

Part IV: First Steps

What steps are being proposed by federal agencies for achieving built environment sustainability? Which steps will you take?

Let's look at one way the Federal Government has applied the implementation process...

- Vision/Mission: sustainability
- Policy: EO13123 and EO 13148 direct federal agencies to address the sustainability of their built facilities
- Specific agency policy: Use LEED (or SPiRiT) to green built facilities
- Agencies include Army, AF, Navy, CDC, GSA, and others

LEED as policy

- LEED is a rating system for green buildings (and SPiRiT is a version of LEED adapted for military projects)
- LEED has 5 possible levels of “green-ness”:
 - Platinum
 - Gold
 - Silver
 - Rated (Bronze)
 - Not Rated
- Agency policy specifies a required minimum rating level (usually Rated/Bronze or Silver)

LEED as Goals/Objectives/Metrics

- LEED credits are organized into 5 categories (site, energy, water, materials, and IEQ)
- Each credit category represents a related cluster of goals pertaining to buildings, and each individual credit represents a specific goal.
- Within each credit, one or more points are specified that correspond to objectives, along with detailed information about metrics and procedures for evaluation

LEED: Sustainable Sites

Prerequisite: Erosion and Sedimentation Control

Credit 1: Site Selection

Credit 2: Urban Redevelopment

Credit 3: Brownfield
Redevelopment

Credit 4: Alternative
Transportation

Credit 5: Site Disturbance

Credit 6: Stormwater Mgt.

Credit 7: Landscape/Exterior Design for Heat Islands

Credit 8: Light Pollution Reduction



LEED: Water Efficiency



- Credit 1: Water Efficient Landscaping
- Credit 2: Innovative Wastewater Technologies
- Credit 3: Water Use Reduction

LEED: Energy and Atmosphere

Prerequisites:

Fundamental Systems Commissioning

Minimum Energy Performance

CFC Reduction in HVAC&R Eqpt

Credit 1: Optimize Energy
Performance

Credit 2: Renewable Energy

Credit 3: More Commissioning

Credit 4: Elimination of HCFCs and Halons

Credit 5: Measurement and Verification

Credit 6: Green Power



LEED: Materials and Resources

Prerequisite: Storage and Collection of Recyclables

Credit 1: Building Reuse

Credit 2: Construction Waste Mgt

Credit 3: Resource Reuse

Credit 4: Recycled Content

Credit 5: Local/Regional Materials

Credit 6: Rapidly Renewable Materials

Credit 7: Certified Wood



LEED: Indoor Environmental Quality

Prerequisites:

Minimum IAQ Performance

Environmental Tobacco Smoke Control

Credit 1: Carbon Dioxide Monitoring

Credit 2: Ventilation Effectiveness

Credit 3: Construction IAQ Management Plan

Credit 4: Low-Emitting Materials

Credit 5: Indoor Pollutant Source Control

Credit 6: Controllability of Systems

Credit 7: Thermal Comfort

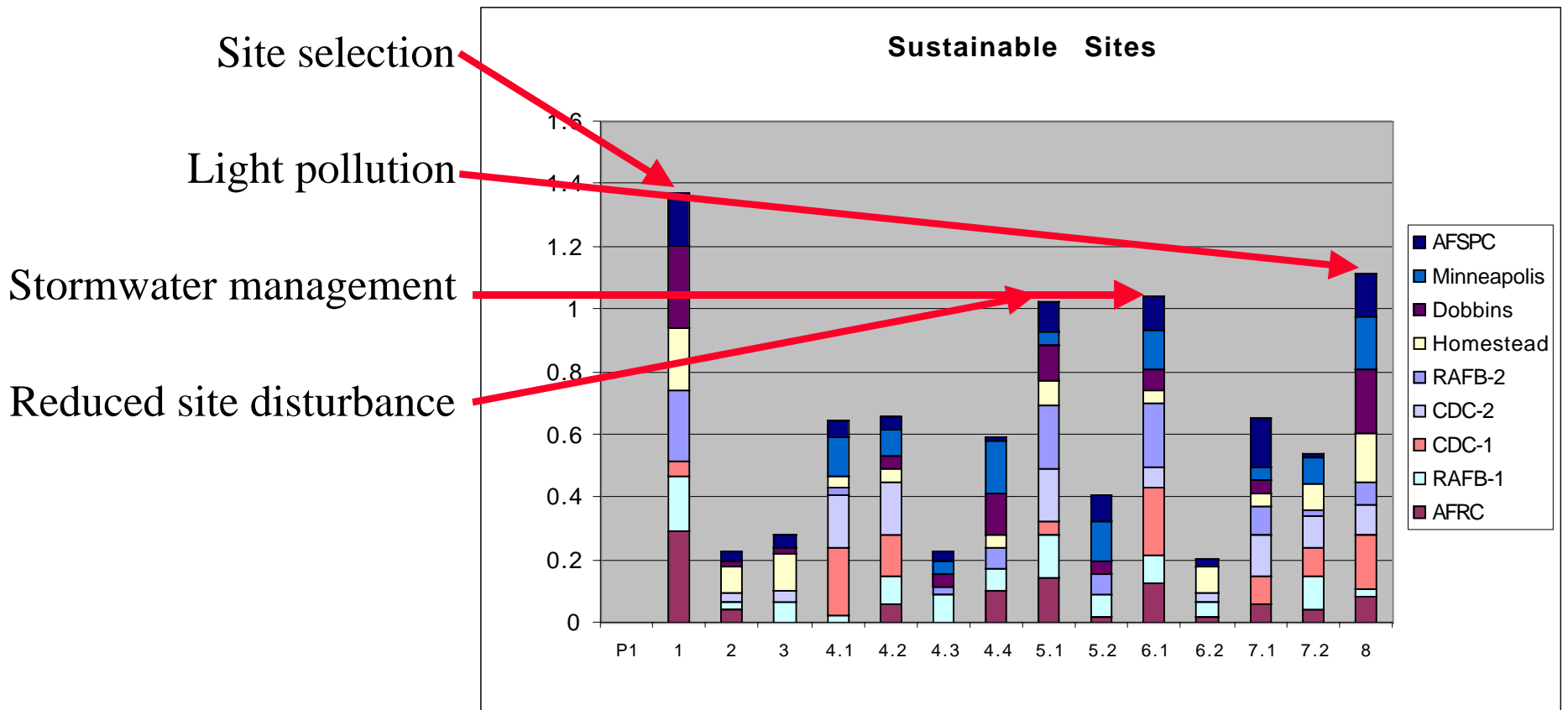
Credit 8: Daylight and Views



Prioritization

- Having seen all the sustainability improvement opportunities afforded by LEED, where would you choose to start?
- We've asked your colleagues around the country what they believe are the most easily implemented LEED points at their installations, and here's what they've told us...

Highest Ranking Site Points

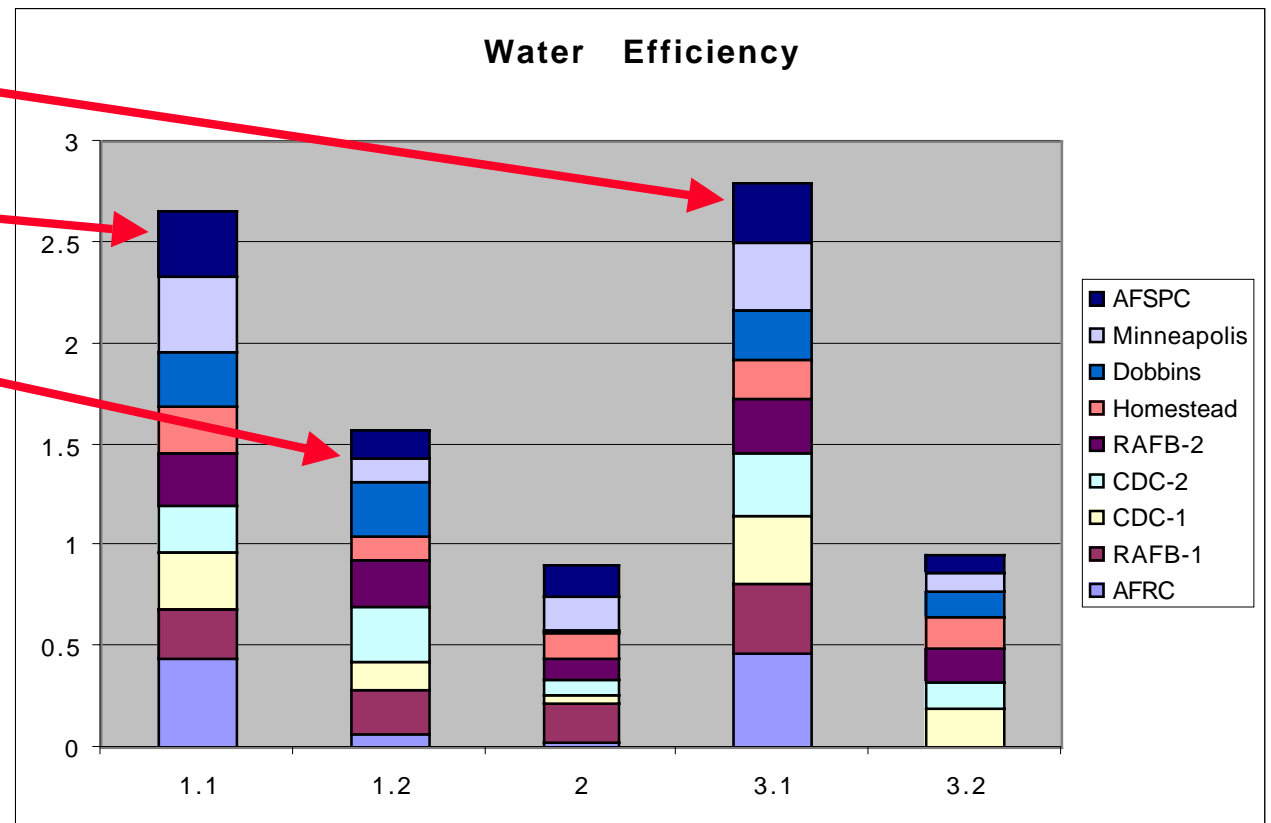


Highest Ranking Water Points

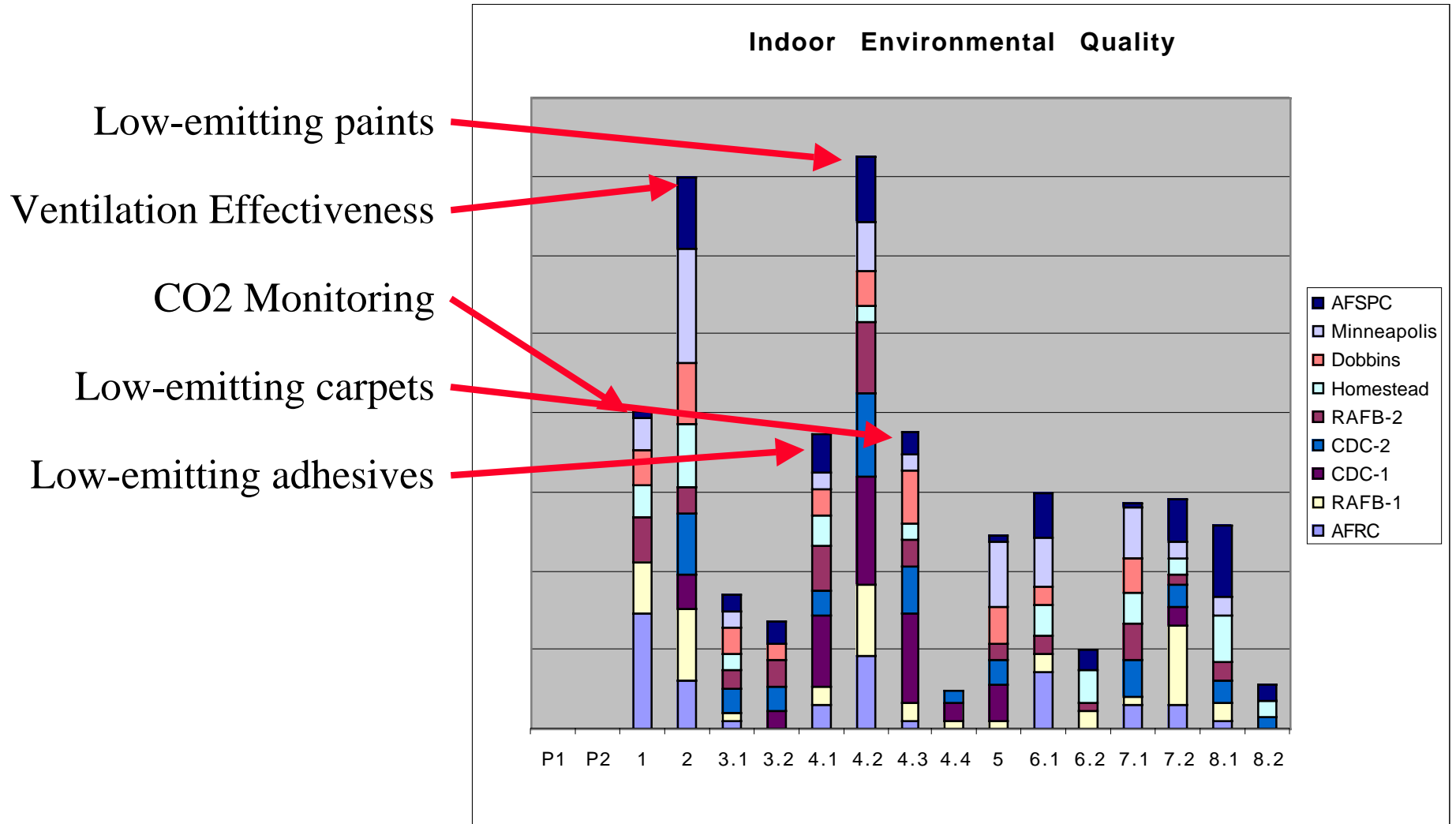
20% Water use reduction

50% Landscaping
water use reduction

Complete landscaping
water use reduction



Highest Ranking IEQ Points



What can we conclude?

- Some points are perceived to be more “doable” than others
- Some points can be obtained with actions *already* being undertaken at installations
- We asked participants what were the next steps needed to go after their target LEED points as a starting point for developing an execution plan, and here’s what they said...

Implementing LEED: Next Steps

- Education/increased awareness
 - “Educate ourselves and our customers”
 - “Educate all personnel”; “Provide awareness training”
 - “Sell the idea to A/E’s, project managers, etc.”
 - “Get user buy-in and acceptance”
- Additional research/get more information
 - “Research potential solutions”
 - “Investigate costs and benefits”
 - “Study process and technologies”
 - “More information on material availability and resources”

Implementing LEED: Next Steps

- Management buy-in
 - “Top-down management support”
 - “Validate options to management”
- More funding (and better information about costs)
 - “Plan for future costs now”
 - “Do a cost-benefit analysis and consider life cycle costs”
 - “Need to perform market analysis”
 - “Program extra funds”; “Request additional funds”
 - “Generate cost data”

Implementing LEED: Next Steps

- Consider new factors and alternatives
 - “Establish measuring/metering requirements”
 - “Consider other alternatives”
 - “Consider purpose and function of facility”
- Change procedures, specs, contracting language, etc.
 - “Early coordination and planning”
 - “Development of an appropriate SOW”
 - “Change contracting language”; “Change specs”
 - “Establish partnerships with other agencies”
 - “Look into green guides”
 - “Review operating guidelines”

Implementing LEED: Next Steps

- Other interesting next steps:
 - “Get local suppliers on GSA schedule”
 - “Provide feedback to manufacturers so that we get materials that do what we need them to do”
 - “Document all costs and benefits”
 - “Start implementation - just do it!”

We also asked participants what critical actions they need their organizations to do in order to implement sustainability.

Here's what they said...

Organizational Action Items

- Training/Education/Awareness
 - “The concept of sustainability needs to be discussed with all unit commanders, base engineers and contracting personnel in the MAJCOM.”
 - “Educate all personnel involved in building process on sustainability concepts.”
 - “Need to create a greater awareness of sustainability concepts by providing additional training at all levels and in all departments.”
 - “Report wins and provide cross-feed forums on successes”

Organizational Action Items

- Adopt sustainability policies and tools
 - “Incorporate LEED scores for all major projects”
 - “Adopt sustainable project procedures, technologies, tools, and methods and include them in all project language”
 - “Create an organizational policy or vision statement that includes sustainability goals and objectives as a major part”
 - “Incorporate sustainability criteria into the required SOW and evaluation of A/E firms and their submittals”

Organizational Action Items

- Provide management support and commitment
 - “Headquarters [needs to] enforce the incorporation of sustainability”
 - “Total commitment from 3 stars down”
 - “A commitment to a different approach to projects which will allow sustainability to be implemented, e.g., de-emphasize completion schedule and cost as guiding factors; institute LCA and make decisions based on these analysis; more flexibility in administrative procedures to implement new ideas”
 - “Management must take the first step in sustainability”

Organizational Action Items

- Identify opportunities and establish priorities
 - “Identify areas where sustainability is achievable now”
 - “Set well-defined sustainability goals”
 - “Make sustainability a priority by including in vision and mission”
 - “Find at least one sustainable item to implement in each funded project”
 - “Program and design a prototype green project”

Organizational Action Items

- Establish a Green Team
 - “Establish a team to initiate and champion the sustainability implementation process”
 - “Create a small working group within the organization to focus on implementing sustainability within all actions”

Finally, we asked participants what personal actions they are willing to commit to in order to implement sustainability.

Here's what they said...

Personal Action Items

- Be open-minded and supportive
 - “Consider sustainability ideas without bias due to lack of information, and be willing to gain knowledge about these ideas”
 - “Consider all options when asked for advice”
 - “Support the efforts of organizational change agents”
 - “Be a champion for a pilot project”
 - “Take a stand philosophically on sustainability as a first step toward complete acceptance of the concept”
 - “I’m willing to stand up for what I know is the right thing”

Personal Action Items

- Promote the idea of sustainability
 - “Develop training briefings on sustainability”
 - “Convince the engineering chief of the importance of sustainability”
 - “Write to Congressional representatives and senators to explain the benefits of sustainability”
 - “Act as a ‘marketer’ to convince management and co-workers of the benefits of sustainability”
 - “Address the issue of sustainability in pre-design meetings”

Personal Action Items

- Experiment with new products, technologies, and strategies
 - “Use a new sustainable product in a project”
 - “Devote complete attention for at least the first project, to provide proper information for evaluation”
 - “Risk taking without the fear of failure”

Personal Action Items

- Identify opportunities and change procedures
 - “Evaluate my projects and look for ways to address sustainability, materials, layouts, construction methods, maintainability, tear down, etc.”
 - “Develop a checklist for items to be implemented during design”
 - “Review sustainability with A/E firms prior to starting project, using LEED system as a basis for review”
 - “Write specification section to include sustainability within current authority”

Organizational Action Items

- Self-education/get more information
 - “Obtain information about successful projects”
 - “Get LEED certified”
 - “Read sustainability articles/material; do research on the web”
 - “Investigate product costs, availability, and feasibility”
 - “Research materials and project alternatives that can be used for sustainability”

Will all these steps take us to
sustainability?

They're headed in the right
direction...

Now that you have an idea what others are beginning to do, what will *you* do?

It's all in how you frame the
problem...



As something you
have to sacrifice...



...or something you
can look forward to...

...and in how each individual perceives the task.



As an additional burden
you have to bear...



...or as a challenge you're
working to overcome!

Any questions?