Sustainability Assessment Tools and Asset Management: How DoD Will Use Them

Sponsored by Facility Asset Management, Energy & Sustainability, and Architectural Practice committees
Moderator:

- Col. Paula J. Loomis, USAFR (Ret.), FAIA, FSAME, APA, MBA, LEED BD&C, PMP, Sustainability Program Manager, HQ USACE

Speakers:

- Col. Keith Welch, Chief, Environmental Planning, Programming, Budgeting and Execution in the Office of the Under Secretary of Defense for Installations and the Environment

- Eric Mucklow, AIA, CPHC, GPP, LEED BD&C, Building Technology Program Manager, HQ USACE

- Erin Shaffer, Vice President for Federal Outreach, Green Building Initiative

- Melissa Gallagher–Rogers, U.S. Green Building Council, Director Solution Experts

- Edmond Gauvreau, AIA, Chief Planning Branch, Installations Support Division, US Army Corps of Engineers
SAME
Sustainable Buildings Assessment

Lt Col Keith Welch
Office of the Deputy Under Secretary of Defense for Installations & Environment
Why Are We Here?

• The Military Services have done a great job building sustainable buildings

• The trouble is...we have not done a good job of taking credit for that good work

• We are here to help...
  – New instructions for real property records
  – New standard for sustainable buildings (UFC)
  – New policy: compliance with the UFC = Sustainable

• Third-Party Rating Systems are helping

• Military Services are helping themselves
DoD Buildings Completed by Year

Total Built

- 2006: 730
- 2007: 559
- 2008: 677
- 2009: 731
- 2010: 1021
- 2011: 920
- 2012: 507
- 2013: 170
DoD Sustainable Buildings

# Sustainable

<table>
<thead>
<tr>
<th>Year</th>
<th># Sustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>6</td>
</tr>
<tr>
<td>2007</td>
<td>5</td>
</tr>
<tr>
<td>2008</td>
<td>7</td>
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<td>2009</td>
<td>66</td>
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<td>2010</td>
<td>12</td>
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<tr>
<td>2011</td>
<td>69</td>
</tr>
<tr>
<td>2012</td>
<td>33</td>
</tr>
<tr>
<td>2013</td>
<td>10</td>
</tr>
</tbody>
</table>
DoD’s Sustainable Bldgs Scorecard Over Time

Acquisition, Technology and Logistics
That Being Said…

“A scorecard is not an excuse to do dumb things…As we make investments in our buildings we will make them smartly to reduce the total ownership cost to the Department”

John Conger
Acting DUSD(I&E), 2013
Energy & Sustainability Record Card

Tracking Compliance with Performance Standards of what the Corps Builds

Eric Mucklow, AIA, CPHC, LEED AP BD+C
Building Technology Program Manager
Engineering & Construction Division
HQ, US Army Corps of Engineers
eric.mucklow@usace.army.mil

US Army Corps of Engineers
BUILDING STRONG®
What is the Energy & Sustainability “Record Card”

The Energy & Sustainability Record Card:

- ...is an Excel spreadsheet
- ...publishes facility performance
- ...documents project compliance
- ...structures random data calls
- ...provides consistency in reporting
It's called a "Record Card"

“Record Card”

SCORECARD
All I said was "Scorecard"!
Field Directive and Guidance

ECB 2013-25

Implementation of the Energy & Sustainability Record Card and New DD 1354 Sustainability Codes

- **Scope**: Cards required for each facility:
  - subject to UFC 1-200-02*
  - over 5000 GSF of interior space, or
  - greater than $2.5 million in cost.

- **Policy**: Roles & Responsibilities (*see next slide*)

- **Submission Process**: major milestones; e.g.:
  - Concept/Parametric Design (Code 2/3)
  - 100% Design (DBB-Code 6/T or DB-Code 7)
  - Solicitation/Request for Award Authority
  - Beneficial Occupancy & Final Turnover

- **Training**

---

* UFC 1-200-02, Subject: High Performance and Sustainable Building Requirements; i.e. Table 1-1
# Primary Roles & Responsibilities

<table>
<thead>
<tr>
<th>CEMP-I (PID)</th>
<th>Programs Integration Division</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Role:</strong> Data Collection &amp; Routing Submissions</td>
<td></td>
</tr>
<tr>
<td>- The Energy &amp; Sustainability Record Card (Excel Workbook) will be submitted by District Project Managers to the HQ PID Program Manager for the MSCs</td>
<td></td>
</tr>
<tr>
<td>- One Energy &amp; Sustainability Record Card is required for each <em>facility</em>.</td>
<td></td>
</tr>
<tr>
<td>- PMs will ensure Record Cards are created and updates submitted at the project milestones indicated</td>
<td></td>
</tr>
<tr>
<td>- HQ PID will ensure all required Record Cards are submitted thru to E&amp;C</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CECW-CE (E&amp;C)</th>
<th>Engineering &amp; Construction Division</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Role:</strong> Maintenance &amp; Summary Reporting</td>
<td></td>
</tr>
<tr>
<td>- The Energy &amp; Sustainability Record Cards will be indexed and hosted online (internal to USACE)</td>
<td></td>
</tr>
<tr>
<td>- E&amp;C will be responsible for compiling, summarizing, and reporting the collected information as appropriate</td>
<td></td>
</tr>
<tr>
<td>- E&amp;C will host training webinars and on-demand videos to assist PMs. These will be announced on the Sustainability &amp; Energy Website at: <a href="http://mrsi.usace.army.mil/sustain/">http://mrsi.usace.army.mil/sustain/</a></td>
<td></td>
</tr>
</tbody>
</table>
Excel Workbook Components

1. **E&S Record Card**
   - Energy & Sustainability Record Card
   - Mandates
   - HPSB Guiding Principles
   - LEED Scorecard

2. **Building Data Entry Tab**
   - Building Data Entry Tab

3. **Checklist Tabs**
   - Contextual Help Tab

4. **Workbook Components**
   - Building Data Entry Tab
   - Checklist Tabs
   - Mandates
   - HPSB Guiding Principles
   - LEED Scorecard

5. **Contextual Help Tab**
   - Building Data Entry Tab
   - Checklist Tabs
   - Mandates
   - HPSB Guiding Principles
   - LEED Scorecard

6. **Workbook Components**
   - Building Data Entry Tab
   - Checklist Tabs
   - Mandates
   - HPSB Guiding Principles
   - LEED Scorecard

7. **Workbook Components**
   - Building Data Entry Tab
   - Checklist Tabs
   - Mandates
   - HPSB Guiding Principles
   - LEED Scorecard

8. **Workbook Components**
   - Building Data Entry Tab
   - Checklist Tabs
   - Mandates
   - HPSB Guiding Principles
   - LEED Scorecard

9. **Workbook Components**
   - Building Data Entry Tab
   - Checklist Tabs
   - Mandates
   - HPSB Guiding Principles
   - LEED Scorecard

10. **Workbook Components**
    - Building Data Entry Tab
    - Checklist Tabs
    - Mandates
    - HPSB Guiding Principles
    - LEED Scorecard
Record Card Components

ENERGY & SUSTAINABILITY RECORD CARD

Building: Building 12345
SF: 150,000
RPUID: 7654321
Project/PA: Tesseract Research Center
PA: 88,000 kUSD
Inst.: USAG Humphreys - Anjeong-ri, Gyeonggi Province, Korea
Inst. Code: 1234

Brief Building Description / Special Energy & Sustainability Highlights:

DASHBOARD

Compliance Dashboard
- Mandates Met
- LEED Rating
- Energy Savings & Renewable Energy
- Water Savings & Harvesting/Re-Use
- Waste Reduction & Landfill Diversion / Recycling / Re-Use

PERFORMANCE DATA & STATISTICS

- Energy & Water Intensity (unit/SF)
- Total Consumption for Baseline verses Design & Δ%
Sustainability & Energy Website

http://mrsi.usace.army.mil/sustain/

**Training Video**
- Go to “Training” tab
- Select “Webinars”

**Record Card Library**
- Go to “Initiatives” tab
- Select “E&S Record Cards”

ETA: TBD
Points of Contact

**Collection and Routing: CEMP-I**

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MBP Manager
Programs Integration Division
Ana.Ortega@usace.army.mil

**Content Issues: CECW-CE**

**Eric Mucklow**
Building Technology Program Manager
Engineering & Construction Division
Eric.Mucklow@usace.army.mil
New Construction and Existing Building Assessment Programs

for compliance with Federal Requirements
Content

- The Green Building Initiative (GBI) Overview
- Guiding Principles Compliance
  - Background
  - Assessment & Certification System
    - New Construction/Major Renovation
    - Existing Buildings
- Professional Certification
- How to Initiate a GPC Project
The Green Building Initiative

- Nonprofit corporation – HQ in Portland, OR
  - Mission: Accelerate the adoption of building practices that result in energy efficient, healthier & environmentally sustainable buildings
- Founded in 2004
- U.S. provider of the Green Globes and Guiding Principles Compliance assessment & certification systems
  - GPC EB for existing buildings
  - GPC NC for new construction & major renovations
  - Green Globes NC includes 100% coverage of GP’s
Guiding Principles Background

- The federal government established sustainability requirements for all agencies:
  - Executive Order 13423 in 2007
  - Executive Order 13514 in 2009
  - 15% Buildings >5000 sq.ft. must comply with the Guiding Principles by 2015
Guiding Principles Compliance Assessment Program History

- 2006 Memorandum of Understanding
- 2008 High Performance and Sustainable Buildings Guidance
- 2011 GBI Launch of the Guiding Principles Compliance for Existing Building Assessment Program
- 2007 Executive Order 13423
- 2009 Executive Order 13514
- 2014 GBI Launch of the Guiding Principles Compliance for New Construction Assessment Program

2000 to Today
GPC Development

- Response to federal agency requests
- Utilized GP criteria specified by ISWG High Performance and Sustainable Building Guidance document (12/1/08) and ENERGY STAR Portfolio Manager
- Incorporated guidance from third-party technical committee
- Tested and refined w/ feedback from multiple federal agencies
Benefits from a Guiding Principles Compliance Assessment

- Ensure independent, accurate and consistent reporting within agencies
- Demonstrate annual progress toward 100% compliance with Executive Orders
- Meet requirements with minimal disruption to each agency’s core mission
- Receive a roadmap to compliance with guidance for future improvements
Federal Agency Use

- GPC for existing buildings (GPC EB--2011)
  - More than 250 Federal buildings certified
    - Including offices, warehouses, hospitals, long-term care facilities, outpatient clinics
- GPC for New Construction (GPC NC--2014)
  - New program with buildings currently pending certification
How it Works

Guiding Principles Compliance
5 Environmental Assessment Areas

1: Employ Integrated Assessment, Operation, and Mgmt. Principles

2: Optimize Energy Performance

3: Protect and Conserve Water

4: Enhance Indoor Environmental Quality (IAQ)

5: Reduce Environmental Impact of Materials
Guiding Principles Compliance Project

Scoring Protocol

Each environmental assessment area is allocated an equal number of points (individual criteria will vary)

100 Possible Points
20 points per section
Buildings are assessed for compliance on a 0 – 100% point scale.

A minimum score of 40% is required to be Certified.

There are three central elements to the GPC Rating System.

<table>
<thead>
<tr>
<th>Compliance Score</th>
<th>Compliance Rating</th>
<th>GPC Logo</th>
</tr>
</thead>
<tbody>
<tr>
<td>0% - 39%</td>
<td>Not Certified</td>
<td>1: GPC</td>
</tr>
<tr>
<td>40% - 59%</td>
<td>2 GPC</td>
<td>2: GPC</td>
</tr>
<tr>
<td>60% - 79%</td>
<td>3 GPC</td>
<td>3: GPC</td>
</tr>
<tr>
<td>80% - 99%</td>
<td>4 GPC</td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>5 GPC</td>
<td></td>
</tr>
</tbody>
</table>
Guiding Principles Compliance Certification Plaque

CERTIFIED BY
THE GREEN BUILDING INITIATIVE FOR
COMPLIANCE WITH THE GUIDING PRINCIPLES

RECOGNIZED AS A
HIGH PERFORMANCE & SUSTAINABLE BUILDING

2013

www.thegbi.org
GPC NC Process

Guiding Principles Compliance for New Construction
New Construction Process Overview

Pre-design Assessment
- Complete and Submit GPC NC Survey
- GBI Schedules Pre-design Review
- Submit Pre-design Documentation for Assessor Review

On-site Assessment
- Assessor Review and pre-design Report

Update and Submit GPC NC Survey
- GBI Schedules On-site Assessment
- Assessor On-Site Review and Report
- GPC NC Rating & (potential) Certification

Optional Design Review available for an additional fee
GPC NC Criteria Sample

- **Guiding Principle - Employ Integrated Design Principles**
  - **Criterion - I.A.2 Business Case** - Integrates the use of OMB’s A-11, Section 7, Exhibit 300: Capital Asset Plan and Business Case Summary.
    - Option to meet compliance using **GG NC** criterion:
      - **3.1.1.4.1 Capital Asset Plan & Business Case** - For Federal building projects, did the integrated design process integrate the use of OMB’s A-11, Section 7, Exhibit 300: Capital Asset Plan and Business Case Summary?
        » **Answers:**
          o Yes
          o No
        » **ToolTip:**
          o Guidance for OMB’s A-11, Section 7, Exhibit 300: Capital Asset Plan and Business Case Summary can be found online at http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/fy14_guidance_on_exhibits_53_and_300.pdf
        » **Reference Material:**
          o OMB Circular A-11, Section 7, Exhibits 300A and 300B: http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/fy14_guidance_on_exhibits_53_and_300.pdf
Guiding Principle – Optimize Energy Performance

Criterion - II.C.2 Natural Gas and Steam Meters - Per EISA Section 434, include equivalent meters for natural gas and steam, where natural gas and steam are used.

- Option to meet compliance using GG NC criterion:
  - GG NC criterion: 3.3.3.1.1 Metering - the electricity sub-criterion (3.3.3.1.1.1) is a must-have requirement for all buildings, and the heating fuels (3.3.3.1.1.2) and/or steam (3.3.3.1.1.3) are only required where they will be used by a building.
    - Is there metering (at the building level) for the following:
      - 3.3.3.1.1.1: Electricity?
» **Assessment Guidance:**
  
  o Additional utilities that count for building-level metering include chilled or hot water for campus/district systems. During the Pre-design Assessment, the Assessor will review the mechanical and electrical plans. These plans should clearly show what utilities will be metered.

» **Supporting Documentation:**
  
  o Mechanical and electrical plans showing what utilities will be metered
## GPC NC Survey & Document Checklist

### Employ Integrated Design Principles

<table>
<thead>
<tr>
<th>Employ Integrated Design Principles</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.A.1 Integrated Project Team</td>
<td>Click to go there</td>
</tr>
<tr>
<td>I.A.2 Business Case</td>
<td>Click to go there</td>
</tr>
<tr>
<td>I.A.3 Performance Goals</td>
<td>Click to go there</td>
</tr>
<tr>
<td>I.A.4 Lifecycle</td>
<td>Click to go there</td>
</tr>
<tr>
<td>I.B Commissioning</td>
<td>Click to go there</td>
</tr>
</tbody>
</table>

### Optimize Energy Performance

<table>
<thead>
<tr>
<th>Optimize Energy Performance</th>
<th>Answer</th>
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</thead>
<tbody>
<tr>
<td>II.A.1 Establish a Performance Target</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.A.2 Reduce Energy Use - New Construction</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.A.3 Reduce Energy Use - Major Renovation</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.A.4 Reduce Energy Use - Laboratory Spaces</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.A.5 Energy Efficient Products</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.B.1 Solar Hot Water Heaters</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.B.2 Renewable Energy Generation Projects</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.C.1 Electricity Meters</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.C.2 Natural Gas and Steam Meters</td>
<td>Click to go there</td>
</tr>
<tr>
<td>II.D Benchmarking</td>
<td>Click to go there</td>
</tr>
</tbody>
</table>

- Survey results list all answers w/in the survey.
- Click on any blue link to jump to that spot in the survey.
## Estimated Hours

<table>
<thead>
<tr>
<th>Guiding Principles for New Construction Estimated Hours by Task</th>
<th>Estimated Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project management &amp; client meetings</td>
<td>4 - 12</td>
</tr>
<tr>
<td>Gather and assemble data for the online questionnaire</td>
<td>6 - 10</td>
</tr>
<tr>
<td>Complete online evaluations</td>
<td>2 - 8</td>
</tr>
<tr>
<td>Prepare documentation package for the assessor for Stage I review</td>
<td>4 - 10</td>
</tr>
<tr>
<td>Prepare documentation package for the assessor for Stage II review</td>
<td>3 - 6</td>
</tr>
<tr>
<td>Plan and attend the Stage II on-site assessment</td>
<td>4 - 12</td>
</tr>
<tr>
<td>Post assessment action items (review report and share results)</td>
<td>4 - 8</td>
</tr>
<tr>
<td>Recognition</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Estimated Hours</strong></td>
<td><strong>28 - 67</strong></td>
</tr>
</tbody>
</table>
Summary

Guiding Principles Compliance for New Construction

- Two Stage Assessment Review
  - Pre-Design
  - On-Site
- Option to include Design phase
- Each GP has strategies, technologies, programs and policies from Green Globes as specific compliance examples
- Customer support
- Roadmap for improvement included in assessment report
GPC EB Process

Guiding Principles Compliance for Existing Buildings
Existing Buildings Process Overview

1. On-site Assessment
2. Update and Submit GPC EB Survey
3. GBI Schedules On-site Assessment
4. Assessor On-Site Review and Report
5. Prepare and Delivery Documentation to Assessor
6. GPC EB Rating & (potential) Certification
GPC Existing Building Survey

1.1.1 Integrated Assessment, Operation, and Management (1)

1.1.1.1 (Integrated 1) Use a collaborative, integrated design and planning process with a dedicated, integrated design and planning process with a dedicated, integrated team to develop and implement policy regarding sustainable operations and maintenance in all stages of a project.

Compliance Status: Yes

Select the verification documentation and/or action that supports the claimed compliance status

Status Verification: A documented, integrated design and planning process (4 points)

Enter comments and/or the name of other qualifying documentation below

Other Comments/Documentation: Yes of VAMC St. Cloud GEMS, Environmental and Energy Management Committees

Assessors Only

Does other documentation (if selected) qualify for compliance? Select one (if applicable)... 

If so, how many points?

Always remember to save your Survey!

Review each GPC criteria

Select a compliance status

Select status verification that shows compliance

Enter in additional documentation and policy details

DO NOT enter any data in the Assessors Only section
In addition to the tooltips, GBI provides a GPC Supplemental Guide

- Provides
  - Definitions and examples of the compliance verification documents for each Guiding Principle criterion listed within the GPC Survey
## Estimated Hours

<table>
<thead>
<tr>
<th>Guiding Principles for Existing Buildings Estimated Hours by Task</th>
<th>Estimated Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management and client meetings</td>
<td>4-14</td>
</tr>
<tr>
<td>Research data for the GPC Survey</td>
<td>24</td>
</tr>
<tr>
<td>Complete GPC Survey</td>
<td>4-8</td>
</tr>
<tr>
<td>Prepare documentation package for the assessor</td>
<td>10-14</td>
</tr>
<tr>
<td>Plan and attend the 3rd party assessment</td>
<td>4-10</td>
</tr>
<tr>
<td>Post-assessment action items, review report and suggestions</td>
<td>10-14</td>
</tr>
<tr>
<td>Support recognition event and project closure</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Estimated Hours</strong></td>
<td><strong>60 - 88</strong></td>
</tr>
</tbody>
</table>
Federal Agencies Use of Both Programs

- Guiding Principles Compliance Certification Program for existing buildings (GPC EB)
  - More than 250 Federal buildings certified
    - Including offices, warehouses, hospitals, long-term care facilities, outpatient clinics.

- Guiding Principles for New Construction (GPC NC)
  - Newly developed program with buildings pending certification
Guiding Principles Compliance Professional Training

- **Guiding Principles Compliance Professional (GPCP)**
  - Certification program for qualified individuals to become expert facilitators of the Guiding Principles Compliance assessment program.
Getting Started

- Select a building
- Contact GBI to discuss your project
- Complete and submit a Project Summary Sheet (Quote Form)
- Receive your formal pricing quote
- Place your order
Personnel Certifications

- Green Globes Professional (GGP)
  - Qualified to assist in filling out the GG questionnaire and getting the building ready for certification
  - 5--AIA LU/HSW credits
  - FREE for 60-Days –until April 15, 2014
    - www.thegbi.org
Questions?

Erin Shaffer
VP of National Affairs
202-285-8339
erin@thegbi.org
Guiding Principles for High Performance Federal Buildings

Guiding Principles Compliance Initiative by USGBC

Melissa Gallagher-Rogers
Director, Technical Solutions
U.S. GREEN BUILDING COUNCIL
mgrogers@usgbc.org
AGENDA

USGBC’s Focus on the Federal High Performance

• Guiding Principle Compliance Initiative
• Goals of the Initiative
• Description
• Reporting Options
GPC INITIATIVE by USGBC

GOALS

• Eliminate redundant reporting
• Leverage LEED specifications to meet principles
• Third party verification
• All project types:
  – Supporting Existing Buildings & New Construction/Major Renovation
  – LEED & Non-LEED Projects
GPC INITIATIVE by USGBC

OVERVIEW

• Assessment of Compliance

• Tools

  Where is your project on path to compliance?
  What they need to do to next?

• Support for implementation

• Third-party verification of compliance

• Reporting on compliance
LEED NC AND GUIDING PRINCIPLES

All Prerequisites
15 Credits
Contribute to Guiding Principles

Guiding Principles requirements can be met through LEED credits
GPC PROGRAM  NEW CONSTRUCTION (MAJOR RENOVATION)

LEED PROJECTS

• Over 55% of GP program achieved through achieved LEED credits
• Project Information Form and supplemental documentation sent in tandem with LEED application
• No additional information required for credit synergies
• Documentation guidance available for all elements
### Guiding Principles Compliance Verification
#### Sustainable Existing Buildings

**LEED EB O&M v2009 Certified Project Compliance Path**

<table>
<thead>
<tr>
<th>Guiding Principle</th>
<th>Verification of Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Employ Integrated Design Principles</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Integrated Design</strong></td>
<td>Use a collaborative, integrated planning and design process that initiates and maintains an integrated project team as described in the Whole Building Design Guidelines throughout a project's planning and delivery.</td>
</tr>
<tr>
<td><strong>Business Case</strong></td>
<td>Integrate the use of EDC's A-11, A-12, and A-13, or DCS Capital Award Plan and Business Case Standard.</td>
</tr>
<tr>
<td><strong>Performance Goals</strong></td>
<td>Establish performance goals for energy, water, waste, materials, and indoor environmental quality along with other comprehensive design goals and ensure incorporation of these goals throughout the design and delivery of the building.</td>
</tr>
</tbody>
</table>

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### Guiding Principles Compliance Verification
#### Sustainable New Construction and Major Renovations

**LEED NC v2009 Certified Project Compliance Path**

<table>
<thead>
<tr>
<th>Guiding Principle</th>
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</tr>
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</tr>
</tbody>
</table>

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**GPC FORMS**

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**SUBMITTAL PORTAL**

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Energy Savings ...

According to the U.S. Department of Energy, buildings use 39% of the energy and 74% of the electricity produced each year in the United States.
NON-LEED PROJECTS

- LEED forms and tools used to demonstrate compliance with the GPs
- Project Information Form and documentation submitted
- Documentation guidance available for all elements
# Guiding Principles Compliance Verification

**Sustainable Existing Buildings**

## General Information

<table>
<thead>
<tr>
<th>Guiding Principles Name and Description</th>
<th>Verification of Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Design</td>
<td></td>
</tr>
<tr>
<td>Integrated Management System</td>
<td></td>
</tr>
<tr>
<td>Business Case</td>
<td></td>
</tr>
<tr>
<td>Building Management Plan</td>
<td></td>
</tr>
</tbody>
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### Integrated Design

- Use a collaborative, integrated planning and design process that involves the entire integrated project team in all stages of the project's planning and delivery.

### Integrated Management System

- Incorporate the use of OMB's A-11, Section 7, Exhibit 360 Capital Asset Plan and Business Case Summary.

### Business Case

- Select the documentation collected to demonstrate compliance:
  - 2M and over: DOI business case review
  - 10M and over: OMB business case review
  - Other: 

### Building Management Plan

- Select the documentation collected to demonstrate compliance:
  - Document addressing the performance goals for energy, water, material use and recycling, and indoor environmental quality
  - Other: 

### Performance Goals

- Establish performance goals for energy, water, materials, and indoor environmental quality along with other comprehensive design goals and ensure incorporation of these goals throughout the design and lifecycle of the building.

### Guide to Government Procurement (GPC)

**Guiding Principles Compliance Program**

1. Employ Integrated Design Principles
2. Optimize Energy Performance
3. Protect and Conserve Water
4. Enhance Indoor Environmental Quality
5. Reduce Environmental Impact of Materials

**NC GPC Form**

- **Guiding Principles Compliance Program**
  - LEED NC v2009 WEc1 Water Efficient Landscaping
  - LEED NC v2009 WEp1 Water Use Reduction Form
Guiding Principles

OUTDOOR WATER
• Reduce outdoor potable water consumption by a minimum of 50 percent

LEED NC

WEc1 WATER EFFICIENT LANDSCAPING
• Reduce potable water consumption for irrigation by 50 percent
# Guiding Principles Compliance Verification

**Sustainable New Construction and Major Renovations**

*LEED NC v2009 Certified Project Compliance Path*

## General Information

### III. Protect and Conserve Water

| Outdoor Water | Use water efficient landscape and irrigation strategies, such as water reuse, recycling, and the use of harvested rainwater, to reduce outdoor potable water consumption by a minimum of 50 percent over that consumed by conventional means (plant species and plant densities). The installation of water meters for locations with significant outdoor water use is encouraged. | Select the path and documentation collected to demonstrate compliance:  
- Earned WEc1 Water Efficient Landscaping in LEED NC v2009  
- Water efficient landscape and irrigation strategies pursued, WEc1 not earned  
  - Watery tool  
  - LEED NC v2009 WEc1 form  
  - Other:  
  - OR -  
  Indicate why Guiding Principle is not applicable to project: |

---

11
ON-SITE RENEWABLE ENERGY

(EISA) Section 523, meet at least 30% of the hot water demand through the installation of solar hot water heaters, when lifecycle cost effective.

No LEED equivalent. Select the path and documentation collected to demonstrate compliance:
LEED EB AND GUIDING PRINCIPLES

7 out of 8 Prerequisites
16 Credits
Contribute to Guiding Principles Program

Over 65% of Guiding Principles requirements can be met through LEED credits
GPC INITIATIVE  EXISTING BUILDINGS

PROJECT CHECKLIST

- Checklist is populated by the project team and updated throughout program
GPC INITIATIVE BY USGBC

RESOURCES

- Customer touch point with USGBC Staff
- Access to all resources (guide, tools, samples, project checklists)
- GPC Forms (Existing Building & New Construction/LEED & Non-LEED Projects)
- 3rd Party Verification
GPC INITIATIVE BY USGBC

THIRD PARTY REVIEW

PRELIMINARY REVIEW
• Review comments
• Project team response

FINAL REVIEW
• Compliance level awarded
• Option to resubmit elements where compliance was not awarded
• Certificate provided to confirm compliance
ACKNOWLEDGMENT

- Report on compliance
- Status of compliance with GP & LEED if applicable
- Certificate
- USGBC work with agency to discuss progress, gaps, and next steps
- GBIG, Reporting Tool
GPC INITIATIVE
BY USGBC

CONCLUSION

• Program in Beta Test
• Customize for Agency
• Focus on GP Compliance
• LEED as Tool
• Adaptable
Contact Information

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(202) 290-8139
U.S. GREEN BUILDING COUNCIL
Installation Master Planning
Creating Sustainable Energy Efficient Installations

Future Additional Capacities (Vicenza)
Mission Support
140,300 SF-568,100 SF
Community Support
112,300 SF-219,400 SF

Benefits of Installation Master Plan
Great tool for unforeseen stationing actions
Forum for collaborative planning for all Stakeholders on and off post.
Integrating strategic plan embracing Sustainable, energy-efficient development While embracing environmental stewardship And healthy communities.

Installation Master Plan provides:
Defined roadmap to identify maximum military capacity
Comprehensive Plan to meeting all current Mission requirements
Holistic execution plan.
DOD Master Planning Criteria & Guidance

• Unified Facilities Criteria (UFC) 2-100-1 Installation Master Planning dated 15 May 2012 embraces sustainability, compact development, in-fill, mixed use, and multi-story strategies.

• USD(AL&T) 28 May 2013 Memo on Installation Master Planning – reinforces UFC 2-100-1 and mandates master plans be reviewed every 5 years, compliant with UFC, and in place across all components NLT 1 Oct 2018

• New products include Area Development Execution Plans (ADEPs), which include SRM projects executable with limited funds to implement master plan and improve existing facilities; integration of BUILDER to include facility condition assessments with master plan and develop list of SRM requirements. Both being developed by USACE Fort Worth District Energy and Planning Center for Fort Hood, TX.
Sustainability & Energy Assessment
Tools
Group Exercise
26 March 2014
Setting the Stage:

• Sustainability and energy data should be used for facility asset management across the installation/portfolio.

• Used from master planning through facility programming and planning, to building operations and tenant activities to decommissioning and demolition.
Setting the Stage:

• How can this data be used most effectively?
• Are there critical data points/categories missing?
• How should this data be managed/stored/manipulated/analyzed/made available to be the most effective?
• Are there other groups outside of “facilities” that should have access?
• Way forward?
8 Groups

Group 1 – Master Planning & Installation-wide Issues
Group 2 – MILCON/New Facility Issues
Group 3 – Operations and Tenant Occupant Issues
Group 4 – Renovation/Reuse Issues
Group 5 – Installation Management Opportunities
Group 6 – Public/Private Partnership Opportunities
Group 7 – Work Force/Career Development
Group 8 – SAME Involvement
Group 1-Master Planning & Installation-Wide Issues

Starter Questions:

• What additional information should be collected for installation-wide systems (utilities, roads, low impact development, etc.)?
• What planning actions can the installation undertake to minimize energy use? How can DoD (services) minimize use across the portfolio?
• How can the data be analyzed/presented to identify the “best” actions? What should constitute a “best” decision?
• Where does payback on decisions dictate collecting less (but more relevant) data?
Group 2 – MILCON/New Facility Issues

Starter Questions:

• How can the project planning/programming (1391) process be refined/funded to conduct sustainability/energy analysis upfront to include cost effective features?

• How can data/results from recent projects make it into the OMB cost database quicker?

• How can microgrids and other area energy features be programmed effectively?
Group 3 – Operations and Tenant Issues

Starter Questions:

• How do services efficiently house tenants to minimize space requirements while fulfilling missions?
• How do energy savings get returned to DPWs, BCEs, DPWs to encourage/fund future energy savings?
• Where does payback on decisions dictate collecting less (but more relevant) data?
• How do we affect tenant behaviors?
Group 4 – Renovation/Reuse Issues

Starter Questions:

• What are best tools to make investment decisions?
• Do we consider use changes for older buildings?
• Where does payback on decisions dictate collecting less (but more relevant) data?
• Are there public/private partnership opportunities?
Group 5 – Installation Management Opportunities

Starter Questions:

• What data would be beneficial for other installation management groups – security forces, medical, dining, recreation, computer operations, etc.?

• What opportunities can installation management use to incentivize sustainable practices?

• Should there be shared systems for collecting, distributing, and analyzing the data?

• Can there be shared funding for data collection, maintenance, distribution, etc.?
Group 6 – Public Private Partnership Opportunities

Starter Questions:

• What tasks are opportunities for PPP?
• What obstacles must be overcome for PPP and possible solutions?
Group 7 – Work Force/Career Development

Starter Questions:

• What qualities/skills do we need in the work force for energy/sustainability?

• What opportunities are needed to develop/retain the energy/sustainability workforce?

• As energy/sustainability mature will not the practices become part of everyone’s normal work practices?
Group 8 – SAME Involvement

Starter Questions:

• What tasks are opportunities for SAME sustainable partners?
• Are there specific tasks that SAME committees can accomplish?
Wrap Up
Thanks to Everyone!!

1st BDE, 4th ID Brigade & Battalion HQ
Fort Carson, Colorado, LEED Gold