



Benchmarking: Why and How

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Today's Presentation

- 1. Some background on the “Why’s” around benchmarking**
- 2. Customer view: The State of California and other large players**
- 3. The need for automated billing history upload capability for multiple buildings**
- 4. An overview of the “How to’s” of data uploading**



1. Why Benchmarking? Customer Drivers

- **Basic business: measure results against some standard of comparison**
 - Building in relation to “like buildings”
 - Building in relation to itself over time
 - Building in relation to others in an owners’ “fleet”
 - High level indicator of “opportunity” buildings
- **State of CA and the Governator**
 - Mandate for state-owned buildings (of a certain size)
 - “It’s coming” for all the rest



Why Benchmarking? PG&E Drivers

- **Excellent Service to Customers**
 - Want to know all we can about customers
 - PG&E seen as “trusted advisor”
 - Belief that customers will find value in BMK
- **Need for Results**
 - Enormous Savings Goals for 2006-2008 (all CA IOUs)
 - Meet goals = incentive/rebate transactions
 - Leverage BMK services to stimulate transactions



Why Benchmarking? “More than a Million”

- **The pickings are slim in buildings! Basic landscape:**
 - Already pretty efficient! (T-24, 30 years of programs)
 - It’s hard to get 100 kW savings in a building
 - Large customers have many large buildings
 - Need customers to do projects “10 at a time”
 - Administrative processes difficult and cumbersome
- **“More than a Million”**
 - Streamline services for customers willing to “bundle” projects” and follow through on a stream of projects
 - Up front: must agree to BMK a sizable portion of their building fleet
 - Will help with target building prioritization
 - Will provide ongoing management “snapshot”



Why ENERGY STAR *Portfolio Manager* ?

- **Credibility of ENERGY STAR as a brand**
- **Simple 0-100 score a clear indicator**
- **National applicability of ENERGY STAR Portfolio Manager across the country (not true of all tools)**
- **Most large property owners have properties in many locations (not just northern CA)**
- **High likelihood that customers will want a metric that is applicable nationally**



2. State of CA's Executive Order

Summer of 2005 . . .

1. Executive order requires that all state buildings be benchmarked using Portfolio Manager
 - By 2015, must reduce consumption by 20% using 2003 as a base year and using Portfolio Manager
2. California Energy Commission: must come up with a plan to benchmark all buildings (not just state buildings)



State of CA's Executive Order

State of CA Facilities

UTILITY	Facilities	Buildings	FLOORSPACE
PG&E	887	9,478	48,558,027
SCE	250	2,963	21,210,722
SMUD	100	592	19,447,504
SDG&E	82	848	3,939,013
LADWP	57	270	4,085,776
PP&L	48	404	2,015,272
OTHERS	148	1,192	6,730,276
	1,572	15,747	105,986,590



State of CA's Executive Order

State of CA Facilities . . .

Want to try this “by hand”?

What about everyone else?



3. The Need for Automated Billing Data Uploading

1. Complexity of issues

2. Team set up

3. Players:

- **State of CA players (multiple agencies)**
- **EPA and their consultant**
- **California utilities**
- **Heschong Mahone Group**



Why Automated Uploading?

- 1. Many, many facilities**
- 2. Although many people are familiar with a few large CA utilities, there are actually about 40 that serve CA buildings**
- 3. Gas and electricity usually not served by the same utility; many buildings have multiple accounts which must be grouped together**
- 4. This is probably the profile for most large, multi-facility customers**



Also . . .

- 1. Portfolio Manager is, ideally, not static but presents a trend over time**
- 2. Score changes as consumption changes (and other parameters change)**
- 3. Mechanism to set up an automatic billing data transfer process and do it *ONCE* has obvious benefit**
- 4. Use of a single standard protocol has obvious benefit**



4. Automated Upload “How To” Overview

1. **Customer says “Yes” to *Portfolio Manager***
 - Signs up with the EPA on their Web Site
 - Signs and submits a “release” document to utility
 - Note: sensitivity to data security issue since customer information is being transferred to a third party
2. **Utility sets up an Host Access System (HAS) account with Energy Star**
3. **Customer populates PM data fields for customer-supplied data for the desired buildings**
 - Must include meter identifier
 - Customer selects host utility (from menu)
4. **Request generated from PM to utility selected**
 - Utility validates
 - Billing data sent to matched to meter ID
 - Billing data sent to PM server

NOTE: Once data request set up and validated, upload is automatic on a monthly basis



Details . . .

The most important detail . . .

www.h-m-g.com/downloads/EnergyBenchmarking/ForUtilities.htm

For Utilities (Links from HMG site)

- [Automated Benchmarking Checklist for Utilities](#)
- [Benchmarking for Utilities \(Dec 12, 2006\)](#)
- [Utility Business Case for Benchmarking - DRAFT.doc](#)
- [ESES Overview and Demo](#)
- [XML schemas](#)
- [Data Release Form](#)

Or call Doug Mahone at HMG: 916.962.7001



Example of Detail . . .

Technical Guidance for Utilities using Automated Benchmarking (from the HMG Web Site)

- **[This] document provides technical guidance for the two primary processes that Utilities will perform through Automated Benchmarking:**
 - **Setting Up a Customer with a Utility**
 - **Managing Meter Information**
- **Each process is presented in the form of a sequenced checklist that outlines each step to be performed. Where appropriate, guidance, reference documents, tips, and special notations are included.**



Contribution of CA Utility Team

- Raised the issue that an automated protocol to upload billing data for multiple buildings owned by a single client is needed if PM to begin to reach its potential
- Recognized need for a consistent protocol from utility to utility
- PG&E performed IT work to select and configure the data transfer protocol in cooperation with Energy Star and CA utilities
- Performed work testing and validating that it works
- **Alternative:** respond to each billing data request for each building individually on a “manual” basis at requested interval



What this Protocol does NOT Solve . . .

- **Building-specific information must still be gathered and uploaded into PM by customer (or designate)**
 - **Conditioned SF, number of occupants, number of computers**
 - **Schedules, etc.**
- **Utility cannot know this information**
- **Some of this info can be “defaulted” with typical values; however, cannot receive the E-Star “Plaque” based on default data**
- **Not especially expensive to gather on a per-site basis; nonetheless a substantial project for a large portfolio**



Progress to Date

- **A large sample of individual buildings is now in the PM database with data transfer being accomplished**
- **BMK with the PM tool a requirement for the major RCx programs in CA**
- **Participants in PG&E's "More than a Million" are readily agreeing to BMK using PM for their largest buildings**