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GSA Green Building Advisory Committee

Thursday, June 23, 2021

Meeting Summary

Attendees:

GBAC Members

- Kaneda, David (IDeAs Consulting), Chair
- Agarwal, Reena Agarwal (Center for Active Design)
- Arias, Fernando (Clark Construction Group)
- Bates, Kevin (Sharp Development Company)
- Boray, Gopinath (HHS)
- Castro, Chris Castro (City of Orlando)
- DiNola, Ralph (NBI)
- Dutta, Projjal (NY Metropolitan Transportation Authority)
- Gibson, David (EPA)
- Gray, Whitney (International WELL Building Institute)
- Nesler, Clay (WRI)
- Olgyay, Victor (RMI)
- Persily, Andrew (NIST)
- Peterson, Kent (P2S Engineering)
- Rohde, Jane (GSR Associates)
- Siegel, Dee (CEQ)
- Slaughter, Sarah (Built Environment Coalition)
- Unruh, Tim Unruh (NAESCO)

GSA

- Kevin Kampschroer (GSA - OFHPGB)
- Don Horn (GSA - OFHPGB)
- Michael Bloom (GSA - OFHPGB)
- Bryan Steverson (GSA - OFHPGB)
- Jeremy Alcorn (GSA - OFHPGB)
- Kinga Hydras (GSA - OFHPGB)
- Lariza Sepulveda (GSA - OFHPGB)
- Patrick Dale (GSA - OFHPGB)
- Matt Harbeson (GSA - PBS)
- Sharon Conger (GSA - PBS)
- Katie Miller (Adaptive Future, contractor support)
- Kelli Canada (LMI, contractor support)
- Kristle Richardson (LMI, contractor support)
- Meredith Holland (LMI, contractor support)
- Alex Rogers (LMI, contractor support)
- Denise Funkhouser (GSA - PBS)

- Jennifer Smith (GSA - PBS)
- Mike Malane, (GSA -PBS)

Additional Federal Agency Participants

- Rachel Shepherd (DOE)
- Emma Elqvist (NREL)
- Lara Spader (VA, attending on behalf of John Park)

Public Observers

- Carisa McLaney (Steptoe and Johnson)
- Greg Johnson (American Wood Council)
- Melissa Schutte (Deloitte)
- Jamie Donovan (DOEE)
- Mark Kresowik (RMI)
- Mark Lessans (Johnson Controls)
- Charles Franklin (PCA)
- Jeff Mang (PIMA)
- Nick Carrillo (WWCCA)
- Laurie Kerr (NYSID)
- Heather Powen (SWACCA)
- Jenna Hamilton (GBI)

Opening Remarks and Introductions

- Kevin Kampschroer, GSA Chief Sustainability Officer and Federal Director of the Office of High-Performance Green Buildings, opened by thanking members for all their hard work.
- Michael Bloom, Designated Federal Officer, welcomed GBAC members, participants, and observers and went over the basic background and guidelines of the Green Building Advisory Committee (GBAC):
 - GBAC was established by the Energy Independence and Security Act of 2007 to provide independent policy advice and develop recommendations to GSA on sustainable federal buildings.
 - All proceedings are open and public
 - Task Groups provide advice to the GBAC Advisory Committee (not directly to GSA)
 - Advice is respected and appreciated, and applied as feasible and appropriate, but not binding.
 - High impact advice is realistic, implementable, feasible and practical.
 - Focus on high-level policy principles
- David Kaneda, Committee Chair, provided opening remarks about the importance and impact of sustainability in facilities and buildings
- Members and participants introduced themselves and the organizations they represent

Building Energy Storage: Task Group Presentation & Discussion

David Kaneda, IDeAs Consulting

Projjal Dutta, NY State Metropolitan Transportation Authority

- The mission of this Task Group is to explore introducing onsite energy storage into federal facilities and options to finance it through various procurement mechanisms. The goal is to support federal staff in making informed decisions to incorporate Building Energy Storage (BES) technologies into current and future projects to save taxpayer dollars and improve the environmental performance of the federal building portfolio.
- Executive Order 14008 focused on fighting climate change by reducing carbon emissions, thereby bringing about a need to look at how we get carbon out of our energy.
- Wind generation and photovoltaics are rapidly growing as the two main forms of carbon free renewable energy sources
- Time of use electricity rates create incentives to shift electricity uses from times of peak generation and/or use to hours with lower rates
- Load Shifting: Companies and individuals are now looking at energy storage to save excess energy made during the day during peak hours for use later in the day when renewables aren't available.

- 3 primary ways energy is being stored:
 - Active Thermal Storage (ice or chilled water)
 - Active Thermal Storage (hot water)
 - Battery Storage (electricity) → main focus of BES Task Group

- Benefits of energy storage:
 - Electricity bill reduction: A. Reduction of demand charges, which increase rates based on highest-use period, and B. Energy arbitrage (taking advantage of time of use rates)
 - Support utility grids: A. Demand Response (reducing energy use during peak periods in exchange for payments) and B. Grid Services (load shifting minute by minute or second by second to keep grid safely balanced)
 - Protect the value of renewable assets
 - Reduce carbon emissions
 - Provide standby power or support microgrids
 - Show environmental leadership

- Energy storage incentives and policies:
 - DOE Energy Storage Grand Challenge
 - Federal Investment Tax Credit (ITC)
 - State Incentives (<https://www.dsireusa.org/>)
 - Utility Programs

- Procurement options:
 - Appropriated Funds
 - Utility Energy Service Contracts (UESCs)
 - Energy Savings Performance Contracts (ESPCs)
 - Energy Sales Agreements (ESAs)
 - Utility Service Contracts
 - Power Purchase Agreements (PPAs)

- System ownership and funding source options -- Government owned vs. privately owned, differ in terms of:

- Tax incentives
- Responsibility of operation and management
- Contract execution

Action Item

GSA to follow up with this Task Group on the potential use of PPAs for GSA's federal building portfolio.

Task Group Recommendations

- Consider BES for all current and future projects
- Create a roadmap
- Research benefits
- Develop case studies
- Support battery recycling
- Continue to track storage technology development and pricing trends

Committee Discussion and Questions

- **Action item for GSA GBAC Designated Federal Officials:** Create a list of other or previous advice letters that might be related to this topic to ensure that there's a way to integrate these technology applications.
- **Considerations for GSA:** GSA could be a key player in the Advanced Water Heating Initiative. Thermal storage approach is a significant opportunity for HVAC systems and new construction and existing buildings moving forward.
- There are issues with US domestic access to lithium for battery manufacturing, based on environmental concerns as well as working conditions associated with lithium mining.
- What is the shelf life of each battery?
 - Same batteries used in EVs → 10-12 years
- Does it make sense to have battery providers/manufacturers required to have take back programs for the batteries at the end of their life to push for more recycling options?
 - Yes, there is GSA precedent and some programs already exist.
- Does increased energy storage and demand charges result in a change to building structure?
 - Not necessarily. Battery storage requires sufficient space and fire prevention/suppression measures. Thermal storage may require more space ,
- Will the need for energy storage decrease longer term?
 - It should last at least 20 years.
- Have safety issues to human health been looked at?
 - Yes, especially pertaining to carbon emissions and fire safety.

Decision

- A motion to approve electronic voting was proposed and approved (by unanimous voice vote) to permit a future electronic vote to approve the Building Energy Storage Task Group letter (once

reviewed by committee members by July 13th, 2021) → follow up will be sent out after the meeting.

Environmental Justice and Equity for Federal Green Buildings: Task Group Interim Findings

Sarah Slaughter, Built Environment Coalition

Projjal Dutta, NY State Metropolitan Transportation Authority

- Task Group mission is to identify and propose effective approaches to improve environmental justice and equity in federal sustainable building processes, enhancing engagement with communities and key partners throughout the building lifecycle.
- Understanding the scale of all federal buildings (not just GSA buildings) is critical in beginning to address environmental justice and equity (EJ&E) issues.
- Federal buildings are found throughout the US in rural, suburban, and urban areas, so addressing environmental justice and equity issues pertaining to federal buildings allows for such issues to be addressed across the US
- Major themes:
 - Use buildings as catalysts for EJ&E - particularly sustainability and resilience activities and the ways they intersect with the communities in which they are located.
 - Better distribute the benefits of green buildings and sustainability
 - Support those most overburdened and underserved by our economy and energy system
 - Ensure universal access to disaster-resistant, energy efficient, healthy buildings
 - Apply basic standards of prevailing wage and project labor agreements
 - Include resilience and community emergency response capabilities in all federal buildings
 - Buy local
 - Recognize the racial component of disproportionate environmental impacts - Not just socio-economic. Also intersects with structural racism (redlining, zoning, etc.)
- How to address EJ&E:
 - Siting
 - Planning
 - Property development process
 - Design
 - Construction/renovation
 - Procurement
 - Emissions
 - Operations
 - Public health and safety
 - Social/human behavior
 - Workforce/Enterprise/Career Development
 - Public education
 - Metrics/Accountability
 - Policy
 - Leadership

Potential Deliverables

- EJ&E Resource List
- Suggested metrics for measuring progress on EJ&E
- Expanded EJ&E Forums
- Suggested Federal Government EJ&E policies, initiatives, practices, and processes

Committee Discussion and Questions

- Suggestion: Look into historic redlining practices and how that could be beneficial background knowledge for the Task Group
- Is the US Postal Service (USPS) included in the review of the number of federal facilities?
 - No - USPS is a quasi-governmental agency and does not track it's facilities in the Federal Real Property Profile (FRPP), but representatives from USPS are participating in task group meetings.

Federal Building Decarbonization: Task Group Interim Findings

Clay Nesler, World Resources Institute

Dr. Tim Unruh, National Association of Energy Service Companies (NAESCO)

- This has become a very popular Task Group based on events over the last 6 months and priorities of the new administration.
- Task Group Charter: The group will explore opportunities and challenges for reducing greenhouse gas (GHG) emissions in alignment with national climate goals and action plans, through the use of renewable energy, energy efficiency, electrification and smart building technologies at federal facilities.
- Task Group Scope:
 - Individual buildings and campuses, including EV charging (will have significant impact)
 - Operational emissions, refrigerant emissions and building lifecycle emissions (including materials)
 - Other co-benefits (health, water conservation, grid reliability, and resilience)
 - Primary focus will be on Existing Buildings (biggest majority/opportunity to make an impact and more challenging than new construction) and short term actions (next 5-10 years) to meet long-term, aggressive goals set by administration.
- Not included in Task Group scope:
 - Define specific targets
 - Create a plan to achieve decarbonization (this is a more suitable role for GSA)
 - Propose specific policies and legislation (GSA, agencies can't act on these)
 - Recommend specific solutions or providers (no promotion of specific companies)
- Work Plan
 - Review the status of administration and federal agency planning for building decarbonization
 - Review existing and planned building decarbonization guidelines and roadmaps (American Society of Heating, Refrigerating and Air-Conditioning Engineers, National Renewable Energy Laboratory, Sustainable Development Solutions Network, World Green Building Council, Global ABC)
 - Review current GSA policies, plans and actions related to building decarbonization
 - Identify barriers to implementation and solution
 - Key principles to drive federal building decarbonization
 - Develop playbooks for different building types and regions for short-term action
 - Define considerations and analysis for future roadmap development (contribute to much larger body of action/knowledge)
 - Propose next steps and recommendations for GSA implementation

Committee Discussion and Questions

- It is important to make sure other performance factors aren't being overlooked. Carbon emissions may not be the only performance criteria for reviewing and recommending strategies/technologies (building wants to have gas appliances, etc.)
 - A circular economy approach should be undertaken (material reuse, renovation before removing, etc.) and will be considerations of Task Group recommendations.
- Is there a federal lab or other research group that is developing metrics for decarbonization? Including co-benefit metrics like air quality?
 - A lot of labs have done analysis, but not necessarily in a holistic sense.
 - It's the trade-offs with these different benefits that will be interesting and an important question to answer.
 - Have to implement both a race to zero carbon **and** a race to resilience.
- Will the opportunities and pitfalls for standardizing how to measure these strategies (e.g., how we calculate GHG accounting) be touched upon? Is it possible to address standardization (to give stakeholders more confidence in the outcomes)?
 - Important point: Putting together a scorecard was considered. What does achievement of decarbonization look like?
 - Progress can be borrowed from the EU, but don't want to get ahead of the administration and other agencies.

Public Comment Period

Mark Kresowik, Federal Policy Manager, Rocky Mountain Institute

- Expressed appreciation for the hard work that GBAC and Task Groups are contributing.
- EISA 2007 created GBAC and included Section 433 to slash use of fossil fuels from all new buildings and renovations, and eliminate all fossil fuel use in buildings by 2030.
- Meeting and exceeding these requirements is necessary by retrofitting at least 5% of federal buildings annually (440 GSA buildings every year) to enable healthier, more affordable buildings.
- Urged the committee to develop and share an advice letter with the administration to achieve decarbonization and align with environmental justice and equity
 - Combine this into one advice letter, two task groups should be aligned and integrated

Closing Comments

Michael Bloom provided closing remarks:

- As an update on previous work of the GBAC, GSA has taken the Sustainable Response to COVID-19 Task Group's information and posted it as a decision guide on [SFTool.gov](https://www.sftool.gov).
 - Great example of using outputs from GBAC and its Task Groups to advance high-performance buildings.
- Collective work as a whole was a unifying theme today:
 - E.g., Energy Storage Task Group, alluding to the past several years of GBAC work
 - GBAC members not currently on one of the ongoing Task Groups are welcome to join future calls
- Yes/No: It's been a long time since we had two GBAC meetings in a year. Was this meeting helpful for you? Should we continue this?
 - Lots of Thumbs Up and "yes"

- Next meeting will be October/November and could potentially be in person/hybrid
- Think about what those next themes should be? What are those additional points of integration?
- Final thoughts from the committee:
 - Deep appreciation for the presentations. There were many moments where Task Group members assumed everyone is on the same page and knows everything, but some are still learning. Please keep that in mind when presenting, spell out acronyms and share resources for follow-up learning.
 - One item that would be hugely valuable to building designers to improve energy performance would be to gather and publish key energy metrics on existing buildings such as actual energy use intensity (EUI), square footage , location/climate, window wall ratio, U value, etc.
- Consider sharing links to presentations and training for building professionals to learn more about health/return to work:
 - We need Building professionals to be translators of this type of information
 - Would like to see current training opportunities augmented by more

Action Item

The Building Energy Storage advice letter will be sent out after the call and an email for electronic voting will be sent out after the 13th of July. Comments on the work of the other two continuing Task Groups is also welcome.