

City of Chandler

Municipal Utilities Dept.

Efforts Regarding Energy Audits

For ASU GIOS SCN Solar & Energy
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Caveats / Disclaimers

- This is an Overview – intentionally non-inclusive
- Everything is subject to change in the future
 - Snapshot of a work in progress
 - One of many possible paths
- Designed for discussion purposes
- Reflects Bob's thoughts at the moment of writing
 - Not necessarily what anyone currently associated with Chandler currently thinks or supports
- Not an official Chandler document
 - Is just a formatted information sharing tool

Audits

- First formal Energy Audit for Department
 - HDR 2004
- Listing of facilities –matched with electrical accounts
- List of recommendations by facility type

Audit - findings

- Bills went to accounting
 - few tracked individual facility usage
 - was difficult to get power usage information
- Some facilities were billed at wrong rate
 - Pumps on SRP E-36, not E-47
- Load factors and max KW were not tracked
 - Determines billing rate for next several months

Follow-up to Energy Audit

- Master Plan Modeling
 - Looked at all equipment and pump curves
- Well and pump efficiency testing
 - All pumps tested quarterly
 - Have replaced inefficient equipment
- Monthly tracking and reporting on energy use for all MUD facilities
- Are developing optimization strategies

Citywide Energy Tracking

- Carbon footprint calculation
 - Every facility looked at annually
 - Internal energy reduction goals
- Building and Facilities group routinely tracks energy bills
 - Also pays bills out of dedicated budget
- Everyone's energy usage posted on intranet
- \$2.2 million EECBG grant to address major issues

Investment Grade Audit

- In 2009 APS Energy Services conducted investment grade audits on 31 municipal buildings (630,120 sqft)
 - 90% as of 1/25/10
- Proposed variety of energy conservation measures
 - Lighting and mechanical upgrades, solar, direct digital control systems
 - Option to finance improvements thru APSES

Conclusions / Recommendations

- Track Energy usage in-house
 - Pays for itself; and is the first thing auditors ask for
- Understand your rate plans
 - Utilities tend to work with large customers
- Most corrections are simple and straightforward
- Include energy efficiency, lifecycle costs, return on investment and sustainability into scopes of work and bid documents.