



U.S. General Services Administration

Sustainable Existing Buildings

Requirements, Requalification, and ROI

presented by
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Agenda

- Introduce the 2016 Guiding Principles (GP) and EO 13834 requalification requirements
- Share GSA PBS's streamlined GP approaches
- Discuss GSA's experience with requalification and ROI / benefits
- Questions

2016 Guiding Principles

Determining Compliance with the Guiding Principles for Sustainable Federal Buildings

February 2016

This document is a companion to the revised *Guiding Principles for Sustainable Federal Buildings* (Guiding Principles) issued by the Council on Environmental Quality in February 2016, per Executive Order 13693, *Planning for Federal Sustainability for the Next Decade*.

Full implementation of all principles, elements and sub-elements described in the Guiding Principles is strongly encouraged. The tables below include metrics for agencies to use to evaluate compliance with the Guiding Principles. For new construction, 20 out of 21 metrics are required, and for modernization, 19 out of 21 metrics are required. For existing buildings, although agencies are strongly encouraged to meet as many metrics as possible, 12 out of 18 metrics are required—eight specified plus four additional—in order to determine that a building is in compliance with the Guiding Principles.

When evaluating a building for compliance with the Guiding Principles, the new construction and modernization criteria should be applied when the project that an agency is undertaking in an existing building is essentially a comprehensive replacement or restoration of virtually all major systems, interior work (such as ceilings, partitions, doors, floor finishes, etc.), and building elements and features.

New Construction or Modernization

For new construction, metrics number one through 20 are required, and for modernization, metrics number one through 18 and number 21 are required, as shown below.

I. Employ Integrated Design Principles	
1	Integrated Design: Consider the environmental impacts of a project and use an integrated project team to: establish energy and other environmental performance goals in the design process; follow sustainable landscape design principles; evaluate electric vehicle charging needs; make design choices that improve environmental performance, support health and wellness of building occupants and consider climate risks including wildfire; and consider all stages of the building's life cycle. [Required]
2	Commissioning: Commission and recommission at least every 4 years to

The “...**Associated Instructions**” document has additional detail and guidance.

Guiding Principles for Sustainable Federal Buildings and Associated Instructions

The Council on Environmental Quality
February 2016

Buildings are evaluated against requirements in the “**Determining Compliance...**” document.

Existing Buildings

I. Employ Integrated Design

- 1. Integrated Assessment, Operation, and Management*
- 2. Commissioning*

II. Optimize Energy Performance


- 3. Energy Efficiency*
- 4. Renewable and Clean Energy
- 5. Metering
- 6. Benchmarking

III. Protect and Conserve Water

- 7. Indoor Water Use*
- 8. Outdoor Water Use
- 9. Alternative Water
- 10. Stormwater Management

Demonstrate
12 of 18
criteria,
8 required
plus
4 optional;
LCCE
applies

IV. Enhance Indoor Environmental Quality

- 11. Ventilation and Thermal Comfort *
- 12. Daylighting and Lighting Controls
- 13. Indoor Air Quality
- 14. Occupant Health and Wellness 

V. Reduce the Environmental Impact of Materials

- 15. Material Content and Performance
- 16. Waste Diversion
- 17. Materials Management

VI. Assess and Consider Climate Risks

- 18. Climate Resilience

2016 GP Ongoing Requirements - Game Changer But Limited Details

- Change from mid-distance sprint to long relay
- Continue meeting GPs on a four-year cycle if:
 - Ongoing commissioning / recommissioning
 - Quadrennial energy and water evaluations
 - Benchmarking
 - O&M requirements
 - Waste diversion
 - Climate resiliency
- Uncertainty concerning applicability, specific requirements, and reporting implications



Executive Order (EO) 13834

Efficient Federal Operations

	23771
Federal Register Vol. 83, No. 99 Tuesday, May 22, 2018	Presidential Documents
Title 3— The President	<p>Executive Order 13834 of May 17, 2018</p> <p>Efficient Federal Operations</p> <p>By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:</p> <p>Section 1. Policy. The Congress has enacted a wide range of statutory requirements related to energy and environmental performance of executive departments and agencies (agencies), including with respect to facilities, vehicles, and overall operations. It is the policy of the United States that agencies shall meet such statutory requirements in a manner that increases efficiency, optimizes performance, eliminates unnecessary use of resources, and protects the environment. In implementing this policy, each agency shall prioritize actions that reduce waste, cut costs, enhance the resilience of Federal infrastructure and operations, and enable more effective accomplishment of its mission.</p> <p>Sec. 2. Goals for Agencies. In implementing the policy set forth in section 1 of this order, the head of each agency shall meet the following goals, which are based on statutory requirements, in a cost-effective manner:</p> <p>(a) Achieve and maintain annual reductions in building energy use and implement energy efficiency measures that reduce costs;</p> <p>(b) Meet statutory requirements relating to the consumption of renewable energy and electricity;</p> <p>(c) Reduce potable and non-potable water consumption, and comply with stormwater management requirements;</p> <p>(d) Utilize performance contracting to achieve energy, water, building modernization, and infrastructure goals;</p> <p>(e) Ensure that new construction and major renovations conform to applicable building energy efficiency requirements and sustainable design principles; consider building efficiency when renewing or entering into leases; implement space utilization and optimization practices; and annually assess and report on building conformance to sustainability metrics;</p> <p>(f) Implement waste prevention and recycling measures and comply with all Federal requirements with regard to solid, hazardous, and toxic waste management and disposal;</p> <p>(g) Acquire, use, and dispose of products and services, including electronics, in accordance with statutory mandates for purchasing preference, Federal Acquisition Regulation requirements, and other applicable Federal procurement policies; and</p> <p>(h) Track and, as required by section 7(b) of this order, report on energy management activities, performance improvements, cost reductions, greenhouse gas emissions, energy and water savings, and other appropriate performance measures.</p> <p>Sec. 3. Implementation and Immediate Actions. (a) The Chairman of the Council on Environmental Quality (CEQ) and the Director of the Office of Management and Budget (OMB) shall coordinate in developing, issuing, and updating, as necessary, requirements and streamlined metrics to assess agency progress in achieving the goals set forth in section 2 of this order.</p> <p>(b) Within 90 days of the date of this order, the Secretary of Agriculture, Secretary of Energy, Administrator of General Services, and the Administrator</p>

- [EO 13834](#) (May 2018)
 - Revoked EO 13693, but
 - Reaffirmed sustainable buildings requirements
- [EO 13834 Implementing Instructions](#) (April 2019)
 - Retained # of buildings and GSF metrics
 - Changed applicability threshold to 10,000 GSF
 - Defined 15% and annual improvement goals with agency set milestones

EO 13834 Implementing Instructions Sustainable Existing Buildings Updates

- Buildings can be qualify as “sustainable” by:
 - Meeting 2016 GPs or
 - Using 3rd party system (identified by GSA)
- “Ongoing Requirements” = “Requalification”
- GSA tasked to:
 - Identify sustainability standards and practices
 - Recommend 3rd party systems and standards to qualify as Federal sustainable buildings
 - Provide guidelines on requalification
 - Identify FRPP-MS data collection updates

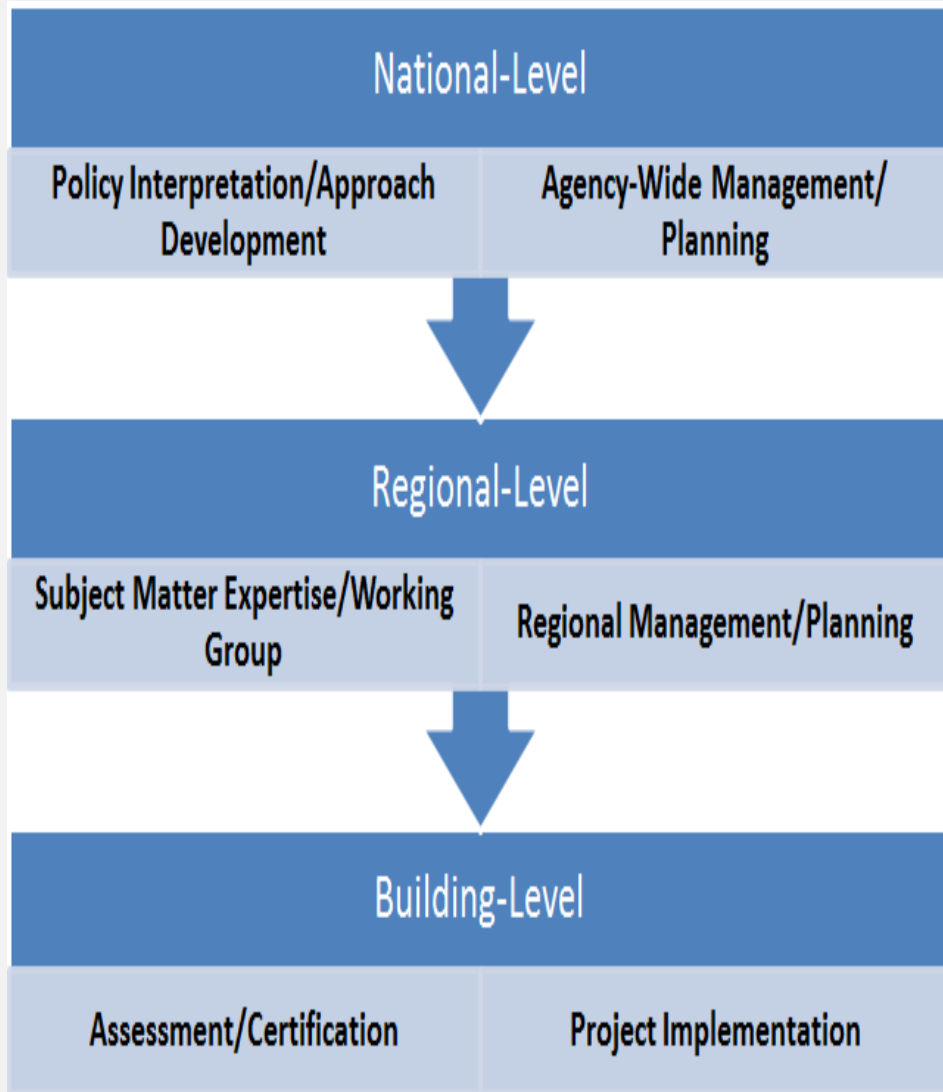
EO 13834 and Instructions Takeaways

- Kept focus on effective and efficient Federal buildings in new construction / modernization, existing buildings, and now requalification
- Better aligned sustainable buildings with other program requirements (e.g., metering, EISA 432)
- Added flexibility and options for agencies' sustainable building programs
- Clarified the intent of ongoing requirements and requalification guidance development next steps

GSA GP-Existing Building (EB) Program

- GSA's GP-EB Program developed as a way to:
 - Enhance portfolio operational performance and cost efficiency
 - Achieve and exceed sustainable building goals
 - Support GSA stewardship of Taxpayer assets and funds
- GPs viewed as proxy for building management excellence
- But, 2016 GPs and, later, EO 13834 releases:
 - Required program, approach, and tool updates
 - Posed new challenges (i.e., ongoing requirements / requalification)
 - Offered new opportunities (i.e., alignment and integration)

GSA's GP-EB Program Evolution



- 2016 GP-EB program focused on:
 - Analyzing and understanding the new 2016 GP requirements
 - Shifting from LEED EB-O&M to internal GP-based approaches
 - Setup requalification process
 - Developing portfolio plan, execute, review, and report process and tool
- 2017-18 GP-EB focused on:
 - Operationalizing use of GP focused approaches and process
 - Identify lessons learned
 - Update to GP approaches and tool
- 2019 GP-EB focus on EO 13834 and building on lessons learned

Alignment Integration – How We Did It

- Focused on national policies and programs
 - Provided basis for requirements and documentation
- GSA regional staff and SMEs provided input on the alignment with operations and programs
 - But, LEED O&M approach and certain GPs did not completely align with current operations
 - So, SMEs developed new approaches to meet GP requirements and more direct align with programs and strategies

Alignment with Programs and Strategies

GP Credit	PBS Programs and Strategies
Energy, Commissioning, Metering, Benchmarking, Renewable Energy	EUI Reduction Strategies, Sustainable Project Design, P100, EISA 432, Commissioning, Advanced Metering, Renewable Energy Purchases and Development
Indoor and Outdoor Water Use, Alternative Water, Stormwater,	WUI Reduction Strategies, Sustainable Project Design, Drought-Tolerant Landscaping, Green Roofs, Reuse, ESPC, P100, SITES, & Leak Detection/Advanced Metering
Material Content and Performance	Key Sustainable Products Initiative
Waste Diversion	Municipal Solid Waste and C&D Waste Diversion Programs
Occupant Health and Wellness	Fitwel
Indoor Environmental Quality	P100, Sustainable Design Projects, & Indoor Air Quality Policy
Climate Resilience	Capital Planning & Resilience Strategies

Material Content and Performance - GP 15

Procure products and supplies that have a lesser or reduced effect on human health and the environment over their life cycle when compared with competing products or services that serve the same purpose.

- GSA National Policy
 - Key Sustainable Products Initiative (KSPs)
- GSA GP Implementation Requirements
 - Designated products must meet the requirements of the KSPs Initiative
 - Non-KSPs must meet requirements outlined in the GSA Sustainable Facilities Tool (SF Tool)
- GSA GP Documentation
 - Upload the custodial and construction SOW/specification language that requires compliance with the KSP and non-KSP standards

Waste Diversion - GP 16

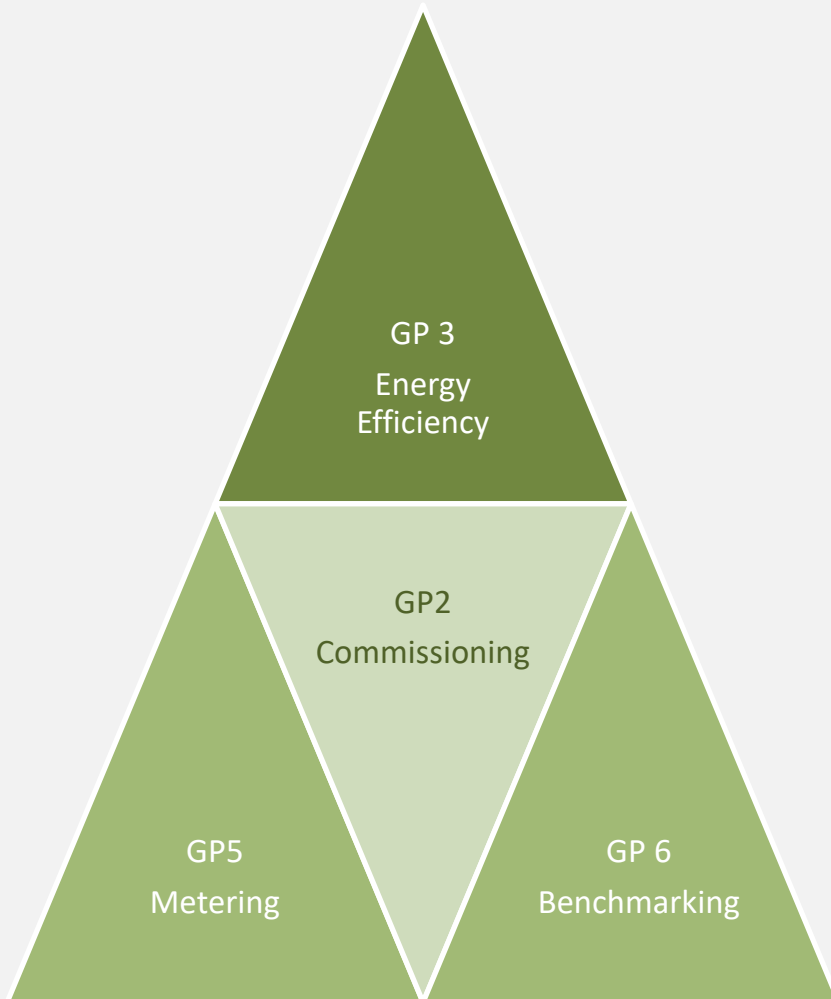
Where markets exist, provide reuse and recycling services for building occupants and divert at least 50% of non-hazardous and non-construction related materials from landfills.

- GSA National Policy
 - Solid Waste & Recycling Program
- GSA GP Implementation Requirements
 - Verify that the facility provides reuse/recycling/composting services for non-hazardous and non-construction wastes
 - Verify 50% of the facility's waste has been diverted from landfills
- GSA GP Documentation
 - Upload the custodial/O&M contract language that requires reuse/recycling and/or composting services
 - Complete all relevant fields in the solid waste tracker table

Integration – How We Did It

- GP guidance provides flexibility to meet requirements
- GSA first developed aligned approaches and, then, streamlined the documentation
- GP integration approach used step-wise approach
 - Reviewed GPs for similarities and/or clear linkages between credit requirements and documentation
 - Revised draft GP approaches to sync-up documentation requirements
 - Updated Sustainable Operations and Maintenance (SO&M) tool to clearly indicate GP credit linkages

Optimize Energy Performance - GP3

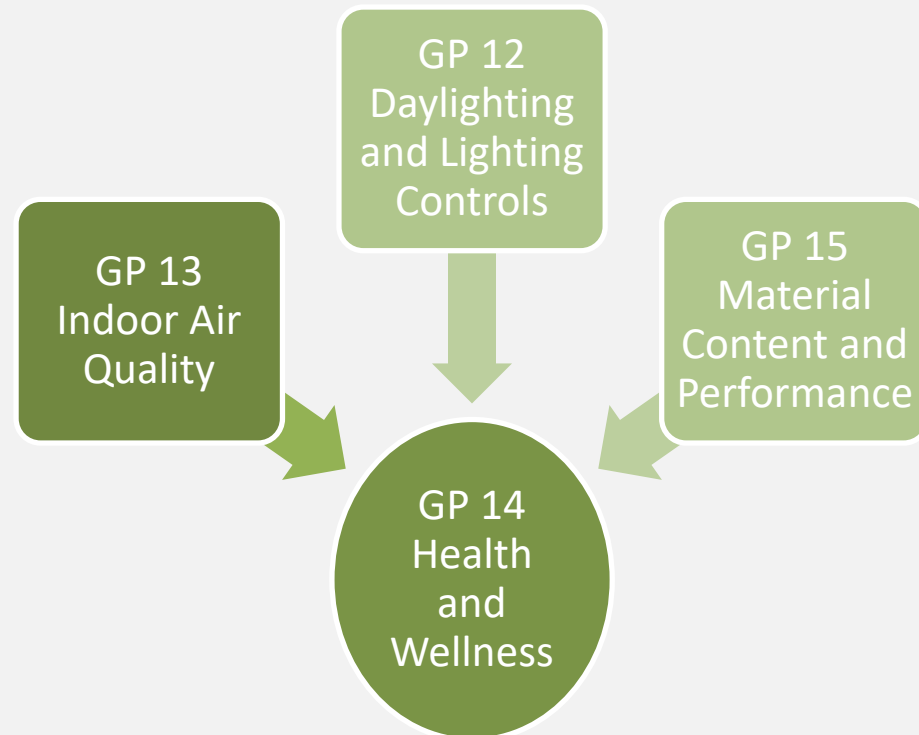


- All approaches require Energy Star or EUAS (GSA utilities database) data and documents
- GP3 is starting point, and its documentation is used to meet
 - GP 2 Commissioning
 - GP 5 Metering
 - GP 6 Benchmarking
- GP 5 and GP 6 support GP2.

Occupant Health and Wellness – GP14

Promote opportunities for voluntary increased physical movement of building occupants and support occupant health.

- Promoting occupant health and wellness supports our mission
- GSA-CDC-NYC jointly developed Fitwel as an evidence-based program to benchmark health and wellness
- GSA uses Fitwel benchmarking as an option to meet GP14 requirements
- GP 12, GP13, and GP15 documentation aligns and integrates with GSA Fitwel approach to meet Fitwel criteria



GSA Requalification Approach

- GSA started implementing 2016 GP-EB's on-going requirements in FY2017
- Our approach built on 8 required GP-EB criteria
- Intended to:
 - Proactively meet 2016 GP ongoing requirements
 - Support compliance with multiple Federal requirements (energy, water, waste, acquisition, etc.)
 - Reinforce PBS program and building performance

GSA Requalification Experience

- GSA successfully performed requalification on dozens of GSA owned buildings over last 3-years
- Experience suggests that requalification can be used to reinforce and sustain building performance when implemented with a value add lens
- Focus on robust process and question value add of each criterion, requirement, and document ask

Opportunities and ROI So Far...

- 2016 GPs and ongoing requirements opportunity
 - Balanced GSA GP goal achievement and compliance burden
 - Aligned and supported implementation of GSA national programs
 - Trained FMs and deployed sustainability best practices
 - Empowered regional sustainability leads and facility managers
 - Positioned GP-EB program well for release of EO 13834
- Our evolution's return on investment (so far)
 - Enhanced implementation of national programs at the building-level
 - Positioned GP-EB program well for release of EO 13834
 - Reduced documentation burden and time to complete
 - Reduced need for external contract support

GP Program Tools

- 2016 GP-EB Implementation Approaches (GP 1-18)
- 2016 GP-EB Checklist (Google Sheet)
- Sustainable Maintenance & Operations (SO&M) Tool
- GP Program Master Planning (Google Sheet)

Questions?

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