



# Universal Benchmarking California's Going To Make It So

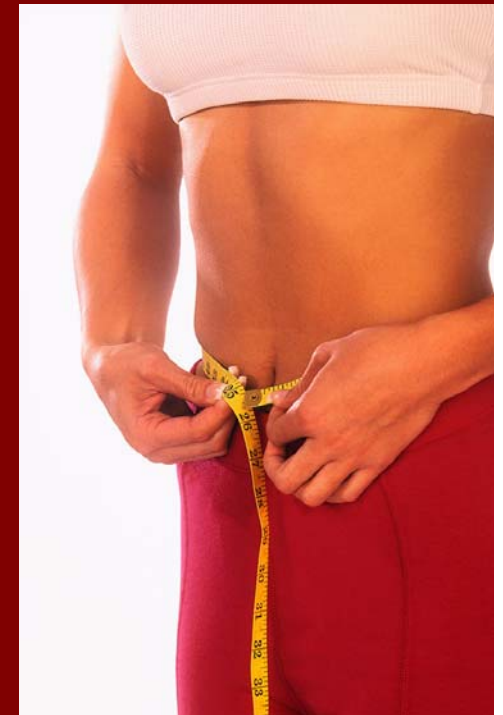
ACEEE MT Symposium  
March 30, 2009  
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# [ Why do benchmarking? ]

- Compare buildings on energy use
- Motivate energy efficiency action
- Prioritize buildings for action
- Track changes over time
- Why EPA's Portfolio Manager?
  - It's here, it works, it's free
  - It's national and recognized
  - ENERGY STAR brand value
  - (Competing systems exist)

# [ Basic Efficiency Tool ]

- Portfolio Manager Metrics
  - Everybody can understand:
    - Rating of bldgs (1–100 scale)
  - More technical version:
    - EUI (annual energy per sq.ft.)
  - Other metrics:
    - Cost per sq.ft., Energy by fuel
- Combines:
  - Asset efficiency
  - Operational efficiency
- Group portfolios:
  - by dept, by agency, by all state buildings



# [ Why did CA do benchmarking? ]

- **Governor's Executive Order:**
  - Ordered state buildings to benchmark
  - Goal: reduce energy use 20% by 2015 (vs. 2003)
  - Use Portfolio Manager to track
  - Encourage comm'l bldgs to BM also
- **Utilities:**
  - Benchmark EE program participants
  - Help customers prioritize projects
  - Statewide Strategic Plan includes benchmarking
- **State law:**
  - Disclose benchmarking data with real estate transactions
  - Note: public disclosure not required

# [ What's needed to BM a Bldg? ]

- Building location (for weather data)
- Building size (in sq.ft.)
- Other building data
  - Occupancy type (office, retail, school, etc.)
  - Occupied hours/day
  - Numbers of people & computers
- Billing meter data
  - Utilities (gas, electric, etc.)
  - Meter ID
  - 12 months of energy use data
- Not too hard? (now multiply by 50,000)

# [ CA Effort to BM State Buildings ]

- Assign energy person in each of 13 agencies & 33 departments
- Set up PM accounts for 1447 buildings
- Organize into portfolios (by department, agency, all state)
- Identify 6576 meters to 56 utilities
- Push billing data for all meters (back to 2003 base year)

# [ Early Issue #1: Coordination ]

- It won't happen on its own
- CA established Benchmarking Work Group.  
Membership:
  - State agencies
  - Utilities
  - Industry stakeholders
  - EPA and their programmers
- Technical support needed
  - Keep parties talking, resolving issues
  - Train energy managers
  - Help compile data in correct format
  - Interface with EPA and utilities

# [ Early Issue #2: Confidentiality ]

- CA's data release authorization form:
  - Signed by building owner (utility account owner)
  - Authorizes utility to release customer billing data to EPA PM
  - Grants utility access to customers' BM data (valuable information)
- Multi-tenant meters problem
  - Difficult for owner to get all to sign releases (i.e., difficult to BM whole bldg)
  - CA working on legal & regulatory solutions

# [ Early Issue #3: Automation ]

- Need to automate billing data transfer from utility to PM facility accounts
  - Manual data transfer not sustainable for most users
  - Universal BM must be simple/reliable
- Utility data people implement PM's Automated Benchmarking System (ABS 2.0)
  - XML schema for data transfer
  - Handles customer authentication
  - Gives utility access to BM accounts
- Challenge: smaller utilities not yet joined

# [ Early Issue #4: Verification ]

- High level:  
Independent engineer verifies building & billing data (needed for ENERGY STAR Building rating)
- Lowest level:  
User manually enters all data (typos, wrong info, etc.)
- Better:  
Utility verifies accuracy of billing data
- “Trust, but verify”

# [ Early Issue #5: Disclosure ]

- Not an issue for public buildings
- Private buildings:
  - Competitive secrecy issues
  - Concerns about “black mark” if inefficient (but isn’t that the point?)
- Protect account information
- Public vs. transaction disclosure
- Verification of accuracy

# [ Other CA Issues ]

- Haven't yet engaged munis
- Haven't yet written enabling regulations for AB 1103
  - Phasing in of disclosure requirements?
  - Exactly what must be disclosed?
  - What form? (Rating, EUI, etc.)
- Developing advanced BM tools with more diagnostic power

# [ Paying for Benchmarking ]

- What's it cost?
  - Programming labor (\$50-\$100k?)
  - Monthly maintenance (\$2-\$4/bldg/mo?)
  - Training, promotion, etc.
  - Small compared to a rebate program
- Permanent funding needed
  - Utility efficiency program funds?
  - Service fee paid by customers?
  - Embedded in rate tariff?

# [ Pushing for Upgrades to PM ]

- Multi-year reporting
  - Energy use trends
  - Progress toward goals
  - Results of efficiency improvements
- Verification/certification of accuracy
- Industry-specific denominators (e.g. per bed or apt.)
- More standardized displays of results
  - Basic label (suitable for framing?)
  - Table of energy metrics (for executives)
  - Graphs of change over time (for managers)
- Include multifamily (just released by PM)

# [ Conclusion ]

- Benchmarking is valuable  
(and more so as more people do it)
- Public commitment needed
- Data needs to be automated
- Take the time to do it right  
(else “garbage in / garbage out”)
- Can become metric for societal  
efficiency progress

# [ Questions/Comments ]

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