



ZERO ENERGY COMMERCIAL BUILDINGS CONSORTIUM

Benchmarking and Performance Assurance Working Group *Benchmarking Subsection*

August 3, 2010; 2:00-3:00 pm EST

Key Conclusions

Cathy Turner noted that the strawman draft is clearly too long, to help make sure we start from a complete list. The final working group report will necessarily focus on priority topics, and appendices may contain supporting and related detail where needed.

Some of the key themes emerging from the call included:

- For the ultimate Zero-Energy goal, define forward-looking benchmarks rather than focusing on solely historic norms.
- Consider ways to incorporate validated technical (e.g. modeling-based) benchmarks.
- Better ways to normalize benchmarking for occupant activity types/requirements must be addressed.
- Look forward to using new technology and information systems to automatically and quickly tie together related pieces of data in usable displays.

The minutes below contain more detailed notes from the conversation.

Next Steps

- Submit by August 11 written comments on this document, and/or proposed narrative language for other trends, barriers, or recommendations.
- Submit other additional information you think should be included in the report by August 11.
- Cathy Turner will revise the benchmarking subsection draft by August 17 and the whole WG chapter (merged and synthesized from the four sub-sections) will be drafted by August 31.
- Email follow-up will be open to all attendees on the call, based on doodle-poll lists of participants.

Meeting Minutes

Cathy Higgins provided an overview of the CBC and its two sections (Technologies & Practices and Market & Policy). This area is getting high-level attention from DOE; this WG is a subset of one chapter (of entire report). Topics include:

- Definition
- Current practice and trends
- Gaps and barrier
- Recommendations

Cathy Turner then opened discussion for the following topics/questions.

- Cathy Turner; Have we accurately defined what we mean by benchmarking?
 - Mark Sands asked if we will define points of reference or market average/baselines?

- Ani Deodhar; A big portion focuses on current standards. Perhaps we should spend more time on what the *future* goals and ideal ways of benchmarking should be in order to prevent a rear view perspective; to piggyback on that, historically we look at BM compared to site energy use of other structures and while energy use is important, so is energy production, which becomes part of the measure.
- What are the definitions of net-zero? Will it be a data base average? Do we need to discuss this in the document?
 - Cathy Higgins; We should try to be as visionary and as forward looking as possible. [Note that the definition of net-zero will be addressed in other sections of the overall report]
 - Yaara; a technical (e.g. modeling-based) approach, rather than statistical or empirical scales, will push us closer to zero

This isn't an either/or situation, and both types would be useful for building owners
 Note: DOE has 16 model "best practice" buildings, which should possibly be explored.

Merged discussion of current practice, trends, and recommendations

- Is our intent to cover near term and/or long term?
 - It will be both; this report should focus on a one-three year scope for recommended actions. We still want to think long term, but this report will include recommendations that are actionable in the near term to directly promote the desired long term goal.
- Cathy Turner; How do you establish benchmarks for different types of buildings with different functions?
 - Mark Sands; A modeling system helps with this, but we need better modeling tools for this. If a modeling system can be sophisticated enough to normalize and model predicted building use, this can continually refine the modeling tool for future use. Also, modeling systems have become advanced, but is a difficult to input/utilize the data. Protocols for tying specific model parameters and metrics to comparable measured data are essential for validation. We also need more granular data collection than CBECs.
 - Mark Shaurette; we should look forward to using new technology for inter-operability, automatically tying related data points: GIS, BIM, energy information exchange . . .
 - Igor: NIBS recently started ENERGY IE on integration of design data and operations. Benchmarking would be great if we can use the same variables and attributes as NIBS is using. Cathy T will follow up with Toby Considine for more information.
 - Mark Sands will submit a paragraph on this topic.

Note: The activity types and climates of the benchmark models developed by DOE can be a guide for dividing and categorizing building use.

- Are we also trying to hit policy related items or just focus on technology items? For example, policy would be government mandates.
 - Cathy Higgins: yes this absolutely should be included!
 - Paul Mathew will send copies of past DOE/LBNL work on benchmarking action plans

Everyone should feel free to submit their comments, suggested topics, and items for back ground references to Cathy Higgins and Cathy Turner for inclusion in the draft.