



Energy Management and the Public Sector

Bill Eger, Energy Manager
City of Alexandria

February 4th, 2010

2010 IAC Lead Student Meeting
L'Enfant Plaza Hotel

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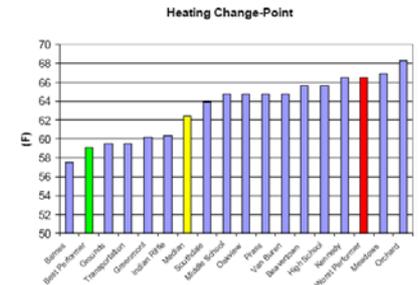
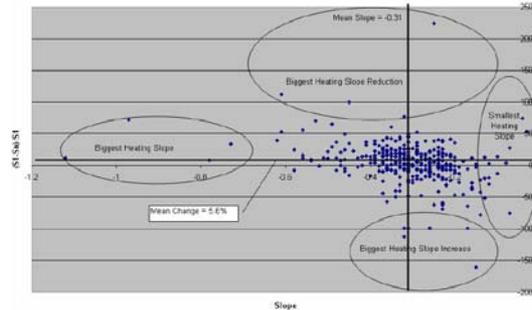
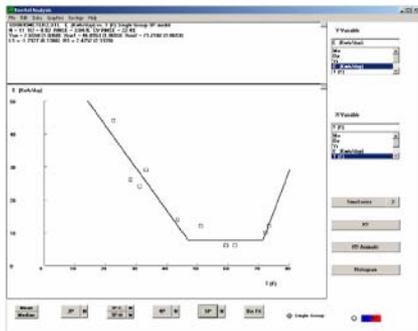
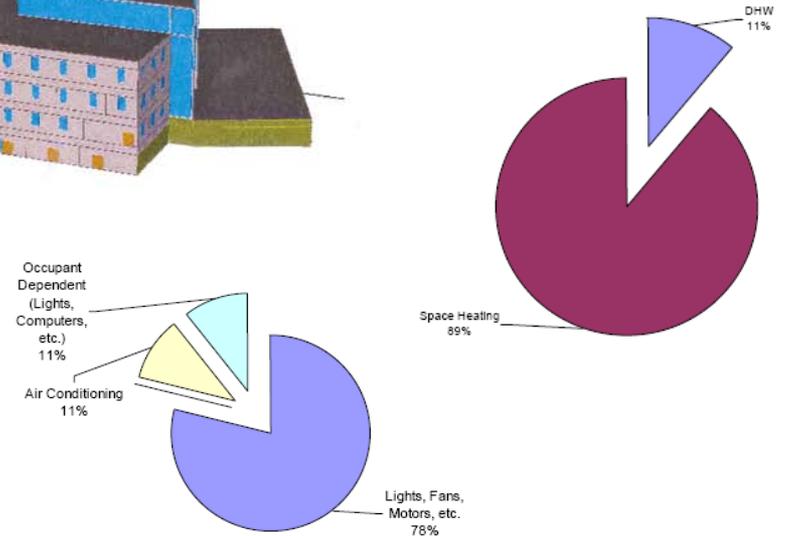
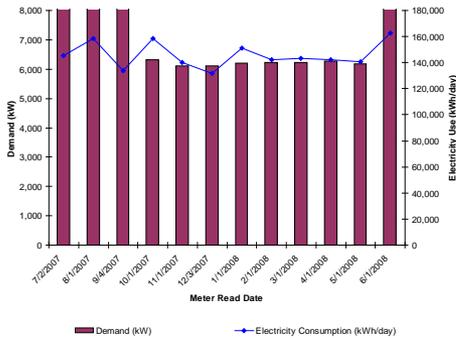
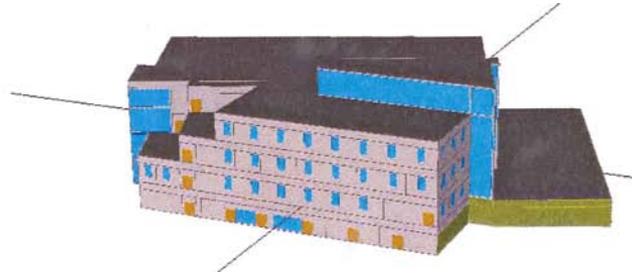
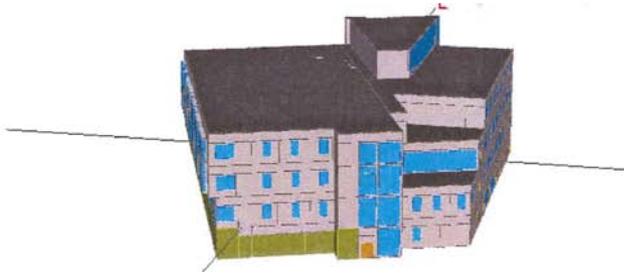
“The efficient and effective use of energy to maximize profits (minimize costs) and enhance competitive positions.”

~ Capehart, et al. Guide to Energy Management (2008)

“Is the sum of measures planned and carried out to achieve the objective of using the minimum possible energy while the comfort levels (in offices or dwellings) and the production rates (in factories) are maintained.”

~ <http://www.energyoffice.org>

Energy Data Management and Performance Analytics



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Real Time News »

Cleveland will spend big money to turn off the lights

By Mark Puente, The Plain Dealer

January 29, 2010, 4:52PM
CLEVELAND, Ohio — After turning the lights on in 1976 at Cleveland police headquarters, officials still can't shut them off.



View full size Plain Dealer file photo
Martin Flask

Light switches were never installed.

That will change after the city pays consultants to install switches in parts of the nine-story building downtown and make energy improvements in other city buildings.

The cost for the entire project: \$792,000. City officials said the work will be paid for with federal grants.

City Council's Public Safety Committee this week passed an ordinance Wednesday to award contracts for the work. The measure awaits a vote by the entire 10-member council.

	Demand	Supply
Behavior	<ul style="list-style-type: none"> • Management & Employee Reporting • Cleveland Conserves Campaign • Incentive Programs • Performance Management 	
Operations / Control	<ul style="list-style-type: none"> • Predictive and Proactive Maintenance • Real-time Pumpage Forecasting and Optimization • Building Management Systems 	<ul style="list-style-type: none"> • Procurement from De-regulated Markets
Technology	<ul style="list-style-type: none"> • Facility Energy Assessments • Lighting Upgrades (City Hall, Justice Center, Rec. Centers, Public Health, Fire/Police stations) • HVAC Retrofit / Upgrades • LED Streetlighting • LEED-NC: TASC Building / Kirtland SMB / North Collinwood Rec. Center 	<ul style="list-style-type: none"> • Fuel switches (Elec / NG to District Chilled Water / Steam) • Solar thermal domestic hot water system • Other renewable / advanced energy technologies

U.S. DEPARTMENT OF ENERGY
Energy Efficiency & Renewable Energy

Energy Efficiency and Conservation Block Grant Program

About the Program | Solution Center | Grantees | Information Resources | Financial Opportunities

Performance and Accountability for Grants in Energy

EECBG Webcast

Energy Efficiency and Conservation Block Grant Program Webcast Series: Register Here

Quick Links to Programs

- Weatherization and Intergovernmental Program
- State Energy Program
- Weatherization Assistance Program
- Tribal Energy

Over \$2.7 billion in formula grants are now available to U.S. states, territories, local governments, and Indian tribes under the Energy Efficiency and Conservation Block Grant (EECBG) Program, funded for the first time under the American Recovery and Reinvestment Act of 2009. This Program, authorized in Title V, Subtitle E of the Energy Independence and Security Act of 2007 (EISA) and signed into Public Law (PL 110-140) on December 19, 2007, provides funds to units of local and state government, Indian tribes, and territories to develop and implement projects to improve energy efficiency and reduce energy use and fossil fuel emissions in their communities. The Program is administered by the Office of Weatherization and Intergovernmental Programs (WIP) in the Office of Energy Efficiency and Renewable Energy (EERE) of the U.S. Department of Energy (DOE).

Some of the following documents are available as Adobe Acrobat PDF. [Download Adobe Reader.](#)

EECBG PROGRAM GUIDANCE Program Guidance Resources

Looking for Program Guidance? The link above will take you to a library of available resources.

SEARCHABLE FAQ DATABASE Searchable FAQ Database

Find answers to questions about all aspects of the Energy Efficiency and Conservation Block Grant process.

General Post Award Procurement Questions
Click [here \(PDF 58 KB\)](#) to view Post-Award Procurement Questions and Answers.

EECBG Competitive Funding
Up to \$454 million is available in EECBG competitive grants. The competitive grants Funding Opportunity Announcement (FOA) was first issued on October 19, 2009 and was [revised \(PDF 732 KB\)](#) November 20, 2009. A summary of the changes made to the original FOA can be found [here \(PDF 50 KB\)](#). Applications were accepted through [Grants.gov](#) until December 14, 2009. For complete details, please visit our [Competitive Grants page](#).

Solution Center Updates
The Solution Center, the online home for EECBG technical assistance, has recently been updated with a several new

EEER Information Center Programs and Offices

NEWS

DOE Invites Public Recovery Act West: Retrofit Reporting

January 27, 2010

Recovery Act Announces Secretary Chu Announces \$20.5 million for C.C. Renewable Energy Projects

January 21, 2010

Secretary Chu Announces \$77 million for Next Lighting

January 15, 2010

Secretary Chu Announces \$20 million to Improve for Heavy-Duty Tractor Vehicles

January 11, 2010

Fact Sheet: \$2.3 Billion Energy Manufacturing

January 9, 2010

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EVENTS

The Community Energy-Whitcomb County, North Carolina

February 4, 2010

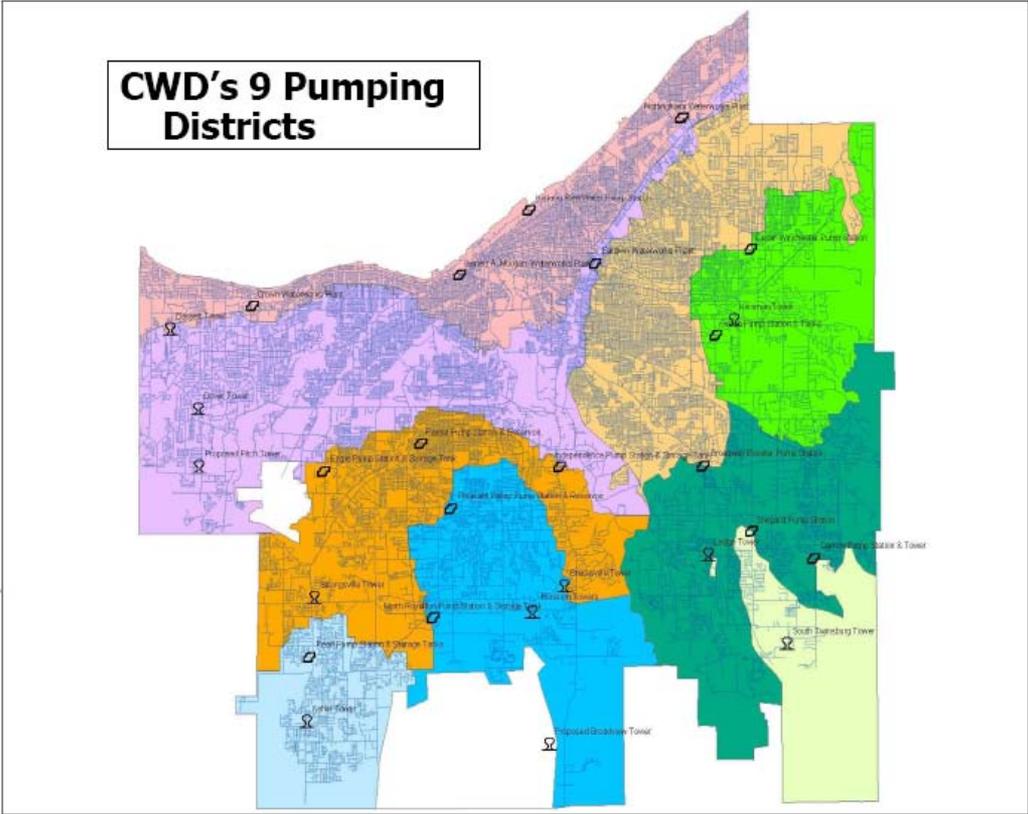
Clean Energy Work

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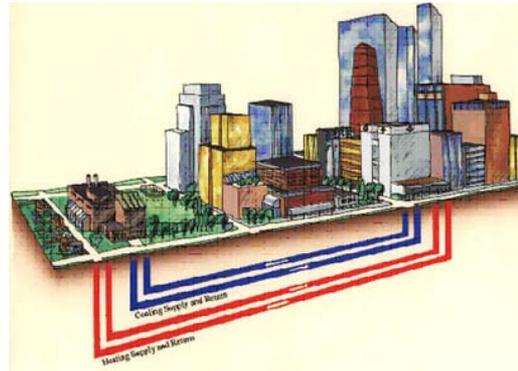
Industrial Energy Efficiency



Renewable and Advanced Energy Deployment



Wind Power



Combined Heat and Power



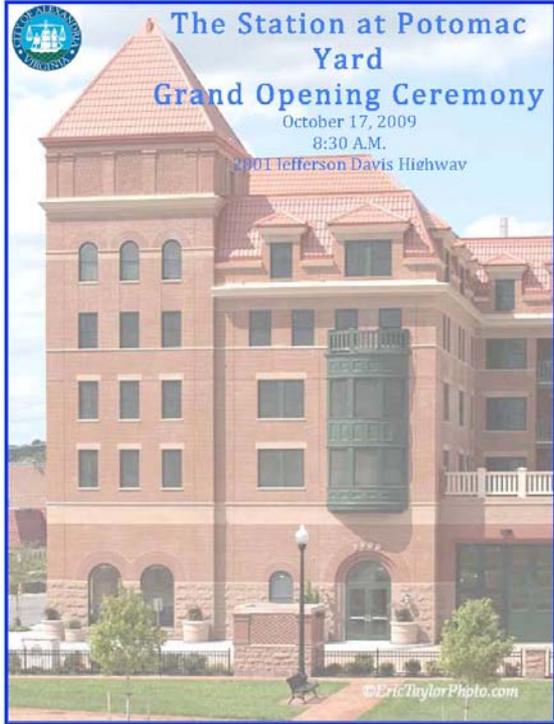
Biofuels

**Solar
Thermal
Hot Water
and Pool
Heating**



Waste-to-Energy

New Construction and Green Building



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Community Energy Management

Cleveland EnergySaver Program



DRAFT

Office of Sustainability
City of Cleveland
1201 Lakeland Avenue
Cleveland, Ohio 44114
T: 216.664.2444
F: 216.664.1278

May 2009

Account number: 554980

Home electricity report bill period: 07/14/07 - 08/13/07

This home energy report is intended to help you understand and make choices about your electricity usage and costs. Each month you will see:

- A comparison of your use to your neighbors
- A comparison to your own use last year
- Personalized tips for reducing your cost

We hope this helps you manage your home electricity use!

Adam Smith
1400 45th St.
Sacramento, CA 95819

Last Month Neighborhood Comparison

You used 17% MORE electricity than your neighbors last month.



*A 100-Watt bulb left on for 10 hours uses 1 kilowatt-hour (kWh).

HOW YOU'RE DOING:



12 Month Neighborhood Comparison

In the last 12 months you used 32% MORE electricity than your neighbors. This cost you \$645.



WHO ARE YOUR "NEIGHBORS"? We're comparing your usage to 100 homes nearby and similar in size to yours (average 2340 square feet). Your most efficient neighbors are the top 20 in terms of energy efficiency.

Personalized Action Steps

- Change your A/C filter
- Upgrade to efficient A/C
- Install solar panels

TURN OVER TO LEARN MORE

Strategic Planning and Policy Development



SUSTAINABLE CLEVELAND 2019

*Building an Economic Engine to Empower
a Green City on a Blue Lake*

August 12-14, 2009
Cleveland Convention Center

Final Report



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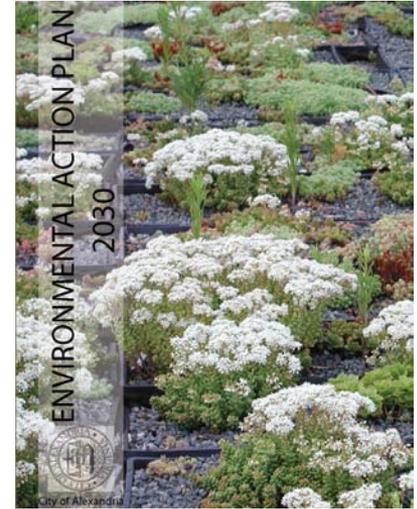
**Alexandria's
Climate Action and Adaptation Plan**
Local Actions to Save Energy,
Reduce Greenhouse Gas Emissions, and
Prepare for the Impacts of Climate Change



December 2009



Office of Environmental Quality
Department of Transportation and Environmental Services



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Projects and Partnerships



Great Lakes Energy Development Task Force



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Research



The Plain Dealer | Monday, September 5, 2005

Tower to assess Erie wind power

Green Energy Ohio finished building a wind monitoring tower a week ago atop the Cleveland Water Department intake crib in Lake Erie. The first-of-its-kind meteorological tower is roughly 3 1/2 miles north of downtown Cleveland. Wind and weather data will be collected for two years and used to determine if building electricity-generating wind turbines is viable. Collecting accurate wind data is critical because a fraction of a mile-per-hour can make the difference of a wind turbine being economically feasible or not. Here's how the tower works.

THE TOWER

The tower will stand about 125 feet above the crib's upper deck, and roughly 165 feet above the water, with wind instruments at four heights, and weather equipment at two levels. The crib provides a ready-made base for the 3-ton tower, which the organization said would keep the project from topping \$1 million, instead of the \$60,000 budgeted. The galvanized steel pole is engineered to withstand Lake Erie's worst storms.

THE CRIB

The crib, finished in 2004, is one of Cleveland's four water intake portals in Lake Erie and the only one above water. It pumps 150 million gallons of water a day along a tunnel to the Kirtland Pump Station just east of downtown Cleveland.

Steel-plated, reinforced concrete base is designed to withstand impact from wayward ships. This makes the crib ideal for consistent — and stationary — wind monitoring.

Data collection

Equipment at three levels — 20, 40 and 50 meters — will record wind movement, giving researchers a more complete picture of the lake's wind patterns.

How strong is Lake Erie's wind?
Researchers hope to answer the question by using the tower and the wind data collected at Lake Erie. **Smith, 42**

Can South Euclid be a test case?
When Green Energy Ohio sets up the tower, it will be in the town of South Euclid. **Smith, 42**

Diagram Labels:

- 50 meters (164 ft.)
- 40 meters (About 131 ft.)
- 30 meters (About 98 ft.)
- 20 meters (About 66 ft.)
- Weather vane: Fanned devices measure wind directions.
- Anemometer: Cupped device on each boom measures wind speed.
- Booms
- Pole
- Photovoltaic array: Solar panels power equipment on the crib.
- Temperature sensors: Located at 50- and 30-meter heights on pole.
- Warning horns
- Coast Guard radar
- Wind data is collected in a computer in the cribhouse and beamed ashore.
- A smaller second pole at 19 1/2 meters (nearly 64 ft.) supports a combination vane and anemometer.
- Lake Erie
- Lake depth — 53 feet
- Crib base fortified with rocks.

SOURCES: Green Energy Ohio; City of Cleveland Water Division
STEPHEN A. BEARD/THIS PLAIN DEALER

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