

B.A.I.T. – Making the Most of your Project Funds

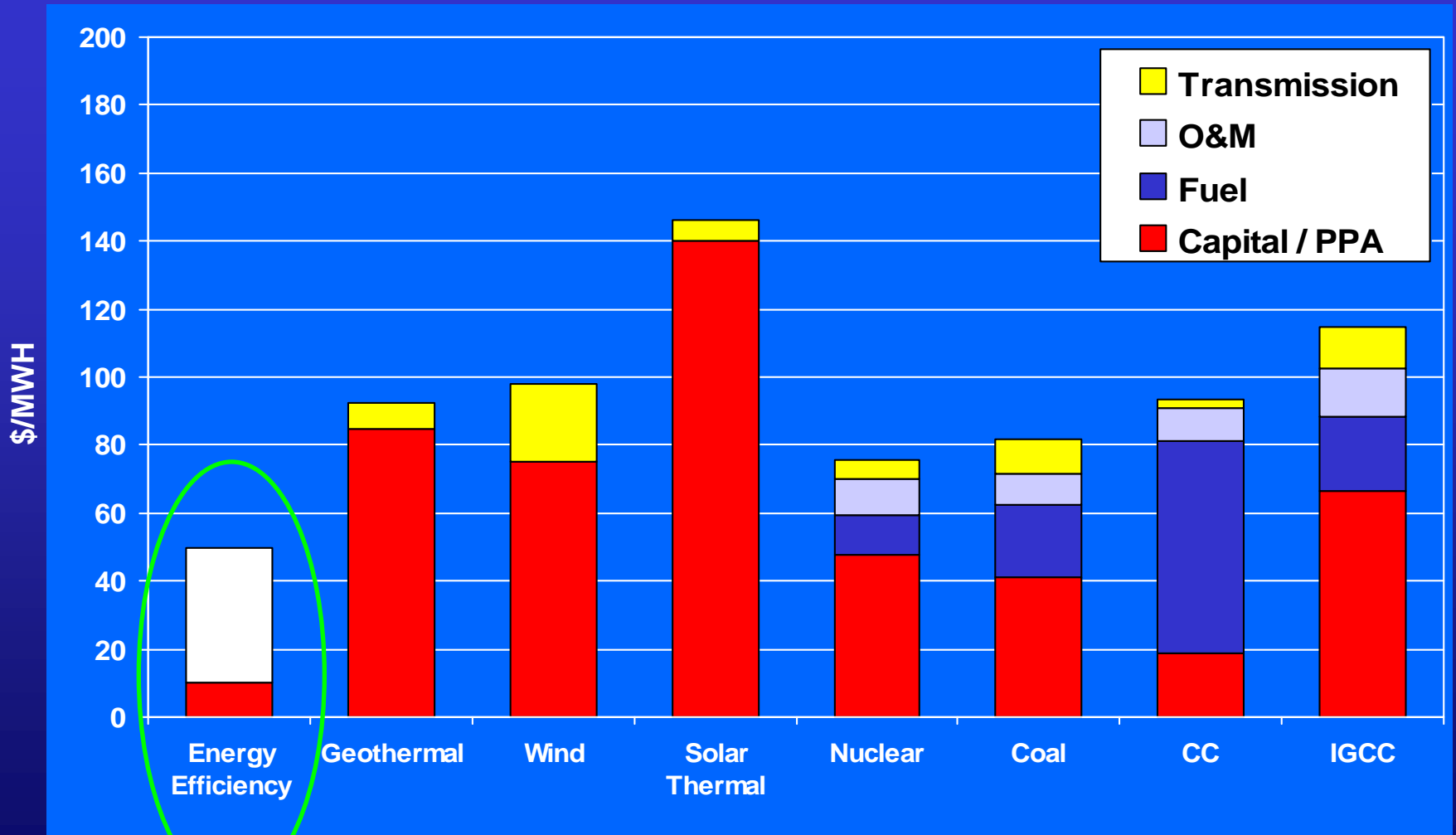
Michele Negley, Implementation Director
APS Solutions for Business

October 1, 2009

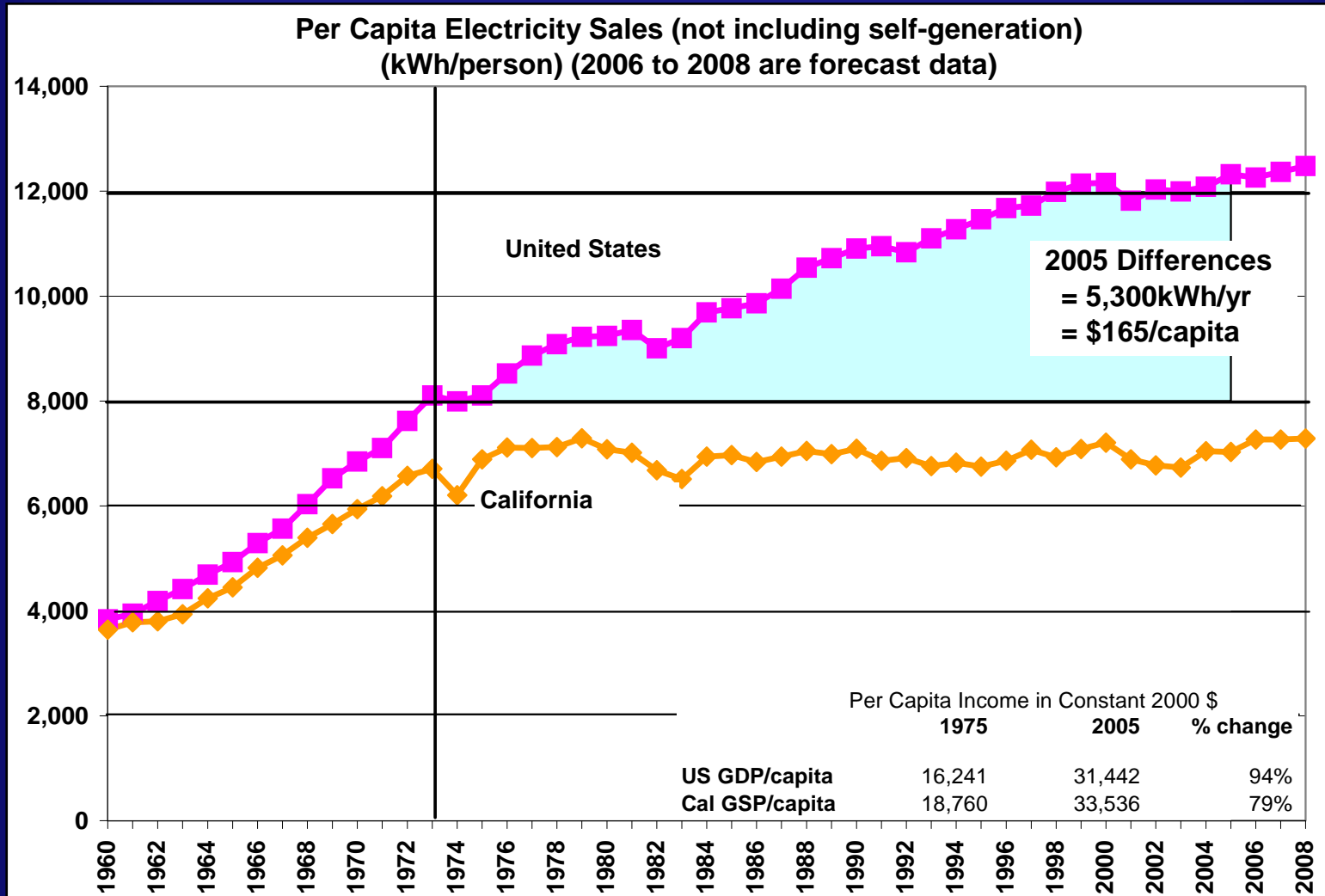
Why Energy Efficiency?

- Most cost effective energy “resource”
- Proven and viable
- Has multiple returns - financial and environmental
- Effective method to manage energy cost risk
- Utility Incentives

Most cost effective energy "resource"



Proven and Viable Results

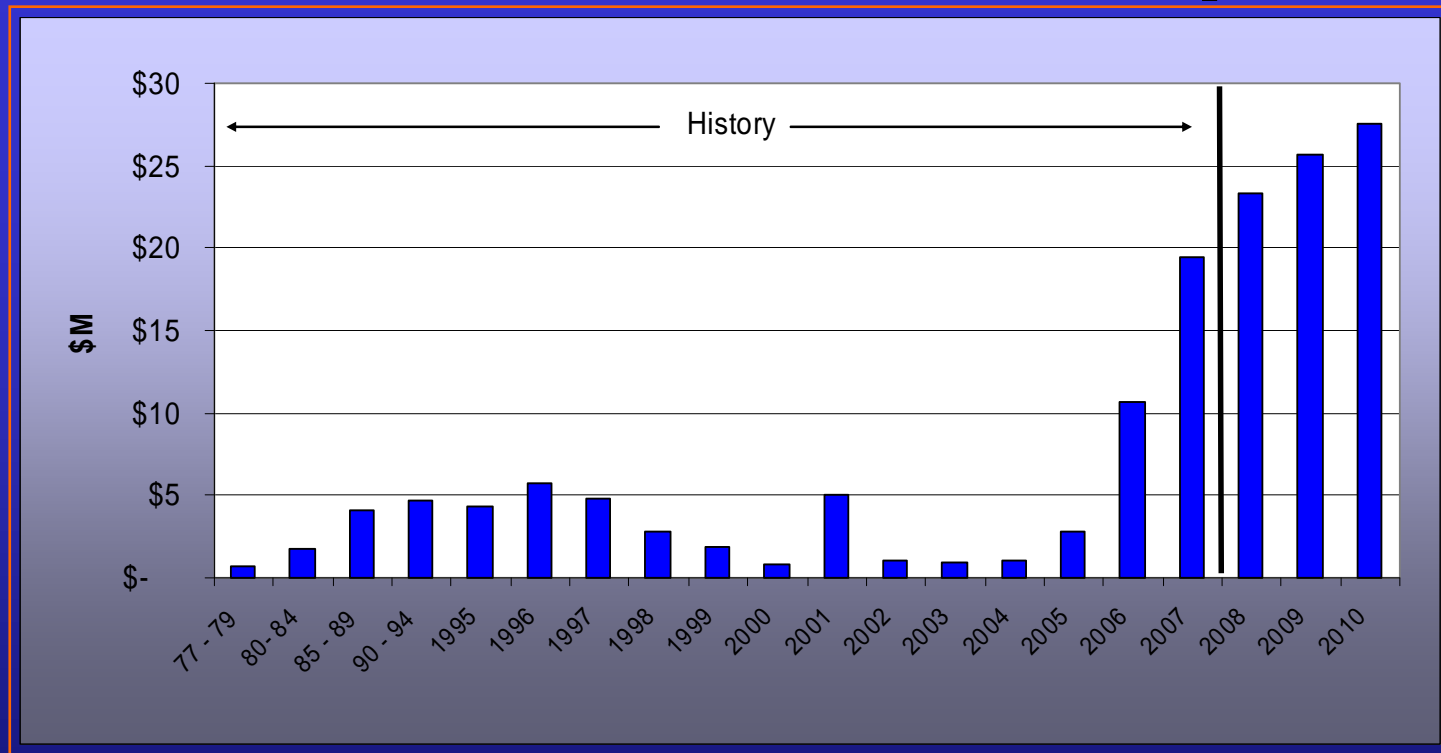


Multiple Returns

Financial and Environmental

- Customers who have participated in the APS Solutions for Business program:
 - Invested \$80M, Received \$16M in incentives
 - Will save **\$302M** over equipment lifetime
 - Reduced generation = CO2 reduction of 2M tons, and water reduction of 1 billion gallons
 - Equals removing **300,000 cars** for a year
 - Water consumption of **8400 homes**

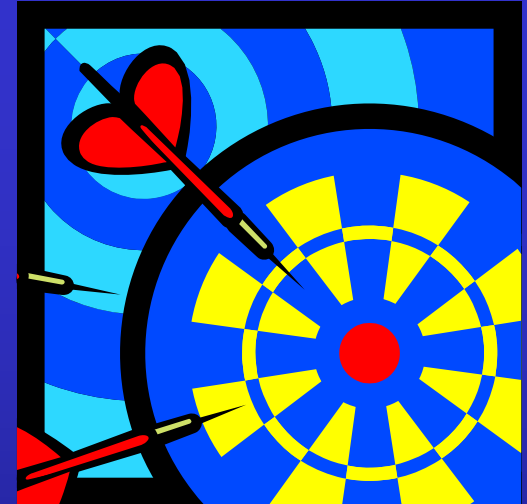
Unprecedented Investments by Utilities - APS Example*



* APS Energy Efficiency programs are approved by the Arizona Corporation Commission and paid for by APS Customers

B.A.I.T. - Tried and True

- **Benchmark**
 - ENERGY STAR or ICLEI
- **Assess**
 - Deeper look at worst performing buildings
- **Implement**
 - Energy Efficiency and Renewable Projects
- **Track**
 - Measure energy and cost savings



Benchmarking



STATEMENT OF ENERGY PERFORMANCE
Office Sample Facility

Building ID: 1020203
For 12 Month Period Ending: July 31, 2020
Date SEP becomes valid: November 28, 2020
Date SEP Generated: November 28, 2020

Facility	Facility Owner	Primary Contact for this Facility
Office Sample Facility 1224 Main Street Charlotte, NC 28227	Sample Owner 1500 First Avenue Charlotte, NC 28227 555-555-5555	John Doe 1500 First Avenue Charlotte, NC 28227 555-555-5555 jdoe@sample.com

Year Built: 2000
Gross Floor Area (sq. ft.): 63,202
Energy Performance Rating: (1-100) 66

Site Energy Use Summary	
Natural Gas (Btu)	1,174,270
Electricity (kWh)	2,285,775
Total Energy (kBtu)	2,443,045

Energy Intensity
Source (kBtu/sq. ft.)
Emissions (based on site energy use)
Greenhouse Gas Emissions (MTCO₂/year)
Duke Energy Carolinas, LLC
405

National Average Comparison	
National Average Site EUI	104
National Average Source EUI	200
% Difference from National Average Source EUI	-26%

Building Type: Office

Meets Industry Standard for Indoor Environmental Conditions:
Ventilation for Acceptable Indoor Air Quality: Yes
Acceptable Thermal Environmental Conditions: Yes
Adequate Illumination: Yes

Professional Engineer
License Number: 10002333
John Doe
21 Country Lane
Charlotte, NC 28227
555-555-7188

Tracking Number: SEP200011000001032028

“To Measure is to Know”

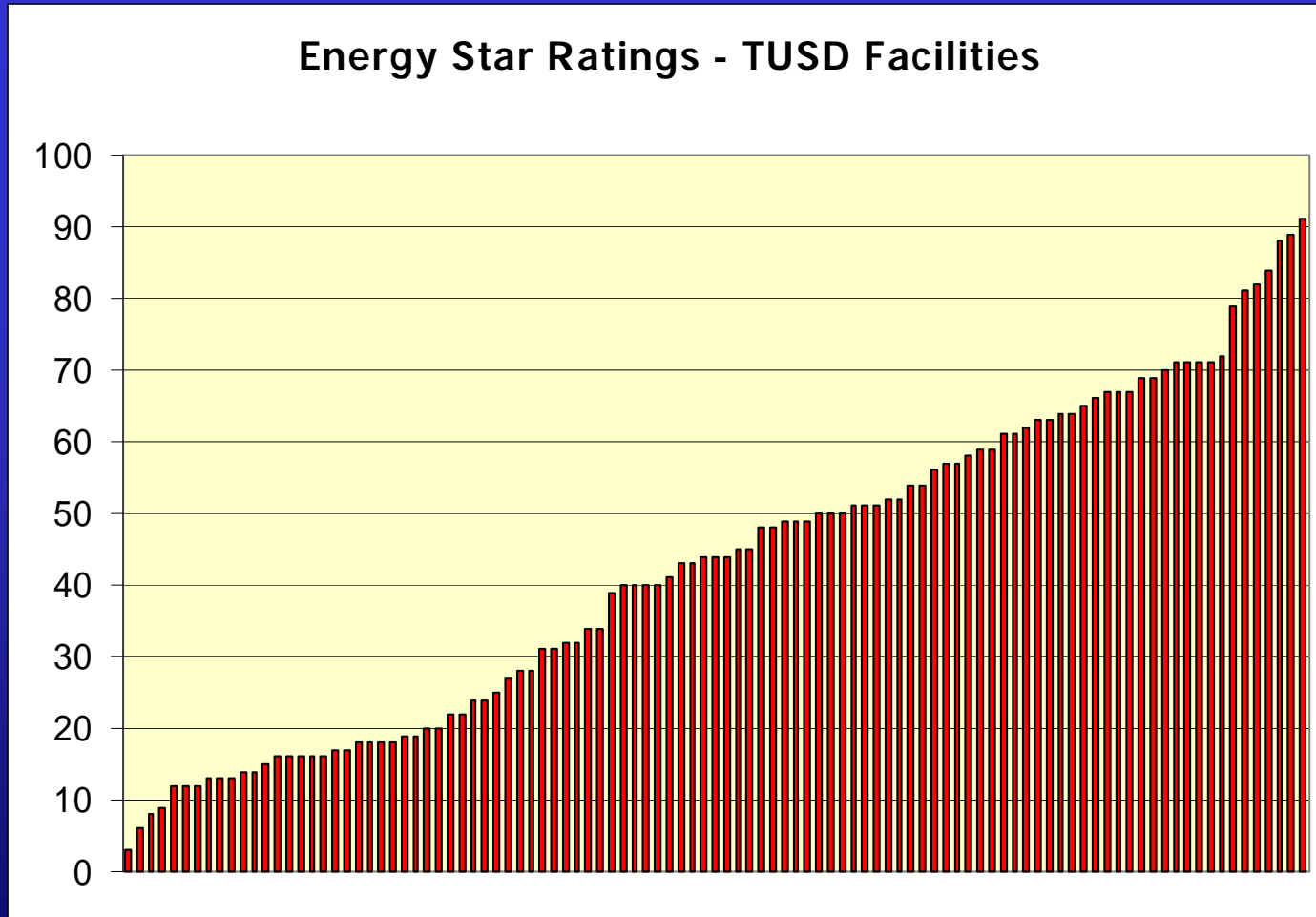
Benchmark your facilities to target the worst performers

ENERGY STAR Benchmarking

- Compares your buildings against national average
 - Input energy use, building type
 - Weather Adjusts
- Ranks the performance of each facility
 - Identifies which facilities to target



Benchmarking Example – Tucson Unified School District



Facility Assessment

- Select underperforming buildings
 - On-site assessment
 - Lighting, HVAC, Building Envelope, Operating Schedules
 - Identify Projects, Energy Savings, Costs
- Leverage Resources
 - 50% up to \$10,000 APS Rebate for Studies





Assessment

- Performed by staff, contractors and/or consultants
- High level Assessment or detailed Audit
- Energy Audit \$.05-\$.12/sq ft, Includes
 - Building Description and Energy Usage
 - Energy Conservation Measures
 - Total First Cost
 - Available Rebates
 - Annual Savings
 - Payback

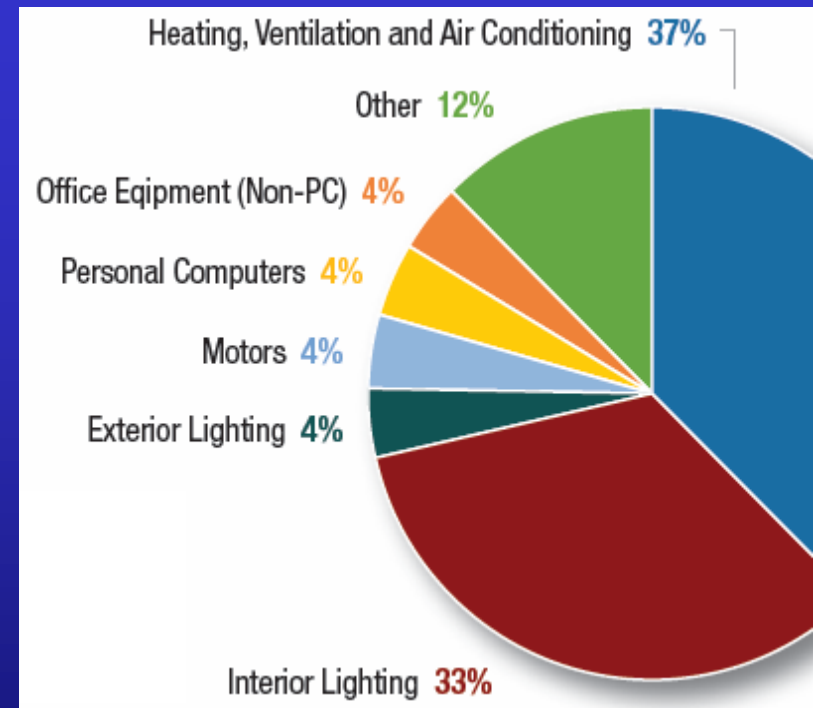
Implementation – Project Examples

■ Lighting Retrofit

- \$.75/s.f. cost
- 30-40% Savings
- Prescriptive Incentives 30-60%

■ Chiller Replacement

- Makes sense if unit is at end of life
- \$1,000/ton
- 10-30% Savings

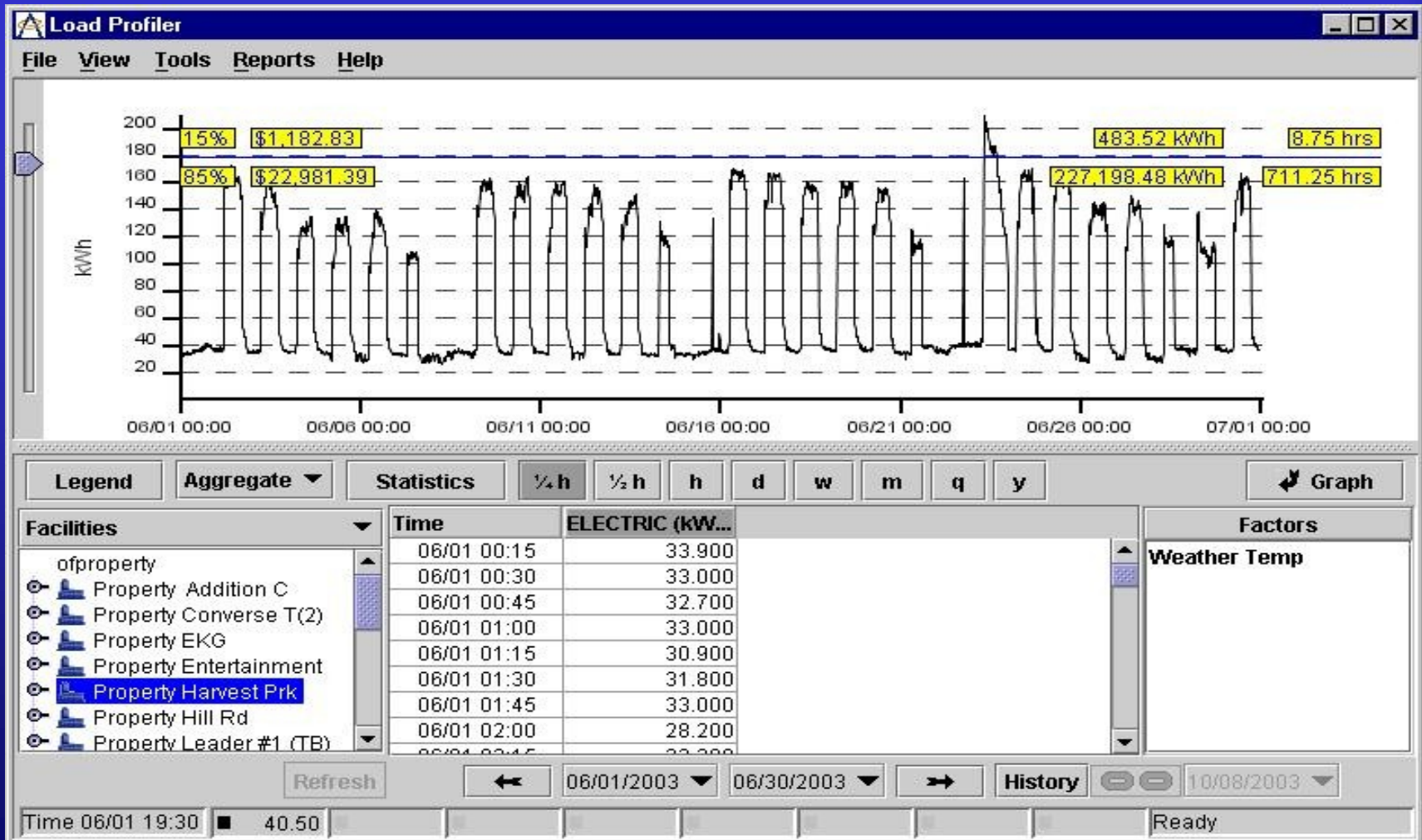


Tracking

- Energy Savings:
 - Calculated in Assessment (pre-install)
 - Used to track GHG reductions
- Leveraging Resources
 - Utility or 3rd Party Energy Information Systems



Energy Information Service - EIS



How to Get Started

- Utility Trade Ally Lists for Service Providers
 - Benchmarking/Auditing Firms
 - Contractors
 - Not Endorsement – but trained on Programs
- APS Training Classes (50% customer discount)
 - **October 21 2009** – *Lighting Fundamentals* - Phoenix Sheraton Downtown
- Feedback on Evaluation Form for future support

Summary

- B.A.I.T. Approach Aligns with Requirements
- Benefits your school district
 - Reduced Energy Costs for 10-20 years
 - B.A.I.T. process should continue after ARRA funds are spent
- Leverages Resources
 - Utility Incentives before, during and after ARRA funds