

Kevin Kampschroer welcomed the group and gave the **Green Building Certification System (GBCS) Review Presentation:**

- The Energy Independence and Security Act (EISA) states that every 5 years, GSA must make a recommendation to DOE on a certification system “to encourage a comprehensive and environmentally-sound approach to certification of green buildings” in the Federal sector.
- Led by Joni Teter, GSA contracted with the Pacific Northwest National Lab (PNNL) to conduct a fact finding review of certification systems using criteria in EISA including robustness and Federal requirements.
- 3 systems passed initial screening criteria – Green Building Institute’s Green Globes, US Green Building Council’s LEED, and International Living Building Institute’s Living Building Challenge (LBC) – although none of the systems automatically meets 100% of federal requirements.
- As defined by the National Technology Transfer and Advancement Act (NTTAA) and OMB Circular A-119, we determined that LEED and Green Globes are consensus-based standards, while LBC is not. Both USGBC and GBI are ANSI accredited standards developers; some Green Globes standards are ANSI-accredited, while LEED is not.
- ASHRAE standard 189.1 was not included in the review but GSA is looking at analyses done by the Army and other agencies.
- GSA set up an interagency task force, co-chaired by DOE and DOD, to consider the direction the government should take on this issue. Six meetings are scheduled, with two public listening sessions.
- We will publish conclusions in the Federal Register for public comment, and reconcile comments to include in the formal recommendation from the GSA Administrator to the Secretary of Energy.

Green Building Certification System (GBCS) Review – Key Discussion Points

- Don’t just specify a system but provide implementation guidance, tools and resources for Federal sustainability requirements.
- Rating systems inform our designs, but don’t dictate them. We don’t look at any rating system when initiating design, but meet with an integrated team to design the best building, and use a rating system to evaluate success. National Renewable Energy Lab (NREL) took a similar approach to its net-zero energy building, assembling a team with clear goals, which they met under budget.
- Criteria should be which system is most mature for most building types, and best tailored to different building types.
- Critical to address gaps in systems, e.g., anti-density criteria, with Federal guidance. Can government create its own performance based standards borrowing from these systems?
- Broad coverage of some systems helps raise issues that may otherwise be missed, e.g., gaps in ongoing maintenance.
- Feds should be able to use any system in conjunction with Federal performance criteria: different systems for different portfolios. No need to be proprietary.

- GSA study doesn't capture uniqueness of the Living Building Challenge (LBC): it is performance based so may not explicitly match Federal mandates, but e.g., in getting to zero net water, you have to meet Guiding Principles requirement.
- LBC may not map well with Federal building types; also, net zero goals can be anti-density in requiring a certain amount of land to achieve. However, LBC shows value of framing projects around simple aspirational goals.
- 80% of buildings that will exist in 2030 already exist today, and existing buildings are key to reducing the carbon footprint. Key question, then: how well do the rating systems deal with existing buildings?
- LEED-EBOM has mapped well to many existing buildings; other systems have less of a track record.
- VA has a lot of experience in using Green Globes, which has been more flexible with a faster process, more amenable to health care buildings.
- LEED is the dominant and most widely-accepted system, and an owner must use it in major cities or be at a competitive disadvantage, as tenants demand it. It is required in many cities. Does government want to use a less common system?
- It would be helpful to have a rundown by agency of systems used; some extenuating circumstances with unique building types, e.g., prisons.
- Office of Science & Technology Policy, Office of Management and Budget, and the U.S. Trade Representative have issued guidance for strategic government engagement with private-sector standards bodies in areas of national priority. In fact, Federal agencies helped form and serve as early adopters of LEED.
- California has adopted LEED and is using the volume certification program.

Public Comment Period

The following commenters spoke at the meeting. Written comments submitted to GSA will be available upon request.

- Jeff Bradley, American Wood Council
- Craig Silvertooth, Center for Environmental Innovation in Roofing
- Keith Christman, American Chemical Council
- Kevin Ott, Flexible Vinyl Alliance
- Jerry Phelan, Polyisocyanurate Insulation Manufacturers Association
- Lawrence Plumlee, MD, American Academy of Environmental Medicine

Green Building Certification System (GBCS) Review – Recommendations

- Support for LEED as Federal standard (including caveats):
 - LEED works, with effective processes in place. Costs of certification have been falling. No standard is perfect but it is working quite well. Continue LEED as design basis for new and existing Federal buildings.
 - LEED should continue to serve as the benchmark as it is the most rigorous, widespread and mature system, includes prerequisites, and has systems applicable to a wide range of buildings.

- Stay with LEED, the most widely accepted standard across the world – now 40% of LEED projects are outside of the US. It's being tested every minute, and many volunteers work diligently to keep improving it.
 - With its level of acceptance, use and training, LEED would be best. Making a shift to another system would cause great disruption; however, no need to rule out alternatives if others make a strong case to use them.
 - Offered imperfect choices, LEED would be the system of choice. But LEED does not adequately cover siting, so this should be reinforced.
 - Use LEED as the default for reasons discussed. Allow for other systems to be used, but use them to incentivize agencies to do more. Do the right thing regardless of special interests, and let the market sort it out.
 - The government should get in line with the rest of the world and keep using LEED, while adding the “belts and suspenders” needed to supplement it. LEED is not a panacea, so the government should use its considerable resources to drive positive change in the system.
- Support for alternative approaches:
 - Each agency should be able to choose the system that is best for them. The more we micromanage, the less flexibility and innovation we allow.
 - None of the systems are sufficient, e.g., on health impacts. The government should evaluate what it can achieve without picking a system.
 - Not everything has been reviewed, e.g., ASHRAE 189.1. It would also be helpful to look at costs and results. We need minimum government requirements but not necessarily a certification system to meet them.
 - Best approach is for GSA to establish criteria for systems, and allow agencies to pick most appropriate ones for their needs. GSA should stay open to using multiple systems, as recommended in DOE's proposed rule.
 - More input is needed from DOD, State Department, Bureau of Prisons and VA, which have the most rigorous requirements.
 - Use an underlying performance standard like ASHRAE 189.1, while allowing agencies to employ whatever additional system they found most appropriate. Need to deal with fact of systems evolving.

Kevin Kampschroer asked for the Committee's input on why the government should use or not use a third-party certification system:

- Support for certification systems:
 - Third party certification is valuable to give consistency, add legitimacy and provide a benchmark for sustainable building. Self certification does not provide the same result and quality.
 - 3rd party systems allow for comparisons. LEED has wide market penetration, and provides a consistent sense of what you're getting. LEED is widely accepted, provides a benchmark allowing for a level playing field.
 - A third party provides a more rigorous and objective view. The VA found this based on its experience with Green Globes.

- Example of DOD trying its own self-certification system, but deciding to go instead with LEED because with a third party system, you get more rigor and a better, more cost effective product.
 - Government doesn't exist in a vacuum, needs to interact with what the marketplace is using. A large organization needs consistent standards – you can't let different agencies just do their own thing.
 - Third party systems are helpful for Federal programs with limited staff. They provide a roadmap and help add another layer of compliance check – one more safety net. Guiding Principles by themselves are quite broad.
 - A building label is a market driver, but not clear that helps government much: key is using systems as flexible means to meet our goals.
- Questioning the need for certification systems:
 - A system is less necessary if government has goals & processes in place.
 - We should be certifying compliance with Federal requirements, not with a particular third party system. Key is transparent rules.

High Performance Green Building Demonstration Project at Fort Carson, Colorado – Presentation:

Ken Sandler introduced the topic:

- The EISA statute requires that every year we conduct a demonstration project on a Federal green building to evaluate its performance. As discussed at the last meeting, our first project covered an EPA Regional Headquarters in Denver.
- This year, we are looking at several buildings at Fort Carson, Colorado. GSA is partnering with the Army, DOE, the National Renewable Energy Lab (NREL) and Pacific Northwest National Lab (PNNL).
- The research is assessing performance of building systems and occupant interaction with those systems, to identify the best combined strategies to achieve net zero performance at optimal lifecycle cost.
 - NREL is examining technical performance of building systems
 - PNNL is researching the impact of behavior of facility managers and occupants on building performance
- Next year, the Office would like to do its demonstration project on a Federal health care building, and will apply your advice to that upcoming project as well.

Shanti Ples, NREL:

- Fort Carson is one of only two Army installations striving for net zero energy, water and waste by 2020.
- The Fort has over 50 LEED buildings, built by the Army Corps of Engineers.
- Three research questions:
 - Evaluating several LEED building types for optimal envelope strategies.
 - Examining daylighting strategies and related lighting control systems.
 - Looking at two retrofitted office buildings to determine lifecycle cost optimal strategies and best practices to ultimately get to net zero energy.

Mary Zalesny, PNNL:

- Two research questions
 - How occupants perceive their work environment and responsibility for effective building operations, and interact with building features.
 - What occupant behaviors can significantly reduce energy use, and which approaches/interventions can produce and maintain these behaviors.
- We'll use info from surveys, interviews and energy metering to identify baselines, and design and launch interventions to increase energy-saving behavior.

High Performance Green Building Demonstration Project – Key Discussion Points

- The behavior of O&M staff is extremely important. We too often see a mismatch between sophistication of technology and the people operating it.
- It will be interesting to see what architects can learn from findings on behavior to improve design for energy efficiency with occupant comfort.
- Worthwhile to research relationship between behavior and technical features of buildings – we invest in technologies like dimming tied to daylight and then occupants defeat features, for example, by putting blinds down.
- Interesting, well-focused, timely research. Key is how you disseminate findings. Executive summaries can get translated into marching orders at DOD, losing important nuances. Case studies are more suitable for teaching lessons learned.
- Behavioral research should evaluate absenteeism, employee health and performance, if possible.

Products Standards and Ecolabels – Presentation

Nancy Gillis, GSA Federal Acquisition Service, discussed a draft report on how Federal agencies can use product standards & eco-labels to advance sustainable procurement:

- A workgroup was formed to implement Executive Order 13514, Section 13, by recommending how agencies can track and reduce Scope 3 (indirect) greenhouse gas (GHG) emissions in the Federal supply chain.
- The group found that the marketplace is using eco-labels covering multiple attributes, not just GHGs, and therefore adapted its report to the circumstances.
- There are many sustainable product labels, but there is no current government policy or criteria to identify what types of labels to use in acquisition.
- The group has used an interagency process and engaged with standards bodies over 1½ years to develop implementation guidelines and recommendations, which will be released for public comment through the Federal Register.
- In response to questions, she added:
 - Environmental product declarations are not a major focus at this point, as such a system will not be available in the short term.
 - A draft report will be made available to the committee.
 - Rather than picking a particular label, the guidelines will allow for competition among all applicable labels and standards to help the government meet its sustainable acquisition goals.

Submetering Guidance – Presentation

Kinga Porst discussed the Office's project to develop guidance for federal facility and energy managers on how and when to employ energy submetering:

- The issue is circuit/system/occupant level submetering, beyond whole building meters.
- GSA is focusing on leased buildings, as government leases are usually fully serviced (so we lack knowledge of energy consumption in those spaces because the lessor pays the energy bill directly and bills tenants over a set time period)
- Cost data has been the most difficult to find, making it hard to calculate return on investment (ROI) of submetering.
- GSA is seeking additional research that we can reference in our guidance to help us better understand cost and ROI for submetering.
- We are going to conduct internal peer reviews over the next month and aim to finalize the guidance by September.

Submetering Guidance – Key Discussion Points

- California uses triple-net leases and also struggles with getting this data. CA is renegotiating leases to include requirements to either use submeters or enter data into ENERGY STAR Portfolio Manager.
- Turner has installed submeters in half a dozen buildings; they helped identify anomalies and energy intensive systems; for example, one building had its highest use on Sundays, when empty. They also allowed for plug load studies.
- RMI has done a lot of work, but mostly anecdotal. Guidance would be useful – a key question to answer is: at what level is submetering cost-effective to use?
- Metering itself has no ROI, it's how you use the data that makes the difference: retrofitting equipment can yield 10-20% savings and finding faulty equipment can provide additional benefits, but it's hard to separate those numbers out.

Closing Comments

Bob Fox commented that the members of the Office clearly are working hard on many fronts. He was encouraged by the quality of the discussion and of the advice being offered, and was glad that there wasn't unanimity.

Ken Sandler gave thanks to the Committee for volunteering so much of their time and providing such thoughtful consideration and input.