BIRD IN HAND
GETTING THE MOST FROM EXISTING BUILDINGS

ARCHITECTURE / ENGINEERING / CONSULTING
A TYPICAL BUILDING

Design / Construction / Finance

Operations / Maintenance
A TYPICAL BUILDING
REQUIREMENTS FOR EXISTING BUILDINGS

» EO13514:
  – 15% of agency’s existing buildings > 5,000 ft² must meet Guiding Principles by FY 2015
  – Show progress towards 100%

» Others (e.g. EISA 2007):
  – 3% Energy Use Intensity, 2% WUI reduction annually
GUIDING PRINCIPLES

» 5 categories
» 26 criteria
» All must be met (or justified as “NA”)
» No 3rd party verification required for compliance

Employ Integrated Design Principles
Optimize Energy Performance
Protect and Conserve Water
Enhance Indoor Environmental Quality
Reduce Environmental Impact of Materials
GPS: EMPLOY INTEGRATED DESIGN

» Goals for energy, water, material use, recycling and indoor environmental quality

» Incorporate sustainable operations and maintenance practices w/in appropriate EMS

» Augment O&M w/ occupant feedback
OPTIMIZE ENERGY

» ENERGY STAR score of 75 or greater – OR
  Document 20% reduction in use relative to a base year

» Metering for electricity, gas & steam

CONSERVE WATER

» Reduce potable water use by 20% compared to a calculated baseline OR
  Reduce building use by 20% relative to a base year
**INDOOR QUALITY**


» Lighting controls for 50% of spaces

**MATERIALS IMPACT**

» Provide recycling services (where markets exist)

» Eliminate ozone depleting compounds
GUIDING PRINCIPLES & BEYOND

ENERGY STAR

GUIDING PRINCIPLES

LEED  GREEN GLOBES
ENERGY STAR

» Web-based energy & water benchmarking tool for one or more buildings

» Enter facility data, historic energy use, historic water use

- Generates normalized metrics
- Option for 3rd party certification
ENERGY STAR & GPS

» “Sustainable Buildings Checklist” w/in Energy Star

» Interface w/ benchmarking tools

» Documents compliance with GPs

» Connects to Federal property databases
LEED: STRUCTURE

» Checklist w/ 5 main categories
» Prerequisites, including Energy Star
  » Credits w/ Intent & Requirements w/in each category
  » Points w/in each credit
» 4 levels of certification based on points
LEED: PROCESS

» Register project ($1,200)
» Complete Performance period
  » AP completes credit templates*
  » AP submits draft project for 3rd party review ($2,000 - $30,000+)
» Certification received
GPS & LEED

» LEED Incorporates Energy Star
» USGBC: Covers “65% of GPs” (at least)

» USGBC announced the GP Compliance Initiative (GPCI) in March 2014
» GPCI in “Beta Testing”
GREEN GLOBES: STRUCTURE

» Questionnaire in 6 categories
» No prerequisites
» Questions w/in each category
» Range of points (weights) available for each question

» 4 levels of certification based on points
GREEN GLOBES: PROCESS

» Access on-line self-assessment ($1000)
» Complete self-assessment to receive minimum score (35%)
» 3rd party site assessment ($5,500 – $35,000+)

» Receive Final Score
» Certification received
GPS & GREEN GLOBES

» No connection via Energy Star
» Significant overlap w/ GPs

» GP Compliance Program
  » 3rd party cert. for GP Compliance
» Compliance Score (0% - 100%) Rating (1-5)
## CROSSWALKS

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<thead>
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<tbody>
<tr>
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<tr>
<td>Operational Performance Goals</td>
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<tr>
<td>Building Management Plan</td>
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<tr>
<td>Occupant Feedback</td>
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**Guiding Principles**

- Low-emitting Materials
- Integrated Pest Management
- Tobacco Smoke Control
- Recycled Content
- Biobased Content
- Environ. Preferable Products
- Waste & Materials Management
- Ozone Depleting Compounds
LEED VS. GREEN GLOBES

- Transparency
- Simplicity
- Resources
- Flexibility
- Stringency
LEED VS. GREEN GLOBES

- Depth
- Breadth
- Expense
- Speed
- Support
CONCLUSIONS AND RECOMMENDATIONS

1. Start w/ ENERGY STAR Portfolio Manager (ESPM)
2. Document Guiding Principles Compliance w/in ESPM
3. Optionally, pursue third party certification of GP compliance
4. Optionally, pursue LEED or Green Globes certification
5. LEED v. Green Globes: system vs. process