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# GSA Green Building Advisory Committee
# Thursday, June 11, 2020 Meeting
# Meeting Notes

**Committee Chair**

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| Projjal Dutta | NY State Metropolitan Transportation Authority |

**Committee Members**

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| Reena Agarwal | Center for Active Design |
| Fernando Arias | Clark Construction |
| Chris Castro | City of Orlando |
| Ralph DiNola | New Buildings Institute |
| Dave Gibson* | U.S. Environmental Protection Agency |
| Whitney Austin Gray | International WELL Building Institute |
| Patricia Jones | U.S. Department of Health and Human Services |
| David Kaneda | Integral Group |
| Greg Kats* | Capital E |
| Clay Nesler | Johnson Controls |
| Victor Olgyay | Rocky Mountain Institute |
| Brendan Owens | U.S. Green Building Council |
| Andrew Persily | National Institute of Standards and Technology |
| John Park | U.S. Department of Veterans Affairs |
| Kent Peterson | P2S Engineering |
| Sonia Punjabi* | Pacific Gas & Electric |
| Jane Rohde | JSR Associates |
| Dee Siegel | Council on Environmental Quality |
| Sarah Slaughter | Built Environment Coalition |
| Mary Sprague | U.S. Department of Transportation |
| Maureen Sullivan | U.S. Department of Defense |

**Active GSA Participants**

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| Kevin Kampschroer | Chief Sustainability Officer and Director, Office of Federal High-Performance Buildings (OFHPB) |
| Ken Sandler | Designated Federal Officer, OFHPB |
| Michael Bloom | Group Federal Officer, OFHPB |
| Brian Tye | Public Buildings Service (PBS) |

* denotes members not in attendance

## Opening Remarks and Introductions

Ken Sandler welcomed the Committee to its first all-virtual semiannual meeting. He stressed that GSA's goal is to remain a market leader on sustainability – as reflected by the numerous American Institute of Architects Committee on the Environment (AIA COTE) Top 10 awards that GSA has won, most recently for the Land Port of Entry at Columbus, New Mexico.

Kevin Kampschroer, GSA Chief Sustainability Officer, and Committee Chair Projjal Dutta also welcomed the Committee, with special greetings to its seven new members.

## Renewable Energy Outleasing: Task Group Presentation and Discussion

*Projjal Dutta, NY MTA, and Chris Castro, City of Orlando, Task Group Co-Chairs*

The goal of this task group was to explore third-party, onsite, renewable power generation, with a focus on solar power and energy storage, on Federal building rooftops, parking lots, garages, and other underutilized parcels through an outleasing mechanism. Outleasing is the process used to lease out owned space that is vacant and not needed for current or projected agency purposes, e.g., for the placement of private companies' cellphone towers on federal rooftops.

Currently, the primary ways in which federal agencies finance or procure on-site renewable power include Power Purchase Agreements (PPAs), Energy Savings Performance Contracts (ESPC), and Utility Energy Service Contracts (UESCs). Renewable energy outleasing (REO) provides an infrequently-used alternative with distinct advantages. Such leases would provide a new revenue source and enhanced property utilization, involving simpler arrangements under which a third party takes responsibility for installation, operations & maintenance.

Several federal agencies with enhanced use leasing (EUL) authorities have successfully developed renewable energy installations on their property. The Task Group detailed a number of these draft case studies in its Advice Letter, including two large photovoltaic (PV) systems at NASA Kennedy Space Center and PV installed on the roof of the U.S. Postal Service's Los Angeles Processing and Distribution Center. REO has also been used successfully by state agencies like New York's Metropolitan Transportation Authority and in the private sector, as by the warehouse company ProLogis.

While GSA's Outleasing program has not yet employed REO, it has discussed it as a possibility. It is a particularly attractive option for historic buildings, as the National Historic Preservation Act allows revenues from outleasing on such buildings to be retained by the historic building program.

Proposed criteria for GSA and agencies with appropriate authorities to consider when selecting facilities for REO include:

- Availability of land or roof space with sufficient remaining life
- Areas with high electricity rates
- State and local areas with favorable renewable incentive programs, such as renewable portfolio standards, feed-in tariffs and community solar programs
- Availability of interested private sector parties, including renewable energy developers or utilities

**Task Group Recommendations**

The Task Group recommended that GSA work with DOE and its other federal partners to launch a program to evaluate, support, facilitate and implement the use of renewable energy outleasing, including to:

- Conduct a comprehensive review of federal agency outleasing authorities to identify where this approach is feasible.
- Conduct a comprehensive review of the GSA's owned portfolio to determine which assets are conducive to solar outleasing based on the criteria identified.
- Research the costs, benefits and logistics of integrating federal renewable outleases into GSA's outleasing program, learning from the experience of state and local governments, as appropriate.
- Develop resources to support renewable energy outleasing, including standardized processes and documentation for identifying underutilized assets and soliciting competitive proposals for renewable outleasing.
- Test the renewable energy outleasing concept with a pilot project for an asset or assets conducive to solar outleasing.

A first step to establishing such a program at GSA would be to screen the owned building portfolio to identify assets likely to make the best candidates. The agency could then test the concept with pilots at these facilities. A previous analysis of renewable energy opportunities at GSA buildings, conducted by the National Renewable Energy Lab (NREL) for GSA using the REopt tool, could be updated to examine best prospects for REO, particularly at historic buildings.

**Committee Discussion**

- Issues raised by Committee members included:
    - Roof access safety and security – a manageable issue, particularly as PV panels typically require limited lifetime maintenance.
    - Sales of renewable energy certificates (RECs) from the project – generally will be an issue for third-party owner to determine.
    - Requirements for technologies to be American-made – if applicable, may increase project costs.

- Limitations on use and appearance of historic buildings – may lead to some restrictions, e.g., no PV on roof visible from street, but not stand in the way of projects overall.

**Motion**

- Members decided to keep the Advice Letter open for comment for another week, and to then hold a vote over email on whether to approve it as an official product of the Committee.
- [Postscript: the Advice Letter was approved and is posted online here].

## Embodied Energy: Task Group Presentation and Discussion

*Victor Olgyay, RMI and Brendan Owens, USGBC, Task Group Co-Chairs*

The goal of this Task Group is to study the federal energy, pollution, and cost savings that may be achieved by reducing the energy and carbon embodied in federal building construction and materials. The group aims to develop procurement recommendations for GSA to lead and move the market on this issue.

As background, the lifecycles of building materials and construction (including manufacture, transportation and installation) currently account for 11% of annual global $CO_2$ emissions, but as building operational energy use continues to fall, that percentage will increase correspondingly.

The group did some initial research to identify the value to GSA of purchasing low embodied energy and carbon building materials. The group reviewed 487 GSA projects over 10 years, constituting an average of 44 large and small (tenant fit out) projects per year totaling $1 billion in construction expenses. Using the Embodied Carbon in Construction Calculator (EC3) tool, the group estimated, with a 30% low- to no-cost reduction in embodied carbon from current practice, the potential to reduce emissions by 633,000 metric tons $CO_2e$ (carbon dioxide equivalent, a measure that factors in all major greenhouse gases).

Additional potential benefits from these savings include: reduced supply chain energy costs ($13 million/year of societal benefit), lessened air pollution (estimated at $12 million/year), and savings from more material-efficient designs.

General principles for the guidelines that the group will propose include keeping them simple, giving project teams flexibility to implement them, and calling for stricter requirements for larger projects. While the group has not yet completed its work, it anticipates developing proposed procurement guidelines and an Advice Letter for Committee review by early fall 2020.

**Committee Discussion**

- Issues raised by Committee members included:

- Striking the right balance between giving project teams leeway to implement guidelines without leaving the door open for greenwashing.
- Factoring in the longevity of building systems, e.g., structural components that will be in place for the lifetime of the building vs. HVAC systems likely to be replaced sooner. Opportunities for embodied energy and carbon savings will vary by project types, and larger projects at least should do life cycle assessments to fully flesh out where the best prospects lie.
- Considering that supply chains are rapidly changing, potentially opening up new opportunities for energy and carbon savings.
- Clark Construction has been working on a large pilot evaluating the potential to supply low-carbon concrete, and can provide additional insights to the group.
- Importance of asking the right questions, planning appropriately from the very start of a project.
- Carbon impacts of reusing buildings themselves – beyond the scope of this project but worth considering.

**Next Steps**

The Task Group invited further questions from the Committee over the next week as it enters the next phase of its work. It intends to present its Advice Letter for consideration at the fall 2020 Committee meeting.

## Next Committee Topics: Brainstorm and Discussion

*Michael Bloom, GSA OFHPB, Facilitator*

The final major portion of the meeting was a brainstorming session about potential new federal sustainable building topics for the Committee to address. The topics brainstormed may be grouped into several categories:

- **Exploring Energy Storage at Federal Facilities**
  - As a logical follow-on to the Committee's work on both grid-integrated buildings and REO, several members proposed exploring the topic of energy storage at federal facilities.
  - Issues raised:
    - Could be used to support both renewable energy systems and grid integration strategies.
    - Another potential use for underutilized assets.
    - Need to demonstrate effective, strategic use of batteries or other storage technologies for not only load reduction but also greenhouse gas emissions reduction, as these goals are not always compatible.
      - Combine storage demonstrations with real-time emissions tracking, investigating how to optimize reductions of loads and emissions, adjusting building controls and storage strategies accordingly.

        - Possibilities and implications of use with electric vehicle charging, including the demonstration of vehicle-to-grid techniques.

- **Mitigating Potential Unsustainable Impacts of COVID-19 Response**
    - The Committee considered a variety of issues related to the return of occupants to federal facilities following the COVID-19 lockdown. As the group discussed, there are already many expert workgroups across government, industry and associations developing guidance and standards to ensure that this return process is safe and effective.
    - However, there are multiple sustainability issues that may not be fully taken into account in these processes. Potential unexpected, unsustainable impacts discussed include:
        - Indoor environmental quality, health, environmental & materials impacts of potential overuse of strong cleaning chemicals.
        - Impacts of revised ventilation patterns on energy use, building system lifecycles, occupant health, etc. Analyze why largely empty buildings are still using significant amounts of energy and how to reduce those impacts.
        - Managing new wastestreams, e.g., personal protective equipment.
        - Long term considerations of new patterns of work and building occupancy, flexible building operations and resilience.

- **Additional Issues Suggested**
    - The role of plug load on building efficiency, including the use of wall receptacles in future operation strategies, e.g., “switched receptacles” wired for use of smart sensors.
    - Addressing issues of social equity as part of federal building sustainability.
    - Exploring the issue of switching buildings to all-electric operations to support greenhouse gas reduction strategies.

## Closing Comments

Ken Sandler, Projjal Dutta, and Kevin Kampschroer thanked everyone for attending and making this a productive meeting, emphasizing how much GSA values the work of the Committee and its Task Groups.