfolio Manager

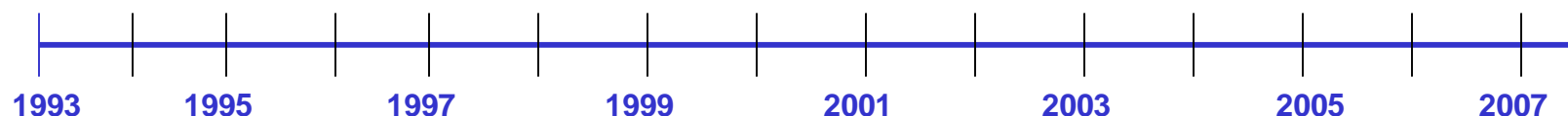
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Program Services Manager
Ohio Dept. of Administrative Services
State Architect's Office of Energy
Services



Ohio's Chronology



- 1993** – Signed MOU to join USEPA Green Lights Program
- 1994** – Hired energy coordinator; signed MOU to join Energy Star computers (first state)
- 1995** – Formally created energy office
- 1997** – Completed construction on first performance-based contract; guaranteed savings of \$1.6 million over ten years
- 1999** – Ohio named Green Lights Partner of the Year (yay!)
- 2000** – First of several budget cuts; more to come
- 2004** – Staff down to one person; capital funding eliminated
- 2006** – New administration, new hope; energy legislation passes to fund energy program
- 2007** – Energy Executive Order
- 2008** – First Report Issued and Physical Audit Program Started



Facts about Ohio's program



- ✓ Total state-owned space: **44,095,064** square feet
- ✓ FY2006 utility bill: **\$117,372,702**
- ✓ Average \$/square foot: **\$2.66**
- ✓ **55%** of space has had some energy efficiency renovations
- ✓ No central database of energy consumption
- ✓ **32** state agencies with energy expenditures

Energy Project Type	Sq Footage	% of State Space	Project Cost	Annual Savings	Savings per Sq Ft (\$)	Savings per Sq Ft (%)	Payback (yrs)
Capital	14,086,777	32%	\$ 9,761,767	\$ 2,211,416	\$ 0.16	5.9%	4.4
Performance	10,018,593	23%	\$ 19,758,153	\$ 3,444,274	\$ 0.34	13.0%	5.7
Total	24,105,370	55%	\$ 29,519,920	\$ 5,655,690	\$ 0.23	8.8%	5.2

Elements of Executive Order



<http://governor2.ohio.gov/Portals/0/Executive%20Order%202007-026.pdf>

- Create Governor's Energy Advisor
- Require each cabinet agency to name a senior level energy liaison, responsible for that agency's cooperation with the Energy Advisor
- Develop a tool for all state agencies that:
 - Measures energy use in a common and consistent manner
 - Allows meaningful comparisons between facilities
 - Includes calculation of a carbon footprint and reporting units of carbon dioxide
 - Deadline March 16, 2007

Elements of Executive Order (cont.)

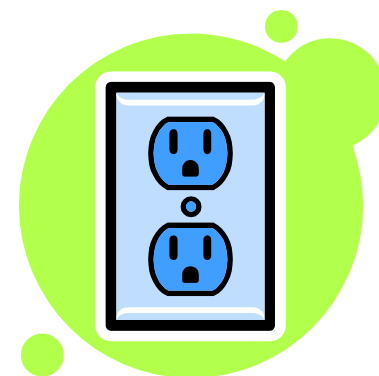


<http://governor2.ohio.gov/Portals/0/Executive%20Order%202007-02S.pdf>

- Conduct statewide energy audit of facilities, using the tool to create a baseline
 - ❑ Deadline June 30, 2007

- Reduce energy consumption by 5% over baseline (Reported at 9.5%)
 - ❑ Deadline June 30, 2008

- Reduce energy consumption by 15% over baseline
 - ❑ Deadline June 30, 2011



Chosen approach ...



1

Select Portfolio Manager (PM) as measurement and tracking tool

2

Prepare PM accounts

- Set up master state account and 32 state agency accounts
- Import and convert state building data into Portfolio Manager (Cadmus)
- Designate state agency energy liaisons as default account managers

3

Training and support

- Web-based training started 5/24/07
- Agency training ongoing as needed
- Help desk (Ohio Energy Office)



Chosen approach (cont.) ...



4 Agencies set up sub-accounts and designate sub-account managers (if desired)

5 Agencies input consumption data

- Baseline period = 7/1/06 – 6/30/07
- Some data available through utilities and natural gas program
- Designate agency energy liaisons as default account managers



6 Consumption baseline established in PM

- Includes comparison and ranking of buildings

Chosen approach (cont.) ...



7 Identify candidates for performance contracts

- Larger buildings or campuses with most potential for improvement

8 Begin detailed (walk-through) audits

- Audit order based upon PM information
- Existing contracts for energy consultants
- \$ 5 million in capital funding for energy audits and renovations

9 Plan and renovate buildings

- This will require more capital funding
- Use PM and audits to justify projects



Current Work



Tracking Accounts for State-owned and leased facilities

- Inventory of buildings and setting up accounts using Master Account and grouping capability
- US EPA and Cadmus assisted with set up for Ohio
 - Import templates
 - Import process
 - Training
- Agencies work with templates to confirm and add data
 - Verify buildings
 - Verify square footage
 - Verify number of occupants and hours of operation
 - Confirm that default values make sense
 - Add baseline energy data (units, usage, costs) for July 1, 2005 – June 30, 2007
 - 2007 Fiscal Year used as the most reliable baseline year
 - Map bills to buildings

Group Averages	
Baseline Rating: 56 Facilities Included: 27	Current Rating: 65 Facilities Included: 30
Change from Baseline: Group Adjusted Percent Energy Use (%): 9.1% Facilities Included: 762	
Averages are weighted by Total Floor Space. More about Baselines More about Change from Baseline: Adjusted Energy Use	

- [Add](#) a Property
[Import](#) Facility Data Using Templates
- Work with Facilities**
[Update](#) Multiple Meters
[Share](#) Facilities
[Request](#) Energy Performance Report
- Apply for Recognition**
[Apply](#) for the ENERGY STAR
[ENERGY STAR Leaders](#)
- Automated Benchmarking**
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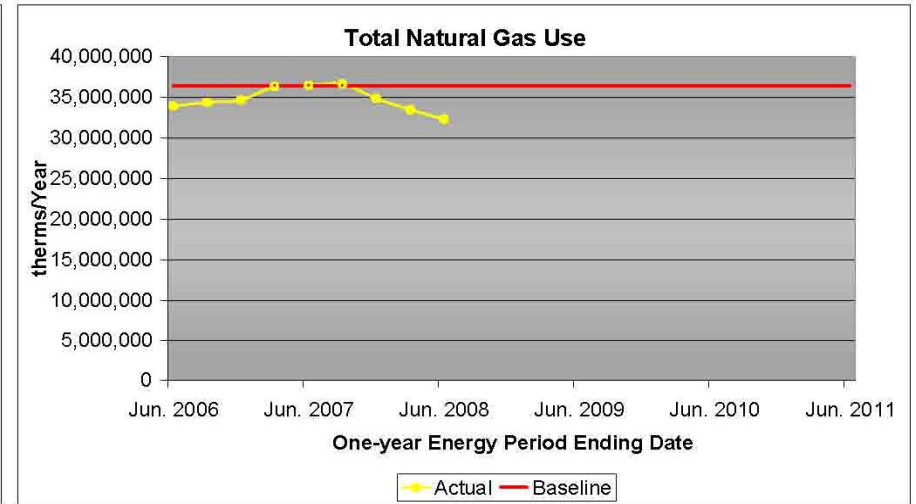
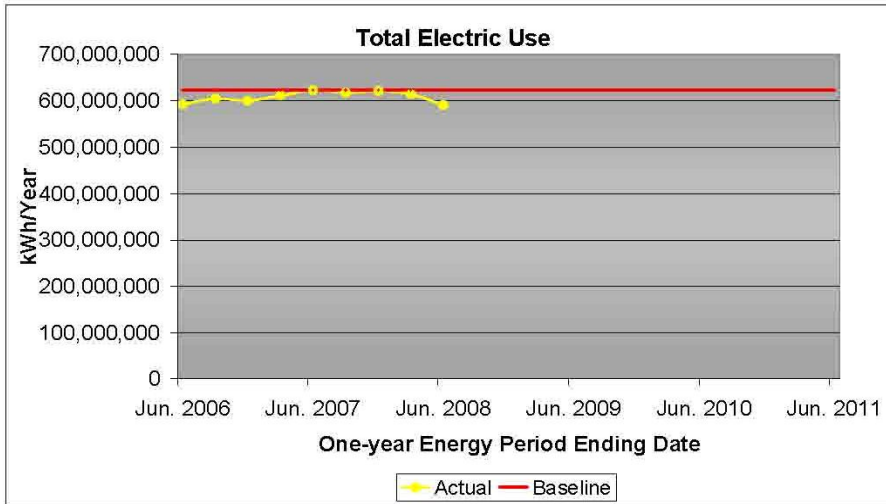
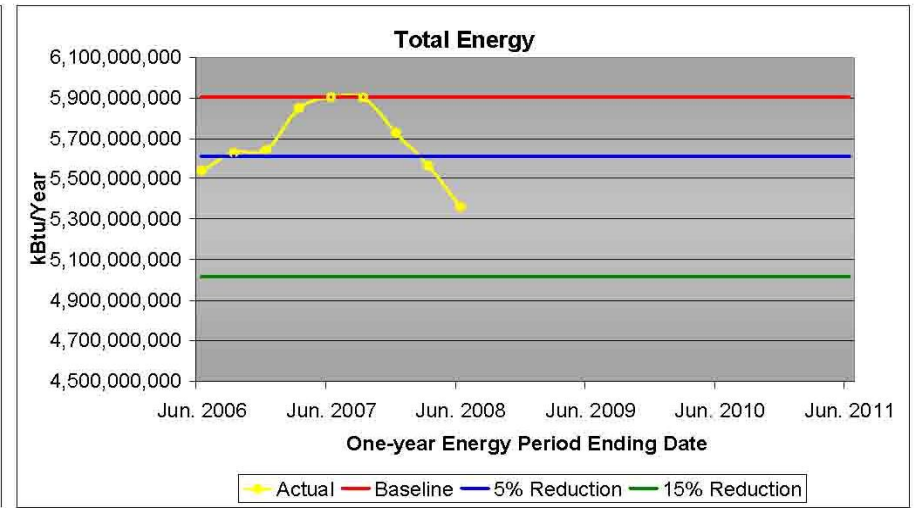
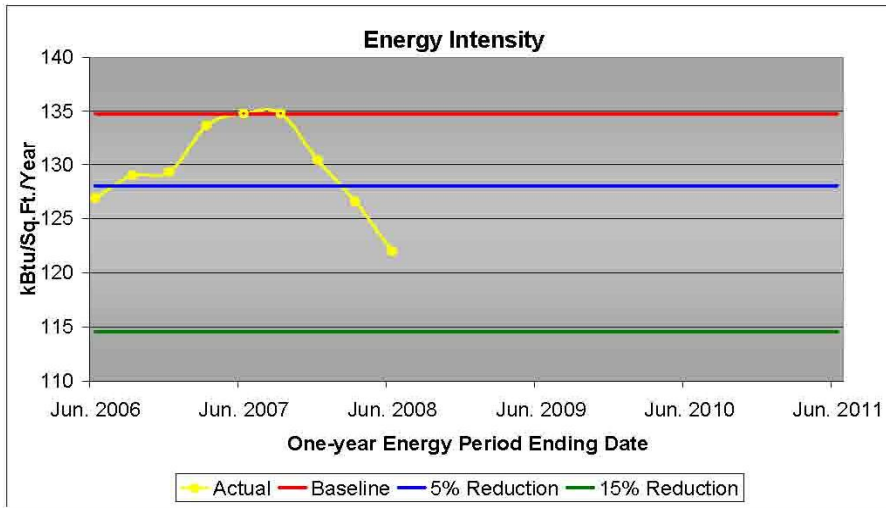
[My Facilities](#) [My Campuses](#)

GROUP: Active Owned Facilities [Create Group](#) | [Edit Group](#) | [View All](#) VIEW: Scorecard Current Period [Create View](#) | [Edit View](#) | [View All](#)

[Download](#) in Excel Search Facility Name:
 Results 1 - 1129 of 1129 All # A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Facility Name	Current Site Energy Intensity (kBtu/Sq. Ft.)	Current Total Site Energy Use (kBtu)	Current Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	Current Site Electric Use (kWh)	Current Site Natural Gas Use (therms)	Annual Energy Cost (US Dollars (\$))	Current Total GHG Emissions (MtCO ₂ e)
OhioGovADJ Air 220th Zanesville (ANG)	89.0	2,425,985.00	140.1	163,157.1	18,692.9	\$42,279.68	222.91
OhioGovADJ Air Blue Ash 123 Tac Con Sq (ANG)	108.9	5,626,879.75	209.8	632,592.7	34,684.7	\$134,633.13	628.17
OhioGovADJ Air Mansfield (ANG)	128.4	37,620,567.85	233.0	3,689,724.1	250,312.3	\$587,734.91	3,919.34
OhioGovADJ Air Red Horse (ANG)	134.1	15,686,746.35	104.8	728,367.3	25,145.1	\$115,151.20	739.89
OhioGovADJ Air Springfield Bldg 101 AC Hanger	42.8	2,688,030.02	44.8	0.0	26,880.3	\$25,494.67	143.00
OhioGovADJ Air Springfield Bldg 107 Veh Maint	122.1	1,307,314.55	127.8	0.0	13,073.1	\$13,082.95	75.87
OhioGovADJ Air Springfield Bldg 109 269th	38.4	669,653.75	40.2	0.0	6,696.5	\$5,880.03	38.86
OhioGovADJ Air Springfield Bldg 112 Receiver Si	87.4	79,680.28	91.5	0.0	796.8	\$853.49	4.62
OhioGovADJ Air Springfield Bldg 113	N/A	N/A	N/A	N/A	N/A	\$0.00	N/A
OhioGovADJ Air Springfield Bldg 114 AGE/FIT	13.8	82,714.42	14.4	0.0	827.1	\$633.34	4.40
OhioGovADJ Air Springfield Bldg 118 Ops Trng	40.0	756,923.90	41.9	0.0	7,569.2	\$3,193.93	40.27

State of Ohio - All Active State-Owned Facilities



State of Ohio - All Active State-Owned Facilities Scorecard

[-9.50%]

The State Architect's Office of Energy Services in the Department of Administrative Services has been charged with administering the **Portfolio Manager** master account and providing support for implementation to the agencies.

We currently have **1,480 state-owned facilities** representing 49,156,029 square feet shared with the master account. Of these, we consider **1,130 as active**, or having current utility billing data entered that we are able to track, representing 44,099,331 square feet or **89.7% of the total area**. We have configured an additional **236 leased facilities** representing 5,560,780 square feet. Of these leased facilities, we have energy data entered for 18 facilities representing 1,760,814 square feet or **31.7% of DAS-negotiated leases**. Many of these buildings lease to multiple state agencies.

The graphs shown on the page labeled "All Active Facilities" represent the performance of the state-owned buildings. The quality of the energy data entered is reasonably high, with very few facilities showing alerts that indicate data is not being entered in a timely manner. As additional time passes and more bills are entered, we expect the data points to show higher energy consumption. However, we do not believe that the graphs will change significantly, given the large volume of good data entered into the system.

The **cabinet agencies** that own buildings and purchase energy that appear to be **in general compliance with the audit requirement** of the Executive Order are as follows:

- Adjutant General's Department
- Bureau of Workers' Compensation
- Department of Agriculture
- Department of Commerce
- Department of Administrative Services

- Department of Mental Health
- Department of Mental Retardation & Developmental Disabilities
- Department of Natural Resources
- Department of Transportation
- Department of Public Safety
- Department of Rehabilitation and Corrections
- Department of Youth Services
- Department of Job and Family Services

In addition to the cabinet agencies, the Ohio Building Authority has earned the ENERGY STAR label on each of its five high rise office buildings. The Capital Square Review and Advisory Board has commissioned a physical audit of the Statehouse and are working with BOMA International Market Transformation Energy Plan and 7-Point Challenge to reduce energy consumption in commercial buildings by 30 percent by 2012. The Ohio Historical Society has begun working with SAO Energy Services to enter energy data into Portfolio Manager. The following **non-cabinet agencies** with state-owned buildings were encouraged to participate, but have shown **no activity to date**:

- Attorney General's Office
- Expositions Commission
- Supreme Court of Ohio
- State Library of Ohio
- Ohio School for the Blind (EDU)
- Ohio School for the Deaf (EDU)
- Ohio Veterans' Home

We believe we are making significant strides toward tracking utility bill information that will demonstrate transparency and accountability for our efforts to reduce energy consumption.

Home > My Portfolio > OhioGovDAS Surface Road

Facility Summary: OhioGovDAS Surface Road

[How do I use this page?](#)

Building ID: 1244950
 Level of Access: Building Data Administrator

Electric Distribution Utility: Columbus Southern Power Co ([change](#))
 Regional Power Grid: [RFC West](#)
[Select my Power Generation Plant](#) to calculate my electric emissions rate
 Electric Emissions Rate (kgCO₂e/MBtu): 205.5 ([what is this?](#))

General Information Edit	
Address: 4200 Surface Road , Columbus, OH 43228	
Year Built: 1970	
Property Type: Single Facility	
Baseline Rating: 48	Current Rating: 62
Eligibility for the ENERGY STAR	
Not Eligible: Rating must be 75 or above	

[Generate a Statement of Energy Performance](#) for uses other than applying for the ENERGY STAR.

Facility Performance [Set Baseline Period](#) | [Set Energy Performance Target](#)

Select View: [Create View](#) | [Edit View](#)

12 Months Ending	Current Site Energy Intensity (kBtu/Sq. Ft.)	Current Total Site Energy Use (kBtu)	Current Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	Current Site Electric Use (kWh)	Current Site Natural Gas Use (therms)	Annual Energy Cost (US Dollars (\$))	Current Total GHG Emissions (MtCO ₂ e)
June 2007 (Baseline)	64.5	13,118,243.61	154.1	2,442,295.2	47,851.3	\$209,892.18	1,967.40
December 2008 (Current)	56.8	11,551,532.27	134.8	1,978,491.3	48,009.2	\$191,918.68	1,642.97
Change	-7.7	-1,566,711.34	-19.3	-463,803.9	157.9	(\$17,973.50)	-324.43

[REFRESH VIEW](#)

Space Use [Add Space](#)

Space Name	Space Type	Floor Area (Sq. Ft.)	% Floor Area	Alerts
GSD Office	Office	93,110	46	
GSD Warehouse	Warehouse (Unrefrigerated)	110,408	54	
Total		203,518	100	

General Facility Administration
[Track](#) Energy Performance Improvements
[Delete](#) this Facility from Portfolio Manager
[Contact](#) us

Sharing Data
[Add](#) user to share this Facility
[Modify](#) list of users
[Transfer](#) Facility to another user
[View](#) entire Access List for this Facility

Applying for the ENERGY STAR
[Apply](#) for the ENERGY STAR
[View](#) status of ENERGY STAR Applications

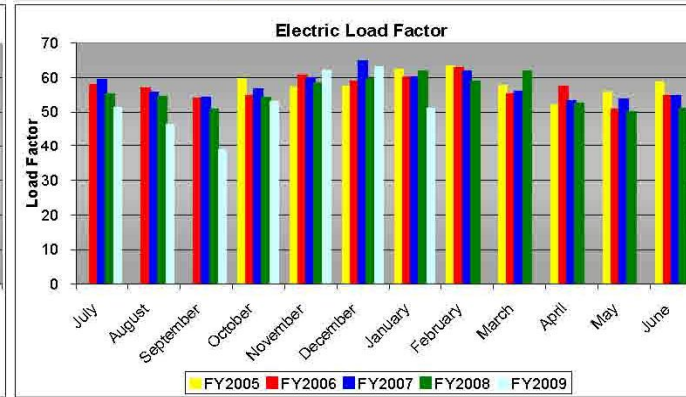
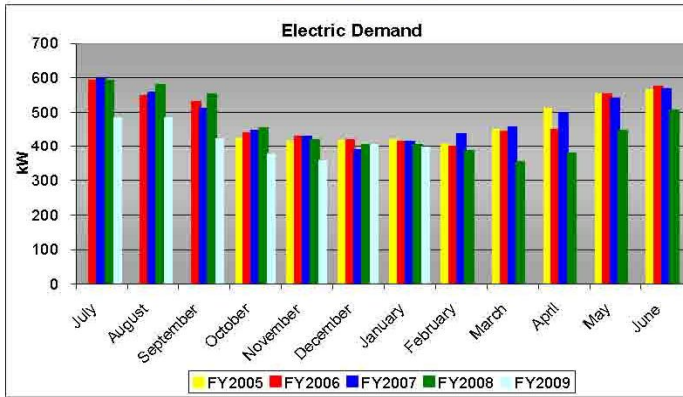
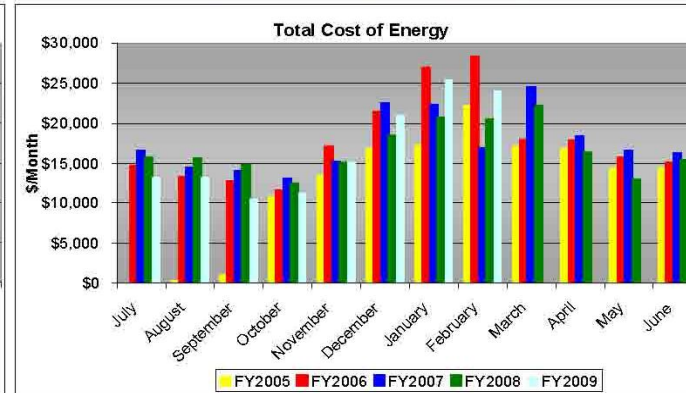
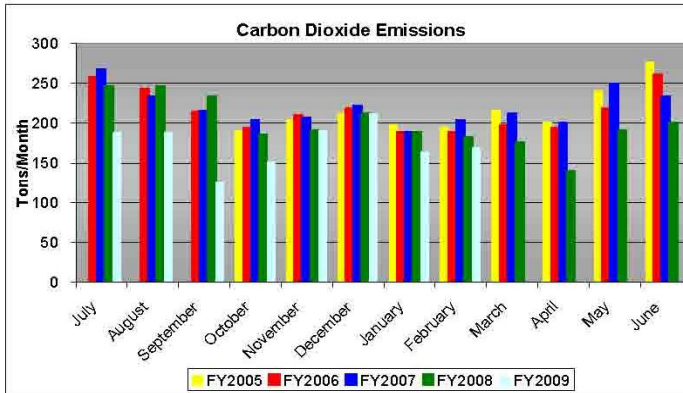
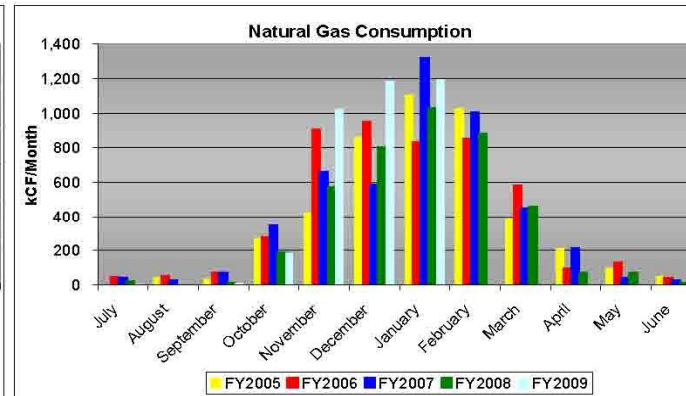
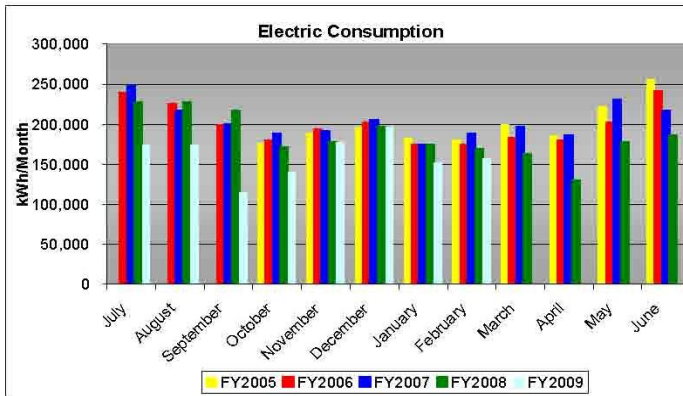
**General Services Center (Surface Road)
Columbus - Franklin County**
Gas Meter No. 00011206000001*12985382001

Columbia Gas (Delivery)				Bill Period	Delta Energy LLC (Supply)				Enter into Portfolio Manager						
Bill Date	Service Period		kCF	Cost	FY2009	Bill Date	Service Period		mmBTU	Cost	Service Period	kCF	Cost		
9/10/2008	7/15/2008	8/11/2008	4.0	\$ 29.61	July	8/7/2008	7/1/2008	7/31/2008	0.0	\$ (437.65)	7/15/2008	8/11/2008	4.0	\$ (408.04)	
10/10/2008	8/11/2008	9/15/2008	0.0	\$ 22.81	August	9/5/2008	8/1/2008	8/31/2008	0.0	\$ (421.33)	8/11/2008	9/15/2008	0.0	\$ (398.52)	
11/14/2008	9/15/2008	10/13/2008	8.0	\$ 37.16	September	10/9/2008	9/1/2008	9/30/2008	0.0	\$ (212.93)	9/15/2008	10/13/2008	8.0	\$ (175.77)	
12/10/2008	10/13/2008	11/10/2008	182.0	\$ 333.52	October	11/10/2008	10/1/2008	10/31/2008	0.0	\$ (114.18)	10/13/2008	11/10/2008	182.0	\$ 219.34	
1/13/2009	11/10/2008	12/10/2008	1021.0	\$ 1,662.31	November	12/9/2008	11/1/2008	11/30/2008	153.2	\$ 1,497.33	11/10/2008	12/10/2008	1,021.0	\$ 3,159.64	
2/12/2009	12/10/2008	1/12/2009	1187.0	\$ 1,783.79	December	1/9/2009	12/1/2008	12/31/2008	618.6	\$ 5,913.43	12/10/2008	1/12/2009	1,187.0	\$ 7,697.22	
3/12/2009	1/12/2009	2/10/2009	1193.0	\$ 1,796.21	January	2/9/2009	1/1/2009	1/31/2009	1296.2	\$ 12,124.42	1/12/2009	2/10/2009	1,193.0	\$ 13,920.63	
					February	3/6/2009	2/1/2009	2/28/2009	1405.2	\$ 12,361.40	1/0/1900	1/0/1900	0.0	\$ 12,361.40	
					March						1/0/1900	1/0/1900	0.0	\$ -	
					April						1/0/1900	1/0/1900	0.0	\$ -	
					May						1/0/1900	1/0/1900	0.0	\$ -	
					June						1/0/1900	1/0/1900	0.0	\$ -	
				3595.0	\$ 5,665.41					3473.2	\$ 30,710.49			3,595.0	\$ 36,375.90

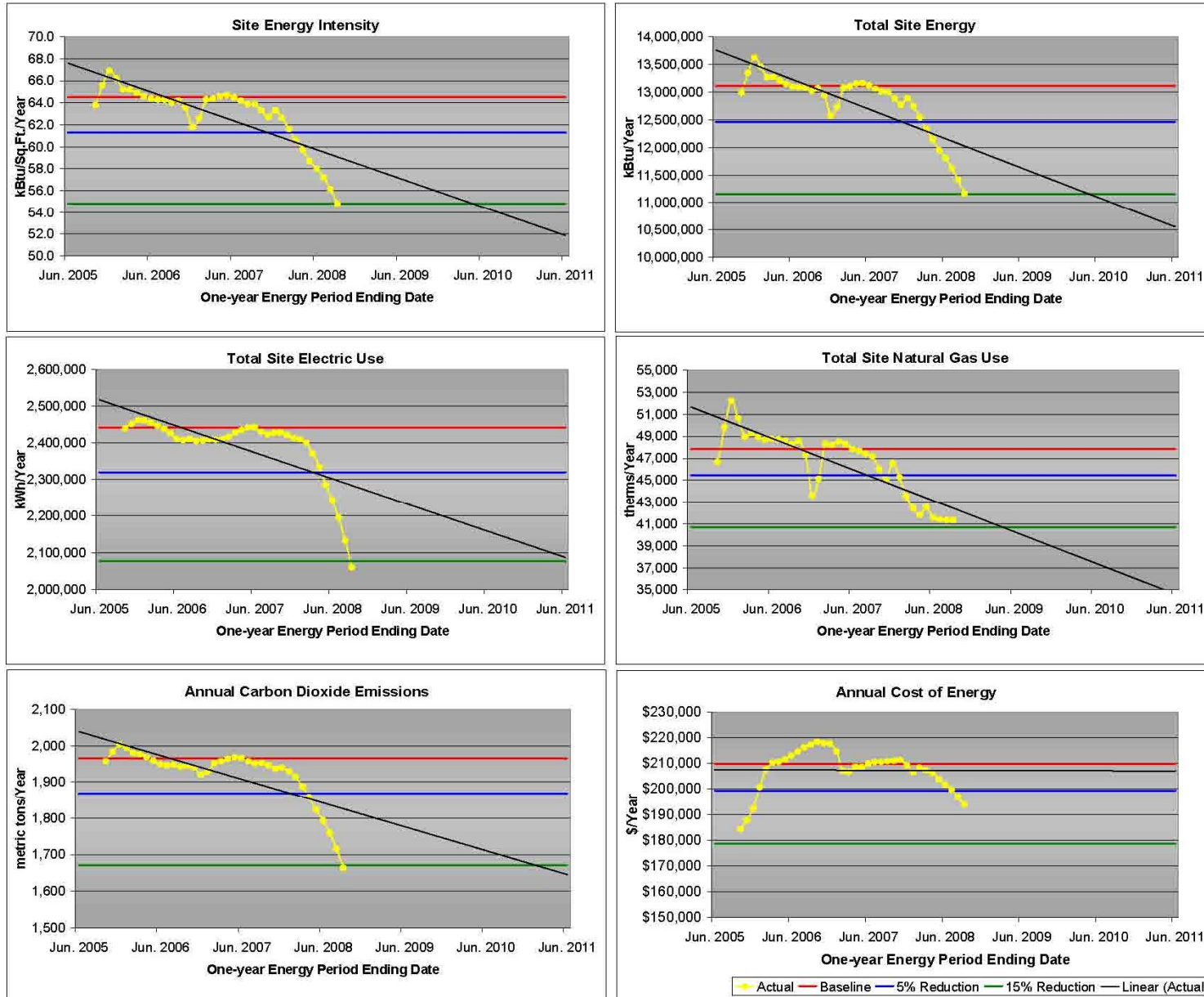
Electric Meter No. 10408624244*217833611 (Main)				Bill Period	Electric Meter No. 10650165110*00040621092282652 (Outdoor)				Aggregate Electric Consumption						
Bill Date	Service Period		kWh	Cost	FY2009	Bill Date	Service Period		kWh	Cost	Service Period	kWh	Cost		
8/14/2008	7/16/2008	8/14/2008	173,600	\$13,595.79	July	8/14/2008	7/16/2008	8/14/2008	835.0	\$ 107.56	7/16/2008	8/14/2008	174,435.0	\$ 13,703.35	
9/15/2008	8/14/2008	9/15/2008	173,600	\$13,595.79	August	9/15/2008	8/14/2008	9/15/2008	835.0	\$ 107.56	8/14/2008	9/15/2008	174,435.0	\$ 13,703.35	
10/14/2008	9/15/2008	10/14/2008	114,800	\$10,489.40	September	10/14/2008	9/15/2008	10/14/2008	835.0	\$ 107.56	9/15/2008	10/14/2008	115,635.0	\$ 10,596.96	
11/12/2008	10/14/2008	11/12/2008	140,000	\$10,845.31	October	11/12/2008	10/14/2008	11/12/2008	835.0	\$ 107.56	10/14/2008	11/12/2008	140,835.0	\$ 10,952.87	
12/15/2008	11/12/2008	12/15/2008	176,400	\$11,970.60	November	12/15/2008	11/12/2008	12/15/2008	835.0	\$ 107.56	11/12/2008	12/15/2008	177,235.0	\$ 12,078.16	
1/16/2009	12/15/2008	1/16/2009	196,000	\$13,195.81	December	1/16/2009	12/15/2008	1/16/2009	835.0	\$ 107.31	12/15/2008	1/16/2009	196,835.0	\$ 13,303.12	
2/16/2009	1/16/2009	2/16/2009	151,200	\$11,403.84	January	2/16/2009	1/16/2009	2/16/2009	835.0	\$ 107.31	1/16/2009	2/16/2009	152,035.0	\$ 11,511.15	
3/17/2009	2/16/2009	3/17/2009	156,800	\$11,551.81	February	3/17/2009	2/16/2009	3/17/2009	835.0	\$ 107.31	2/16/2009	3/17/2009	157,635.0	\$ 11,659.12	
					March						1/0/1900	1/0/1900	0.0	\$ -	
					April						1/0/1900	1/0/1900	0.0	\$ -	
					May						1/0/1900	1/0/1900	0.0	\$ -	
					June						1/0/1900	1/0/1900	0.0	\$ -	
				1,282,400.0	\$ 96,648.35					6,680.0	\$ 859.73			1,289,080.0	\$ 97,508.08

Energy Cost					Bill Period	Carbon Dioxide Emissions					Electric Demand, Load, and Power Factor					
kWh	Elec. Cost	kCF	Gas Cost	Total Cost	FY2009	g/kWh	g/kCF	grams	Lbs	Tons	Metered kW	Billed kW	Load Factor	Power Factor		
174,435.0	\$ 13,703.35	4.0	\$ (408.04)	\$ 13,295.31	July	979.75	52.27	170903668	376,771.8	188.4	484.4	484.4	51.4	74.8		
174,435.0	\$ 13,703.35	0.0	\$ (398.52)	\$ 13,304.83	August	979.75	52.27	170903459	376,771.3	188.4	484.4	484.4	46.6	74.8		
115,635.0	\$ 10,596.96	8.0	\$ (175.77)	\$ 10,421.19	September	979.75	52.27	113294318	249,767.0	124.9	422.8	422.8	39.0	77.0		
140,835.0	\$ 10,952.87	182.0	\$ 219.34	\$ 11,172.21	October	979.75	52.27	137993225	304,217.9	152.1	378.0	378.0	53.2	74.3		
177,235.0	\$ 12,078.16	1,021.0	\$ 3,159.64	\$ 15,237.80	November	979.75	52.27	173700142	382,936.8	191.5	358.4	360.0	62.1	76.5		
196,835.0	\$ 13,303.12	1,187.0	\$ 7,697.22	\$ 21,000.34	December	979.75	52.27	192912005	425,291.0	212.6	403.0	403.0	63.3	77.0		
152,035.0	\$ 11,511.15	1,193.0	\$ 13,920.63	\$ 25,431.78	January	979.75	52.27	149019322	328,525.8	164.3	397.6	397.6	51.1	81.8		
157,635.0	\$ 11,659.12	0.0	\$ 12,361.40	\$ 24,020.52	February	979.75	52.27	154443585	340,484.1	170.2						
0.0	\$ -	0.0	\$ -	\$ -	March	979.75	52.27	0	0.0	0.0						
0.0	\$ -	0.0	\$ -	\$ -	April	979.75	52.27	0	0.0	0.0						
0.0	\$ -	0.0	\$ -	\$ -	May	979.75	52.27	0	0.0	0.0						
0.0	\$ -	0.0	\$ -	\$ -	June	979.75	52.27	0	0.0	0.0						
															\$ 133,883.98	1,392.38

DAS General Services Center - 4200 Surface Road



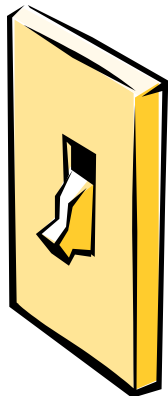
Ohio Department of Administrative Services - General Services Center



Activities in parallel ...



Design Standards



Awareness
Campaign

Building
Operator
Certification
Training



123\$4-1-03-Rule-AM - RAS

File Edit View Insert Tools Table Window Help

Type a question for help

Context:rule|rule_text|level1|level2|level3|level4|para_first

100%

*** DRAFT – NOT FOR FILING ***

1234-1-03 **Requirements.**

(A) ~~Each state agency shall:~~ All new construction, renovation, repairs, and replacements of buildings shall employ cost-effective, energy-efficient, green building practices to the maximum extent possible.

(B) Each state agency except institutions of higher education shall:

(1) Design and construct state funded facilities achieving the following minimum standards:

(a) New construction shall be designed to achieve a minimum fossil-fuel greenhouse gas emitting energy consumption performance standard of fifty per cent of the regional average for that building type as defined in CBECS, and shall be designed to achieve the silver level under the LEED rating system for new construction and major renovations. The fossil-fuel greenhouse gas emitting reduction standard for all new buildings shall increase from one-half the regional average as defined in CBECS, in the following increments:

(i) Fifty-five per cent for designs completed on and after October 1, 2009.

(ii) Seventy per cent for designs completed October 1, 2014.

(iii) Eighty per cent for designs completed October 1, 2019.

(iv) Ninety per cent for designs completed October 1, 2024.

(v) One-hundred per cent for designs completed October 1, 2029.

(b) Renovation projects shall be designed to achieve a minimum fossil-fuel greenhouse gas emitting energy consumption performance standard of fifty per cent of the regional average for that building type as defined in CBECS, and shall be designed to achieve the silver level under either the LEED rating system for new construction and major renovations or the LEED rating system for existing buildings: operation and maintenance as appropriate.

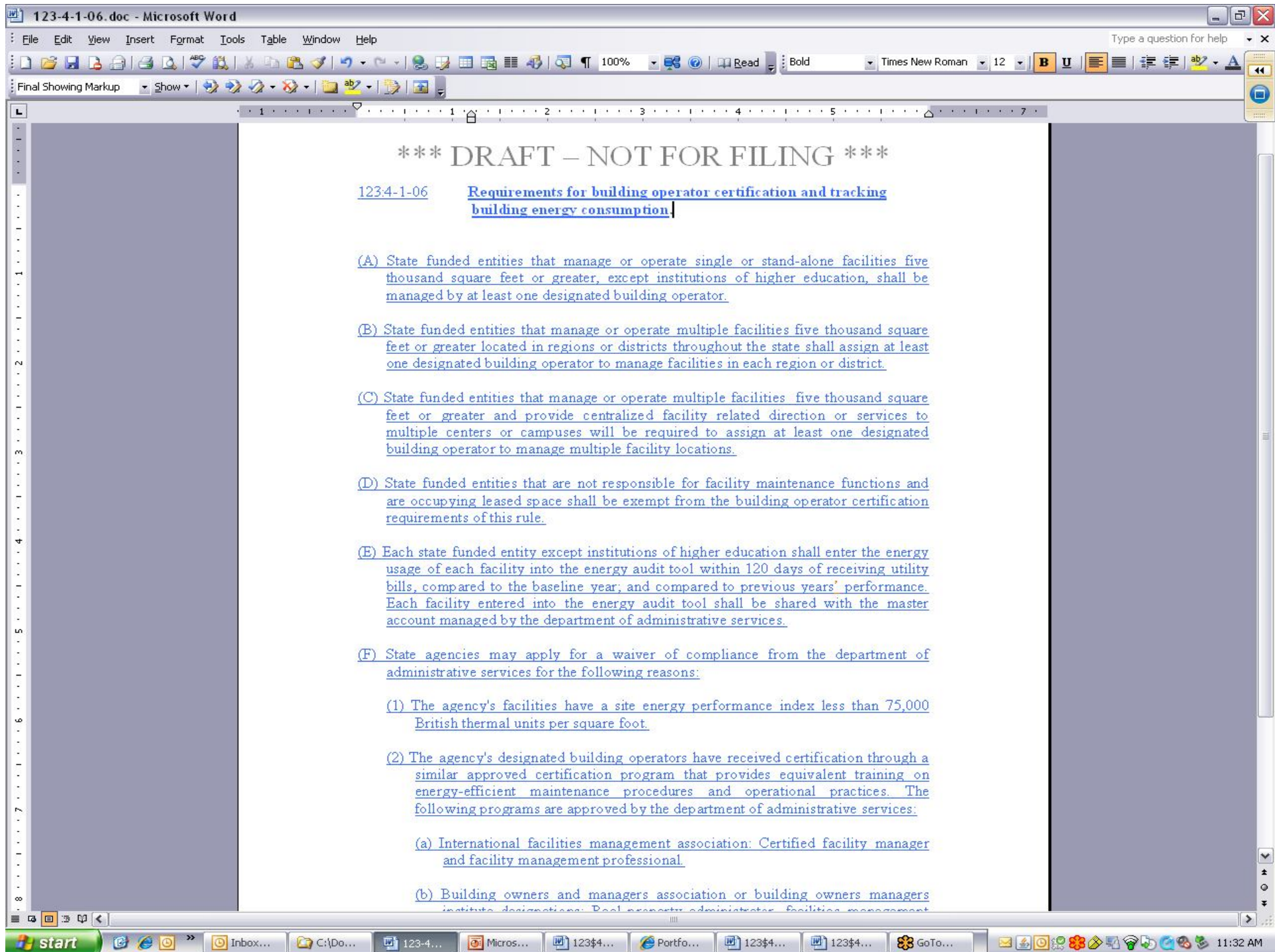
(c) State agencies may apply for a waiver of compliance from the department of administrative services for the following reasons:

(i) The facility does not consume energy for heating, ventilating, or air

start

Inbox... C:\Do... 123-4... Micros... 123\$4... Portfo... 123\$4... 123\$4... GoTo...

11:31 AM





Welcome to the Energy SMART resource page



News

- 01.07.2008: Energy awareness campaign announced
- 01.07.2008: Energy goals
- [More news...](#)



Resources

- Campaign Materials
- Contracting Opportunities
- Energy Star
- Grants and Incentives
- Performance Contracts
- Portfolio Manager
- Target Finder
- US Green Building Council (USGBC)

How do I?

- Q. Comply with the Governor's executive order and track my agency's utility bill data?
- Q. Calculate my carbon footprint?
- Q. Find people willing to share information and ideas?

Featured Agency

Public Utilities Commission of Ohio (PUCO)

In order to meet the first year goal of 5% energy savings required by Executive Order 2007-02, and because they are in leased space, PUCO's focus has been on behavioral change and no-cost programs.

Click here to read more...

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