



GovEnergy
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- August 15-18, 2010 - Dallas, Texas -
- Dallas Convention Center -



Technology in The Buildings We Serve
Managing the Energy

James Watson-GSA *Metropolitan Service Center*

The Harvey W. Wiley Building

Building Background

- Completed 2001
- 441,305 Gross Sq. Ft. 25% Lab Space
- 2003 - using 294,185 BTU/sqft/yr*
- 2005 - using 299,298 BTU/sqft/yr*
- 2007 started process of managing the energy
- *Based on actual energy data, June of each year

Mechanical Equipment

Equipment types currently monitored:

- 22 Air Handling Units
- 34 Exhaust Fans
- 3 Chillers, 3 Cooling Towers & 3 Boilers
- 10 Chilled Water Pumps, 3 Condenser Water Pumps & 4 Hot Water Pumps

Mechanical Equipment

- 677 VAV terminal boxes
- 8 Glycol Water Pumps
- Multiple System Control Valves
- Building Automation System: 5,800 points

Approach to manage Energy



- **About Infometrics**
- Infometrics process
- Infometrics-GSA case study
- Cimetrics-GSA partnership summary

GSA Goal: Utilize an advanced analytical technology to improve building operations and conserve energy.

- **Infometrics is a remote monitoring and ongoing building operations improvement service offered by Cimetrics.**
- **Infometrics consulting and reporting enable clients to reduce energy costs and ensure efficient building systems operations.**
- **GSA and Cimetrics started their partnership in January, 2007.**

Since January 2007 Infometrics has helped GSA in...

1. Reducing energy costs and CO₂ emissions. ✓
2. Mitigating operational risk. ✓
3. Improving air quality, occupant comfort, and productivity. ✓
4. Ensuring efficient and proper equipment operation. ✓
5. Improved coordination between Building Manager, CFM Contractor and Customers. ✓

Approach to manage Energy



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Where can Infometrics help?

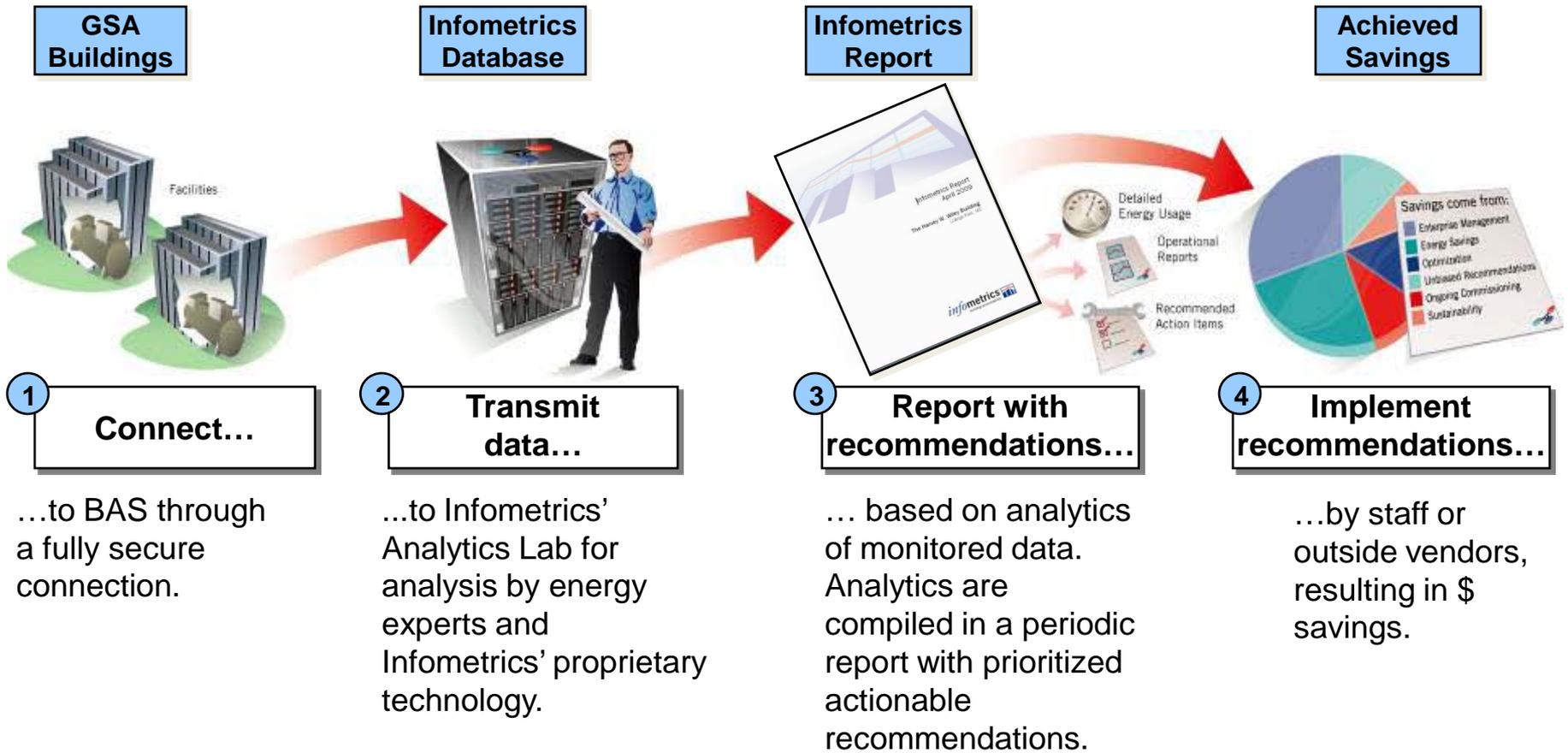
Infometrics can help building owners that have:

- **Building automation system (BAS).** ✓
- **Facility size: greater than 100,000 sq ft.** ✓
- **Energy spend: greater than \$300,000.** ✓



Infometrics service can not be implemented if the building does not have a BAS.

Infometrics process: Analyze Building Automated Systems to provide detailed energy usage, operational reports & recommend actions.

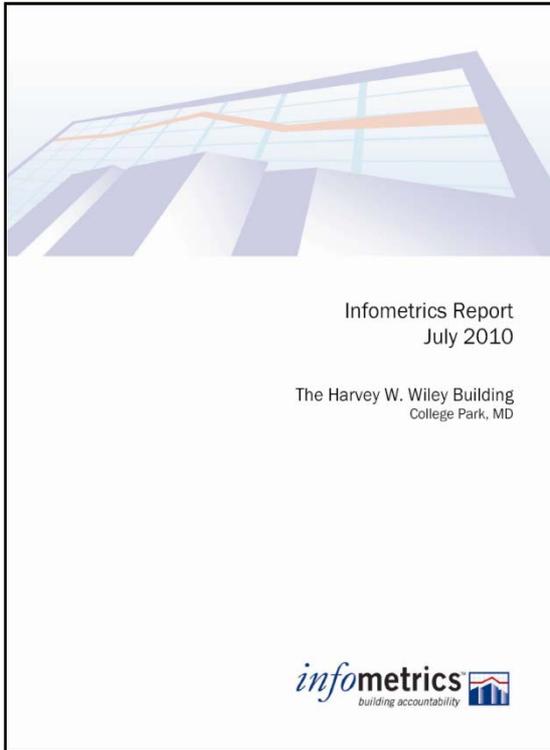


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Infometrics monthly report includes a list of actionable issues



Savings Opportunity

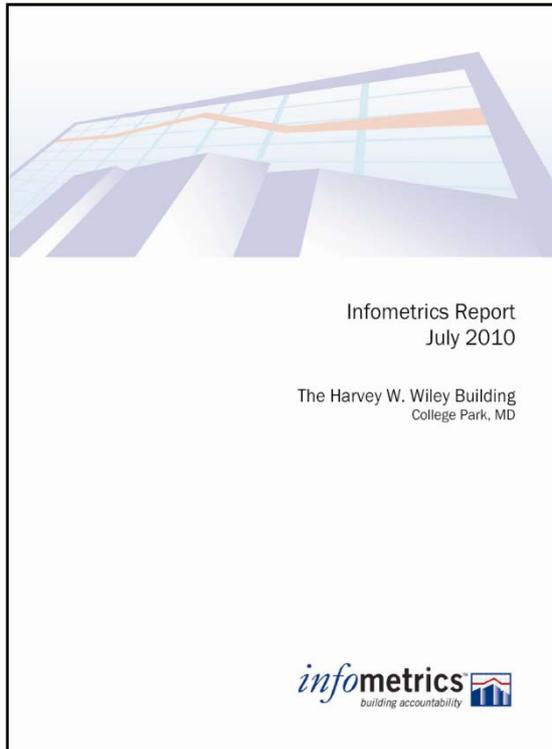
**Simultaneous heating and cooling in AHUs-7, 9, 11 & 13.
Inspect HW and CHW valves and sequence of operation.**

Estimated Annual Energy Savings
Energy: **\$194,740/yr**
CO₂: **831 tons/yr**
Electricity: **534,1212 kwh/yr**
Natural gas: **96,370 therms/yr**

Priority: **High**

100% implemented

Infometrics monthly report includes a list of actionable issues



Savings Opportunity

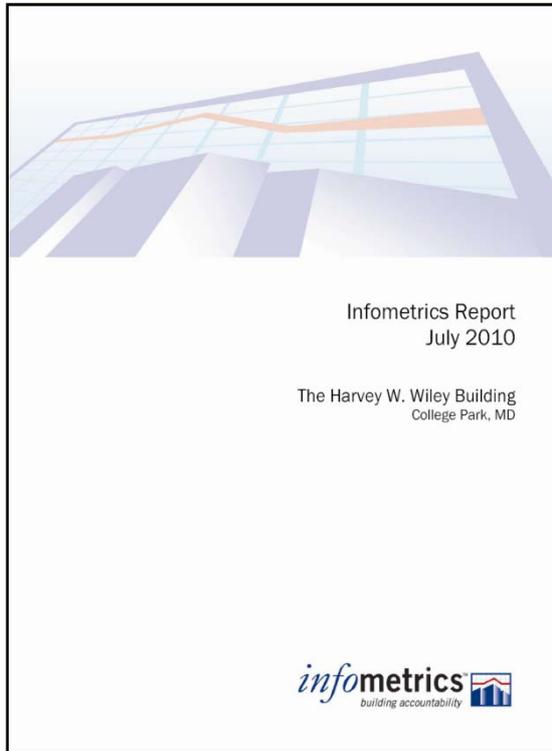
**AHU's operating 24/7
Implement 10 hour a day schedule,
especially weekends**

Estimated Annual Energy Savings
Energy: **\$166,998/yr**
CO₂: **890 tons/yr**
Electricity: **1,291,051 kwh/yr**

Priority: **High**

92% implemented

Infometrics monthly report includes a list of actionable issues



Savings Opportunity

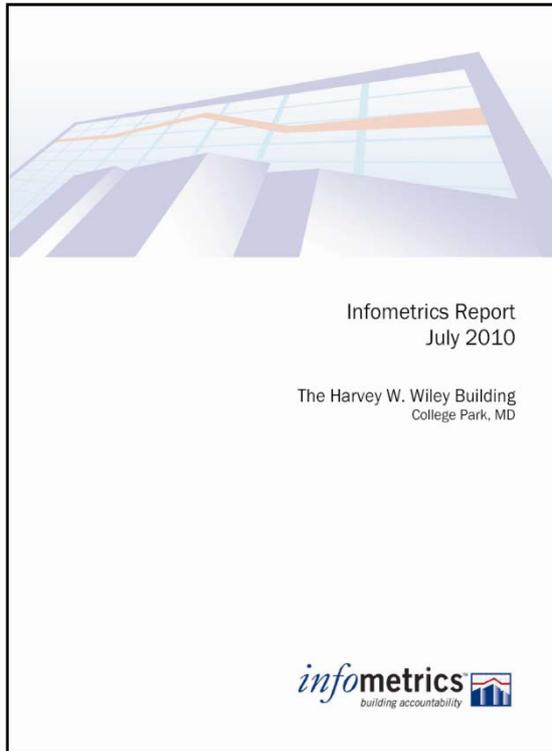
**Exhaust fans operating 24/7
Implement matching AHU schedule, Lab fans follow other criteria**

Estimated Annual Energy Savings
Energy: **\$168,361/yr**
CO₂: **898 tons/yr**
Electricity: **1,503,224 kwh/yr**

Priority: **High**

24% implemented

Infometrics monthly report includes a list of actionable issues



Savings Opportunity

Chilled water system operation
Use chilled water loop as a dry-side economizer

Estimated Annual Energy Savings
Energy: **\$130,225/yr**
CO₂: **694 tons/yr**
Electricity: **1,162,721 kwh-yr**

Priority: **High**

100% implemented

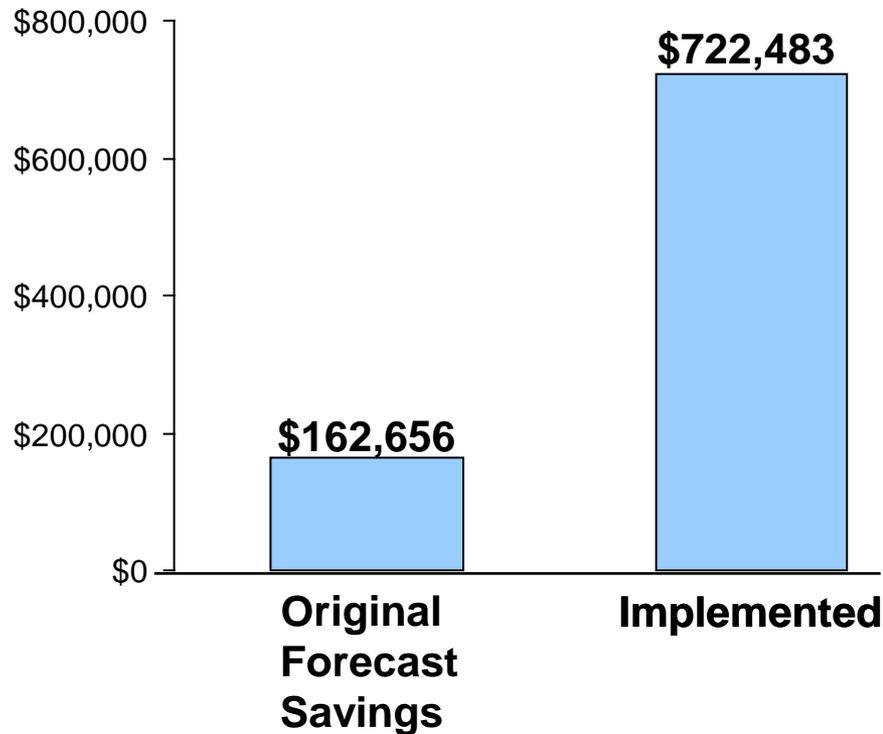
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Energy cost savings summary

Energy savings (\$ per year)

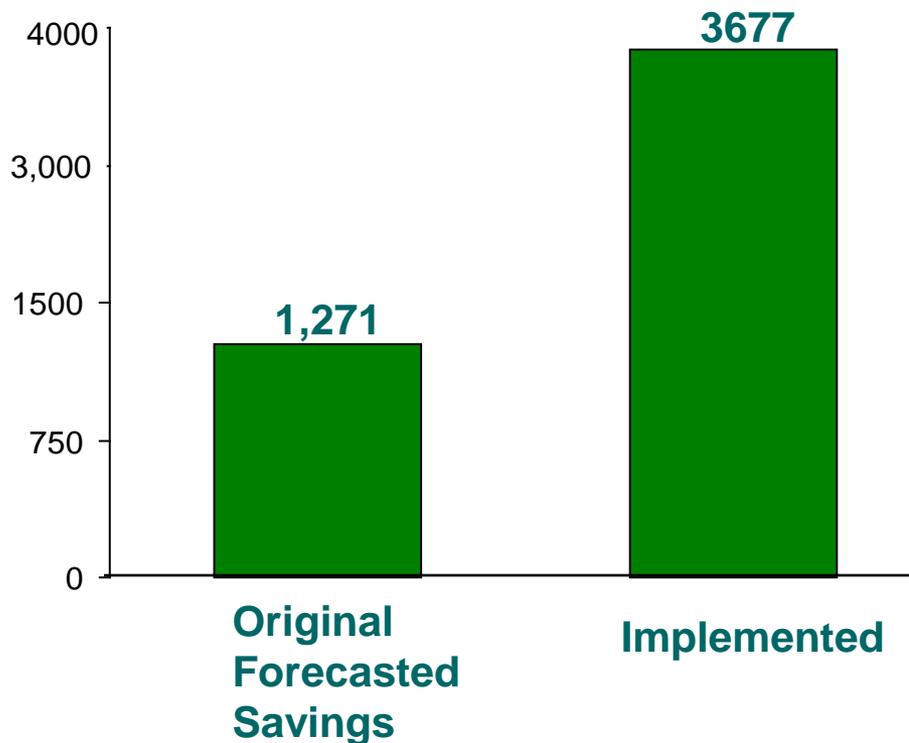


What does it mean?

- Less than one year payback on Infometrics service.
- Savings achieved with no capital expenditures.

CO₂ saving summary

CO₂ savings (Tons per year)



What does it mean?

- Meeting two of the three LEED Energy and Atmosphere prerequisites.
- Qualifying for at least 10 LEED Energy and Atmosphere points.

The Harvey W. Wiley Building

Building Summary

- Energy Improvements Ongoing
- Savings Identified: \$1,175,783
- Savings Implemented: \$722,483
- CO₂ Savings Identified: 5,954 Metric Tons
- CO₂ Savings Implemented: 3,677 Metric Tons

The Harvey W. Wiley Building

Building Summary concluded

- 2003 - using 294,185 BTU/sqft/yr*
 - 2005 - using 299,298 BTU/sqft/yr*
 - 2007 - using 250,971 BTU/sqft/yr*
 - 2010 - using 203,262 BTU/sqft/yr*
-
- Greater than a 30% savings 2005-2010
 - *Based on actual energy data, June of each year

Q & A

Thank You

- » If you have questions please contact:
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email: james.watson@gsa.gov