

**Hawkeye**  
ENERGY SOLUTIONS

PARTNERSHIPS IN SAVING ENERGY

## Active Energy Management Plan

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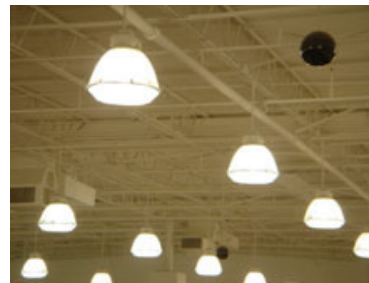
- 1. Active Energy Management Plan**
- 2. Web-Based Smart Building Systems**
- 3. Cost Savings**



# About Us

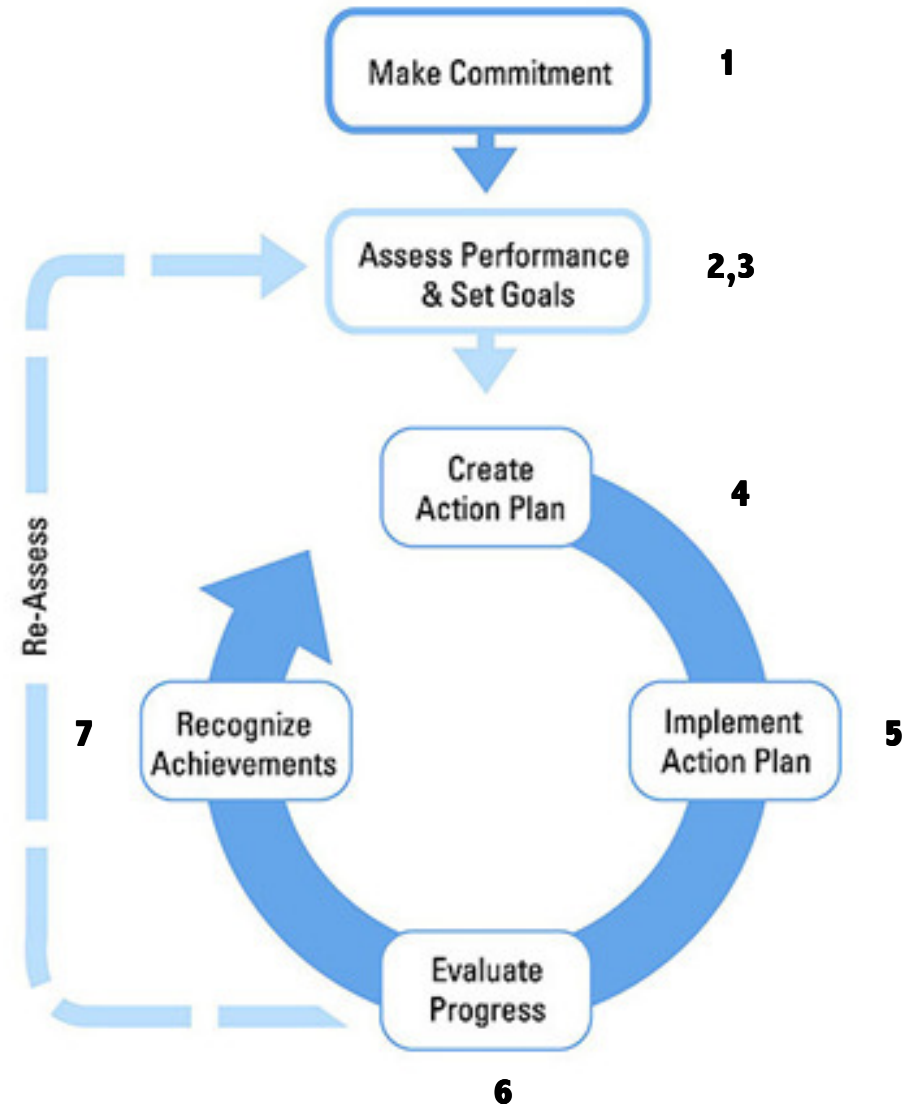
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- *Hawkeye Energy Solutions* manages and reduces utility costs for multi-site retail, industrial and institutional facilities.
- Professional Engineers • AEE Certified Energy Managers • IT Professionals
- Established 1996
- Shorewood, IL
- Illinois Registered Professional Design Firm
- United Engineering, Inc.



## Energy Star Energy Management Cycle

[www.energystar.gov](http://www.energystar.gov)



# 1) Commit to Continuous Improvement

## ➤ Team

- 1) Energy manager (Hawkeye)
- 2) Department managers
- 3) Upper management
- 4) Web based data collection system (Hawkeye System)

## ➤ Document Energy Policy

- New equipment eff, lighting eff, motors eff, insulation

## ➤ Create ECM Punch List

## ➤ Energy Audit Coordination

- RAC/SEDAC

## 2) Assess Yearly Performance

### ➤ **Benchmarks**

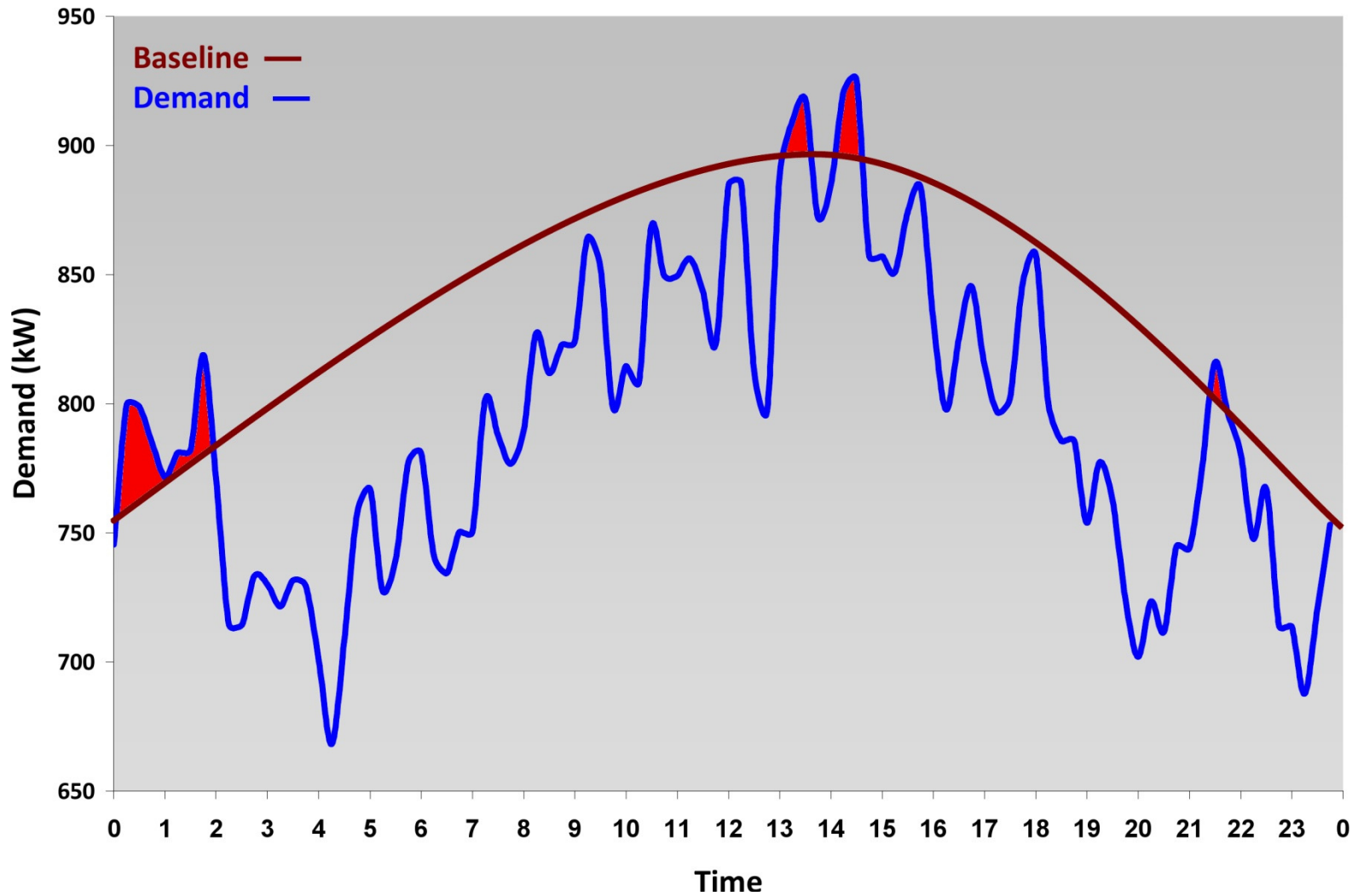
- EUI (kbtu/sf/yr)
- Energy Star Rank (Portfolio Manager)
- ELF vs Occupancy

### ➤ **Review utility providers**

### ➤ **Set Baselines**

# Baseline Chart

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### 3) Set Yearly Goals

- **15% overall, 30% in five years**
- **15% per department (create ownership)**
- **Awards?**
  - **Energy Star**
  - **BOMA 360**
  - **Local, state (County or city 'Green Team')**
  - **Create your own**



## 4) Create Action Plan (Yearly)

### ➤ *Brainstorm*

- By process and/or
- Department managers & operators

### ➤ **Clearly Document the Plan**

- Schedule who plans to do what and when

### ➤ **Set Up a Competition**

### ➤ **Schedule Helpful Training**

## 5) Implement Action Plan

### ➤ Communication:

- Energy Manager ↔ Team Members

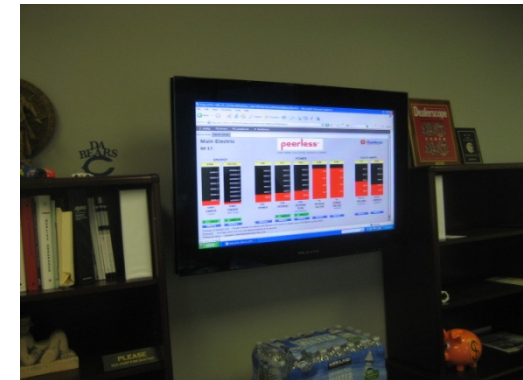
### ➤ “Try em and Track em”

- Use building as test kitchen
- Why not?

### ➤ Awareness

- System / emails / alarms
- Local PC daily usage
- Light tree
- Poster in the locker

### ➤ Team member training

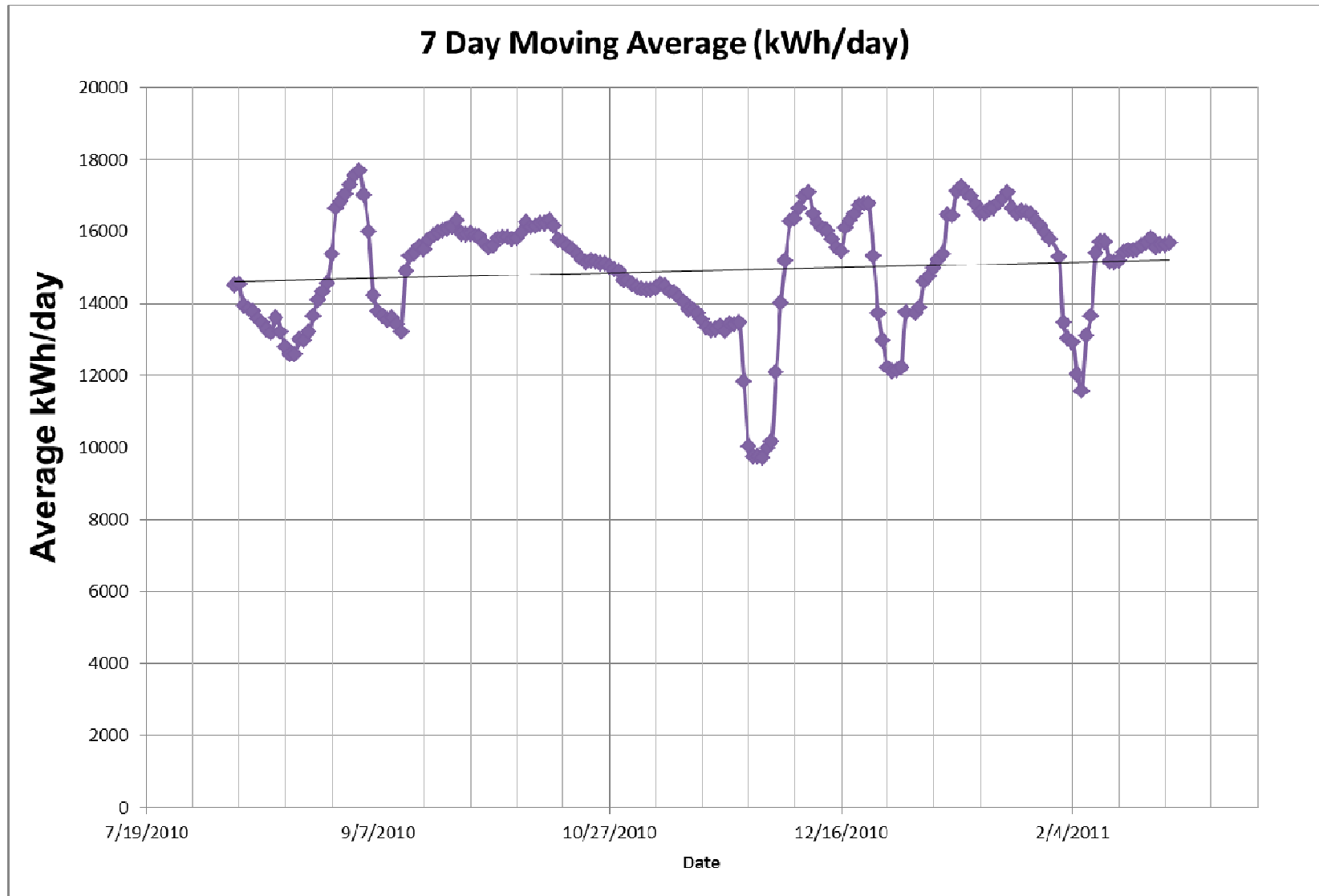


## 6) Evaluate Progress

- **Monthly Reports**
- **Track & Trend Data**
  - **Metrics: kwh/unit/day, kw demand/unit/day**
  - **7day profile,**
  - **kwh vs ambient**
- **Quarterly Meetings**

## Moving Average Baseline Chart

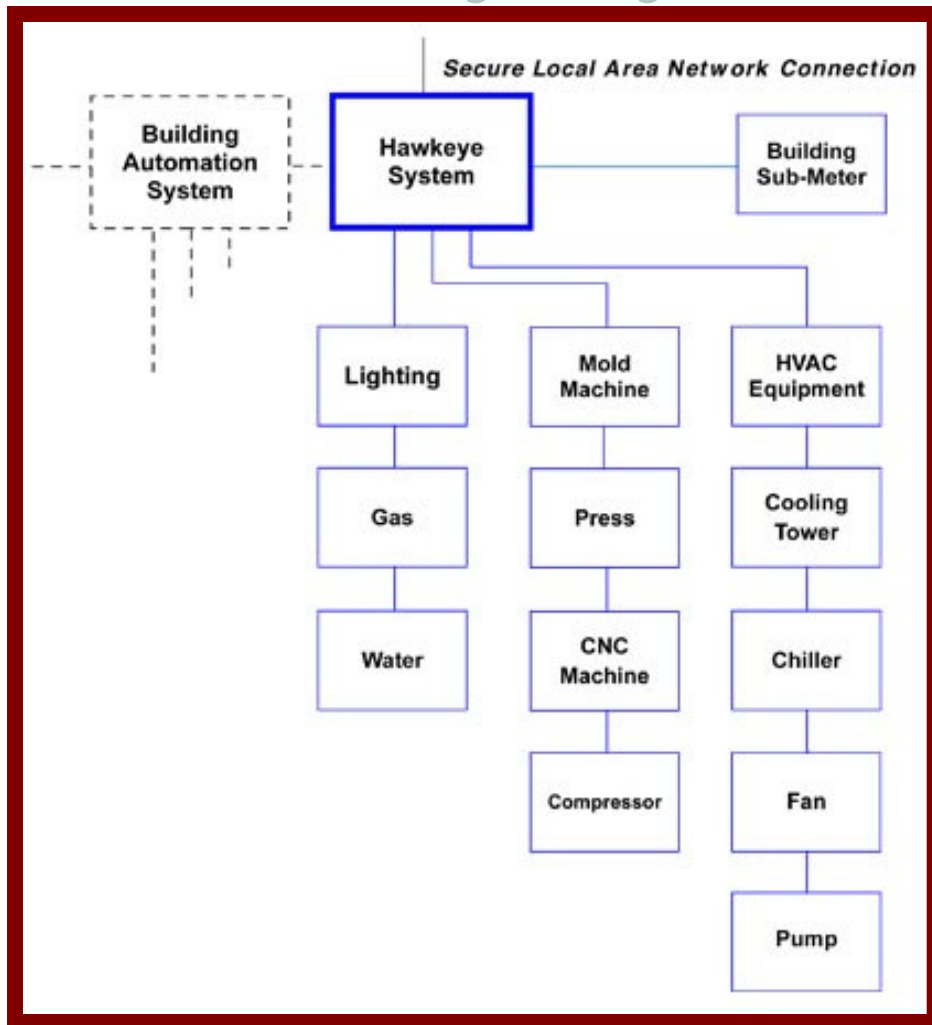
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## 7) Recognize Achievements (Yearly)

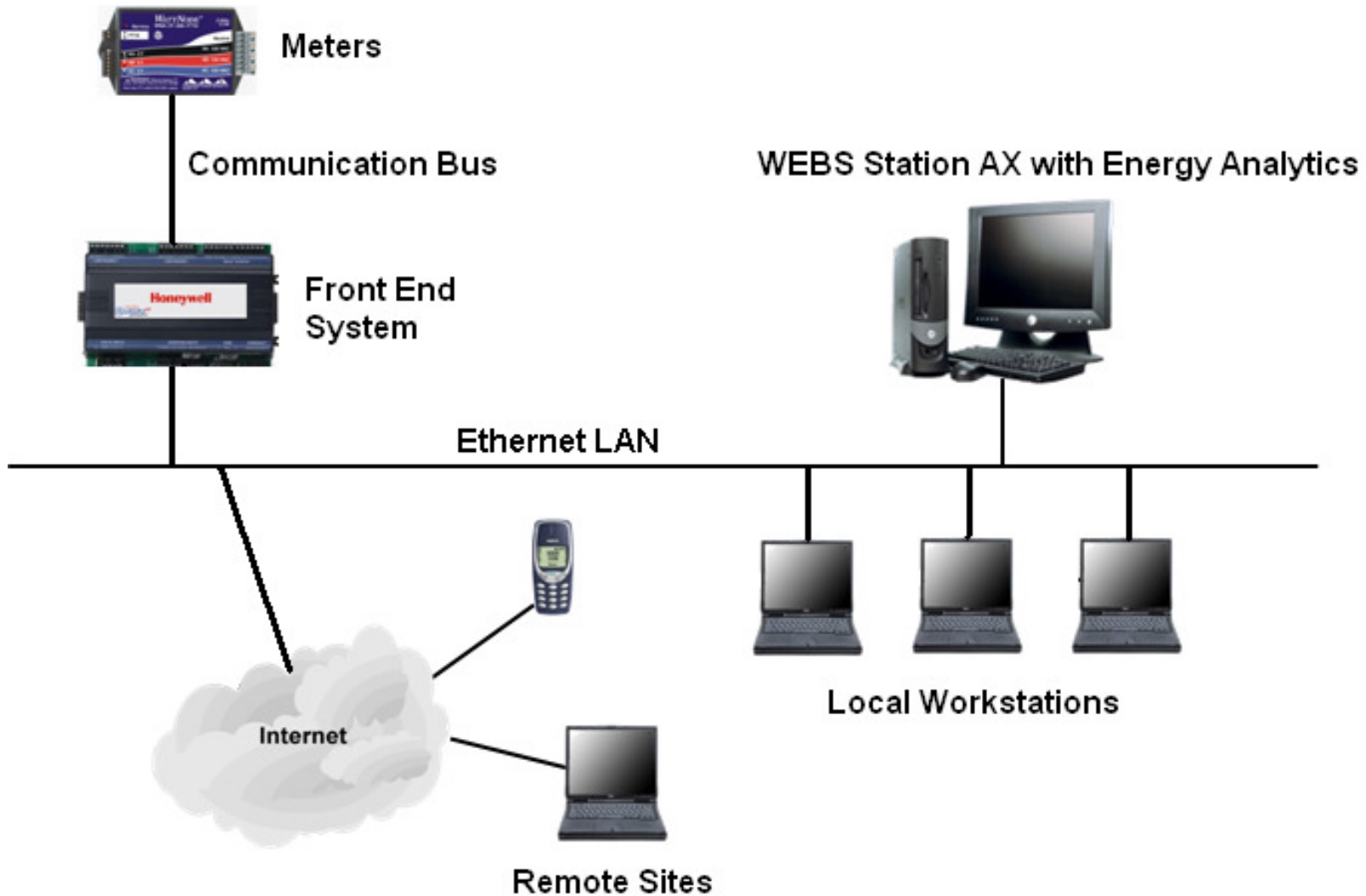
- \$\$\$
- Post Awards
- Awards (local, state, national)
- Analyze Failure

## The Hawkeye System



- Honeywell Webs
- Web based
- PC, Laptop, or smart phone
- Open protocol
- LonWorks, BACnet, Modbus, OPC
- Expandable
- Customizable
- Proven technology

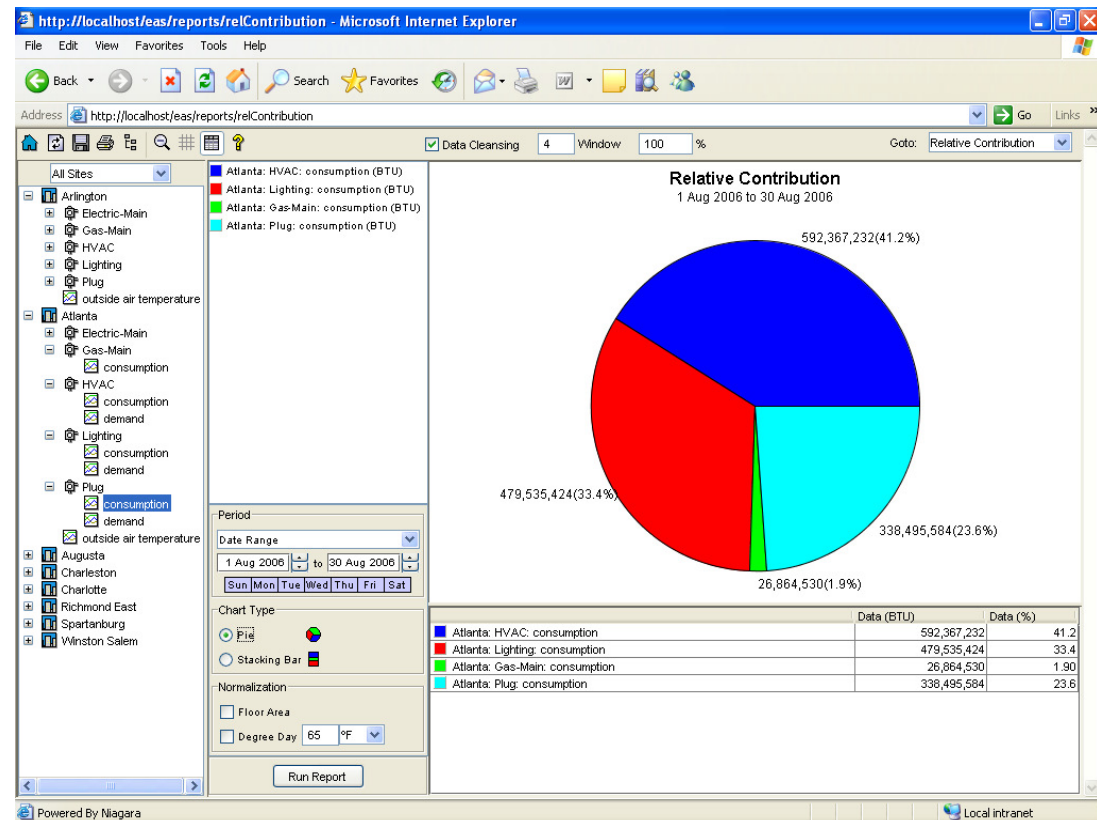




## Data Collection and Analysis

### 16 Different Reports to Analyze Energy Usage

- **Average Profile**
- Aggregation Analysis
- Enterprise Ranking
- Equipment Operation
- Correlation Report
- **Exceptions**
- **Load Duration**
- Point Trending
- Relative Contribution
- Spectrum Summary
- Bill Reconciliation
- Budget Report
- Cost Contribution
- Cost Ranking
- **Rate Comparison**
- **What-If-Analyzer**



Honeywell WEBs<sup>AX</sup> Energy Analytics



## How Much Can We Save?

Action	Observed Savings
Installation of Meters	<b>0% to 2%</b> The Hawthorne Effect
Bill Allocation Only	<b>2.5% to 5%</b> Improved Occupant Awareness
Building Tune-Up And Load Management	<b>5% to 15%</b> Improved Awareness, Identification of Simple Operations and Maintenance Improvements and Managing Demand Loads Per Electric Rate Schedules
Ongoing Commissioning	<b>15% to 45%</b> Improved Awareness, Ongoing Identification of Simple Operations and Maintenance Improvements and Continuing Management Attention

**Table 1:** Expected energy savings from utility metering.

*Similar to how a **beach ball** has to be held down in the water or it will shoot up... **energy and utility** usage has to be held down or it too will shoot up.*





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## Conclusion

# Questions?