SOCIAL DYNAMICS
CONNECTIVITY : CREATIVITY : RELATIONSHIPS

ATLANTA
CoreNet Global Summit
6-8 November 2011

#20 Tools for Collaborative and Interactive Workplace Solutions

Moderator: **James Baker,** *Deloitte Consulting*

Speakers

Kevin Kelly, *GSA*
Michael Bloom, *GSA*
Janise Nichols, *GSA*

CoreNet Global

GSA

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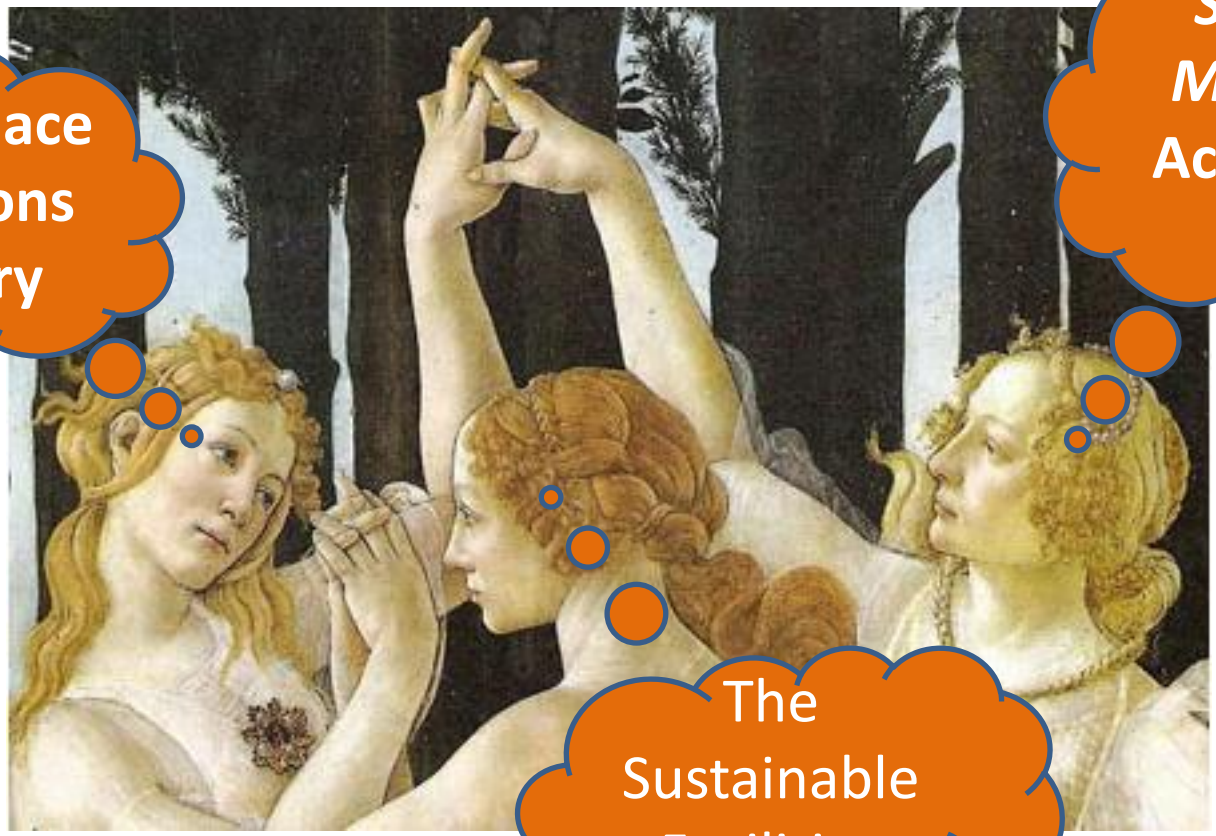
Tools for Collaborative and Interactive Workplace Solutions:

The Renaissance of the Workplace Interior



Workplace Solutions Library

Sound Matters Acoustics Tool

The Sustainable Facilities Tool

Why Create & Share Workplace Tools?

Creating healthful, productive workplaces requires us to:

- Push sustainable practices beyond large mechanical systems & expert-led construction projects.

- Engage building tenants & occupants in the process of creating high-performance workplaces

- Capture & shape the net effect of everyday projects and behaviors that occur without the oversight of design & Workplace professionals

- Allow end-users to engage in experiential learning & problem solving regardless of their previous knowledge level

Martha Johnson has put us on a diet

"We are at a **huge tipping point with regard to our cultural and societal notions about workplace.**"

Martha Johnson, Administrator GSA

Under-utilized asset

bloated workspace

optimizing the asset

with trim, fit space creating human energy while saving fossil energy

GSA's extreme challenge is to consolidate three major GSA locations in DC into 1800 F St, NW which will virtually triple the current density.

Three New Collaborative & Interactive GSA Workplace Tools

Three new GSA tools that leverage collaborative, immersive 3-D technologies that allow users to see & address problems endemic in the modern workplace.

1) The Workplace Solutions Library: (www.Workplacesolutionslibrary.com)

• Slim down footprint *while improving workplace quality.* Identify workstyles & translate them to appropriate space design that affords *workable mobility*, + appropriate furniture choices + tools to support change management.

2) Sound Matters: Acoustic Comfort for the New Workplace:

• Specify designs & products & modify human behavior to achieve workplaces that furnish acoustic comfort . Features cost-effective sound mitigation strategies & tips on workplace behavior modification & workplace layout.

3) Sustainable Facilities Tool: (www.sftool.gov):

• Frame sustainability information for all & enable wise sustainable facilities choices

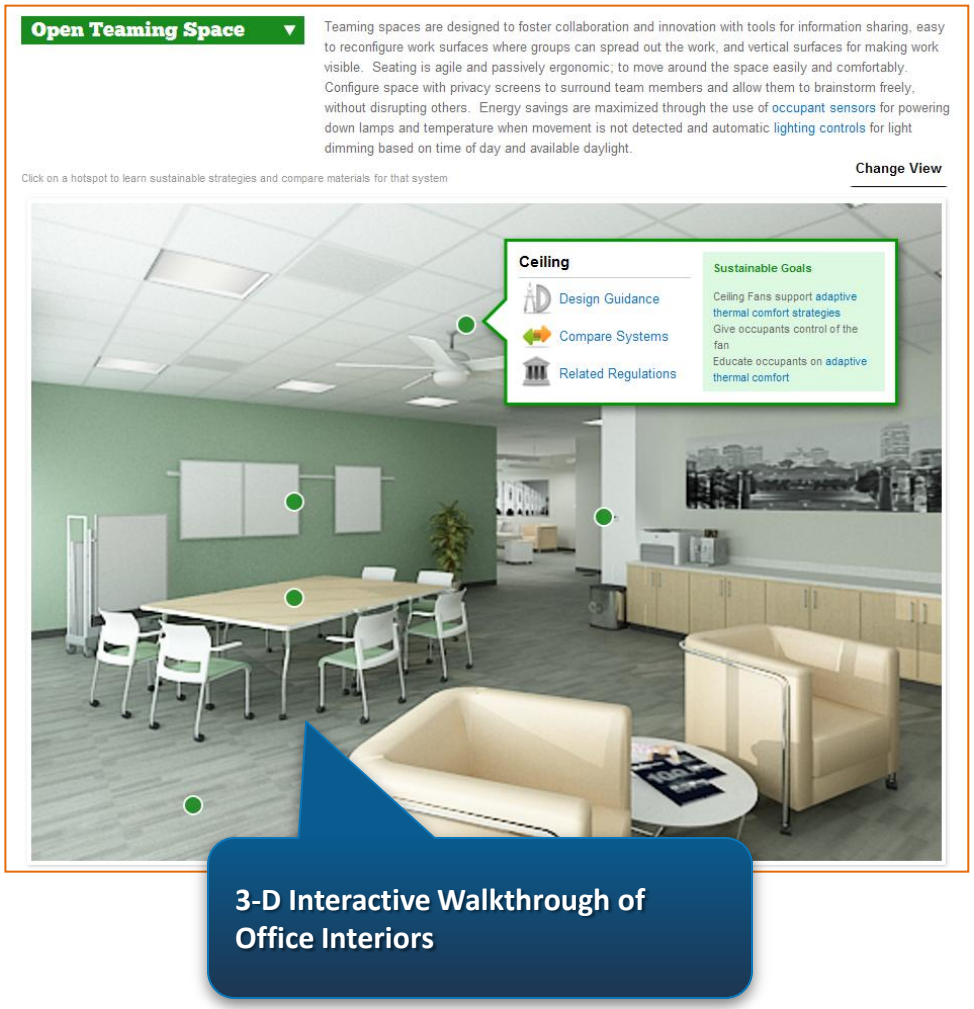
Sustainable Facilities Tool

A one-stop portal to empower any government or private sector user to identify and prioritize cost-effective green building strategies that will lead to improved environmental performance in small building projects.

Targeted User Community:

- Facility Managers
- Realty Specialists
- Project Managers from Governmental Agencies
- Private Sector Developers

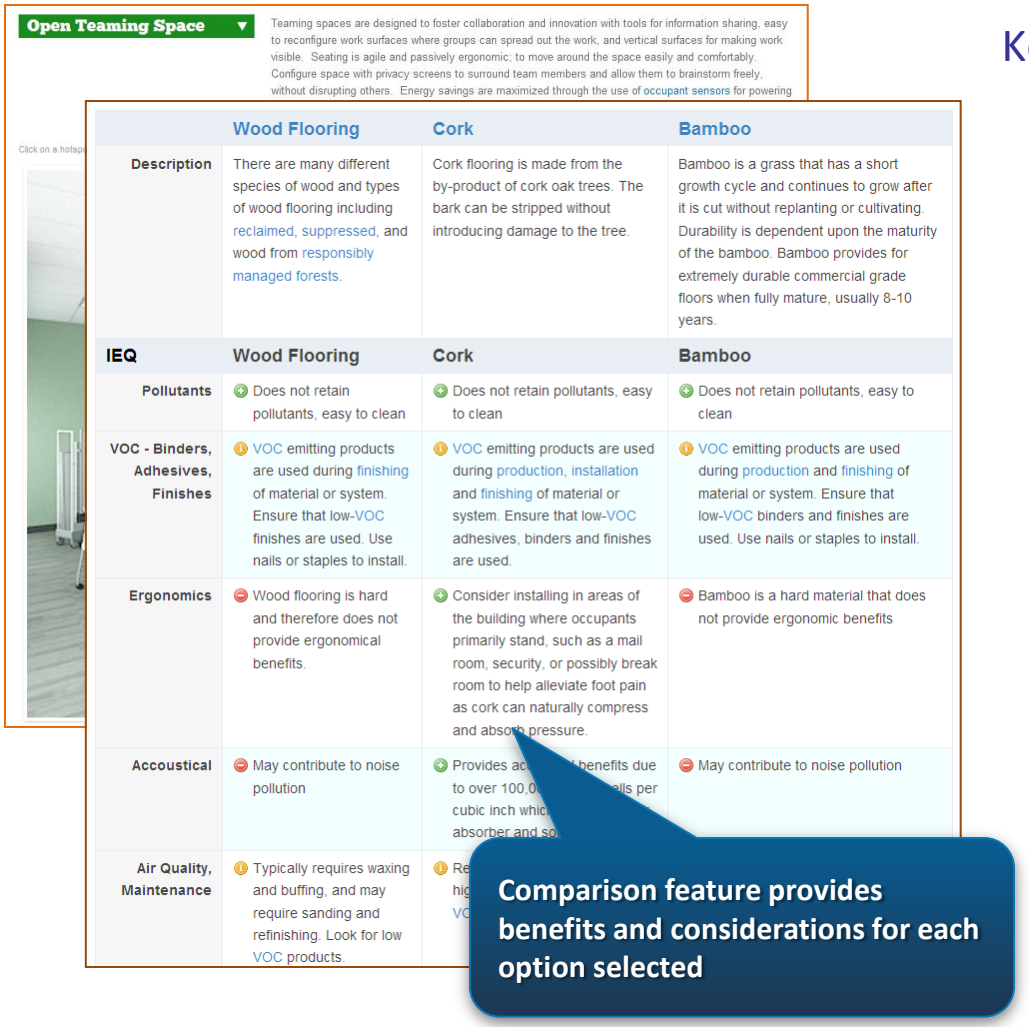
Sustainable Facilities Tool



Key Features:

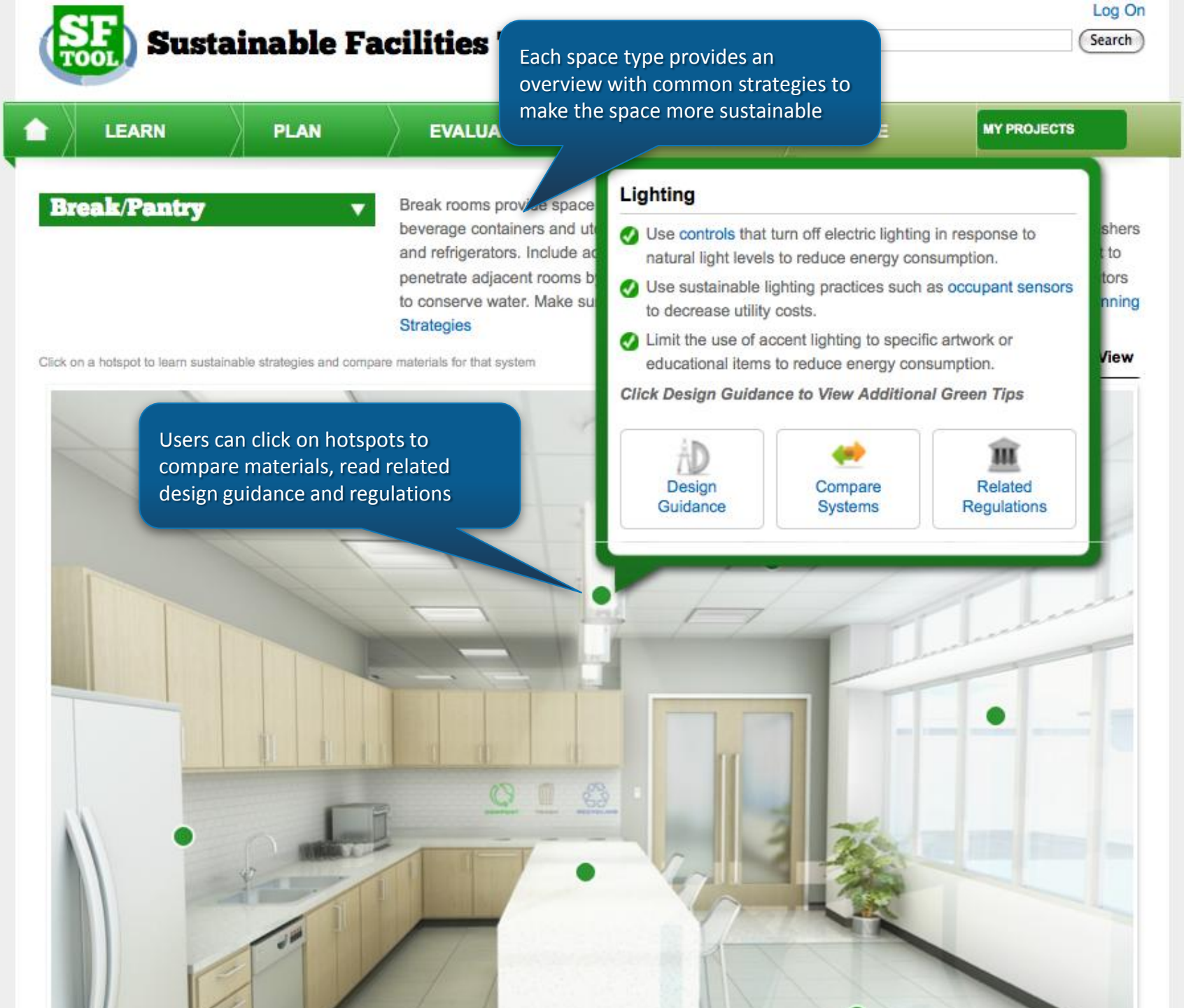
- Valuable resources for **sustainable building principles** and **concepts**
- **3-D interactive walkthrough** of office interiors & **material comparisons**
- **Sustainable metrics,** essential **regulations & guidelines**, and case studies
- **Take-away checklist** for tracking sustainable design
- **Intuitive and easy-to-navigate** user interface

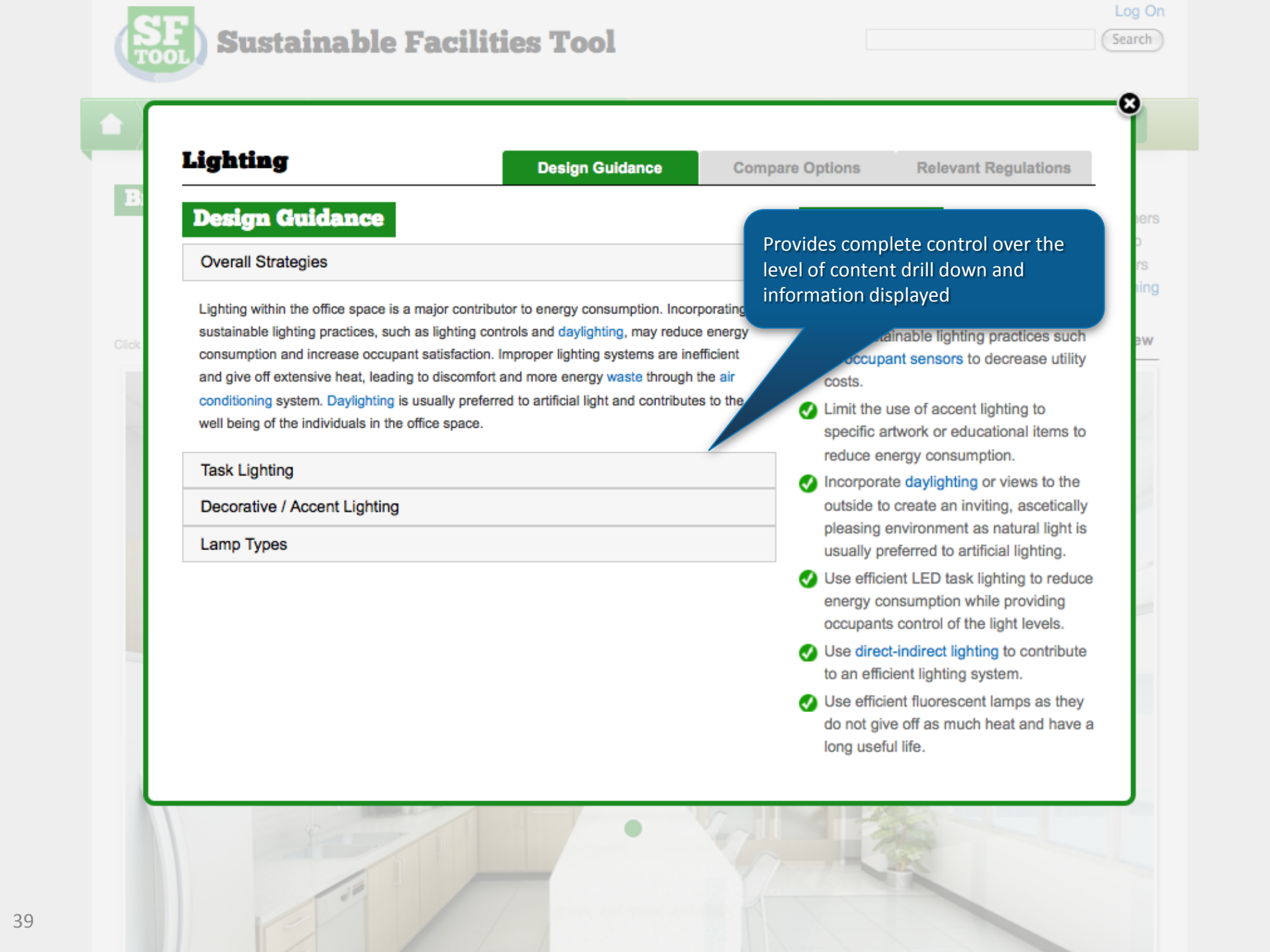
Sustainable Facilities Tool

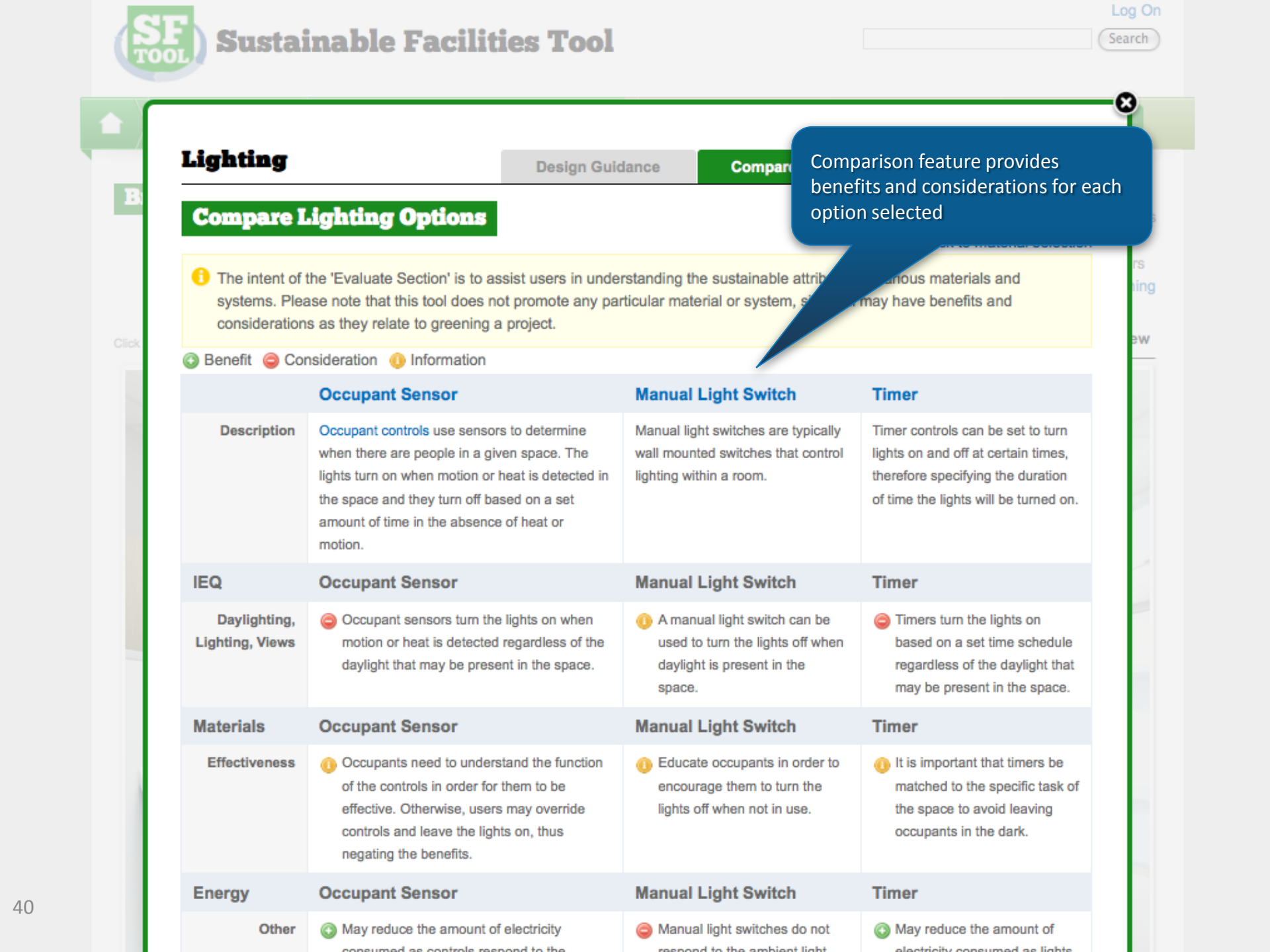


Key Benefits:

- Empowers decision-making for **sustainable goals & objectives** to meet the Guiding Principles
- Promotes the use of **energy efficient, sustainable design** and **environmentally preferable materials** in renovations, alterations & leases
- Enhances skill sets to assess **green leases** & architect/design team deliverables
- **Supports green practices** throughout the life of a facility


SF TOOL
Sustainable Facilities
Log On
Search
LEARN
PLAN
EVALUA
MY PROJECTS
Each space type provides an overview with common strategies to make the space more sustainable
Break/Pantry
Break rooms provide space
beverage containers and ut
and refrigerators. Include ac
penetrate adjacent rooms b
to conserve water. Make su
Strategies
Click on a hotspot to learn sustainable strategies and compare materials for that system
Lighting
Use controls that turn off electric lighting in response to natural light levels to reduce energy consumption.
Use sustainable lighting practices such as occupant sensors to decrease utility costs.
Limit the use of accent lighting to specific artwork or educational items to reduce energy consumption.
Click Design Guidance to View Additional Green Tips
Design Guidance
Compare Systems
Related Regulations
Users can click on hotspots to compare materials, read related design guidance and regulations


Sustainable Facilities Tool
Log On
Search
Lighting
Design Guidance
Compare Options
Relevant Regulations
Design Guidance
Overall Strategies
Lighting within the office space is a major contributor to energy consumption. Incorporating sustainable lighting practices, such as lighting controls and daylighting, may reduce energy consumption and increase occupant satisfaction. Improper lighting systems are inefficient and give off extensive heat, leading to discomfort and more energy waste through the air conditioning system. Daylighting is usually preferred to artificial light and contributes to the well being of the individuals in the office space.
Task Lighting
Decorative / Accent Lighting
Lamp Types
Provides complete control over the level of content drill down and information displayed
tainable lighting practices such
occupant sensors to decrease utility costs.
Limit the use of accent lighting to specific artwork or educational items to reduce energy consumption.
Incorporate daylighting or views to the outside to create an inviting, ascetically pleasing environment as natural light is usually preferred to artificial lighting.
Use efficient LED task lighting to reduce energy consumption while providing occupants control of the light levels.
Use direct-indirect lighting to contribute to an efficient lighting system.
Use efficient fluorescent lamps as they do not give off as much heat and have a long useful life.


Sustainable Facilities Tool
Log On
Search
Lighting
Design Guidance
Compare
Compare Lighting Options
Comparison feature provides benefits and considerations for each option selected
The intent of the 'Evaluate Section' is to assist users in understanding the sustainable attrib
ious materials and
systems. Please note that this tool does not promote any particular material or system,
may have benefits and
considerations as they relate to greening a project.
Benefit
Consideration
Information
Occupant Sensor
Manual Light Switch
Timer
Description
Occupant controls use sensors to determine when there are people in a given space. The lights turn on when motion or heat is detected in the space and they turn off based on a set amount of time in the absence of heat or motion.
Manual light switches are typically wall mounted switches that control lighting within a room.
Timer controls can be set to turn lights on and off at certain times, therefore specifying the duration of time the lights will be turned on.
IEQ
Occupant Sensor
Manual Light Switch
Timer
Daylighting, Lighting, Views
Occupant sensors turn the lights on when motion or heat is detected regardless of the daylight that may be present in the space.
A manual light switch can be used to turn the lights off when daylight is present in the space.
Timers turn the lights on based on a set time schedule regardless of the daylight that may be present in the space.
Materials
Occupant Sensor
Manual Light Switch
Timer
Effectiveness
Occupants need to understand the function of the controls in order for them to be effective. Otherwise, users may override controls and leave the lights on, thus negating the benefits.
Educate occupants in order to encourage them to turn the lights off when not in use.
It is important that timers be matched to the specific task of the space to avoid leaving occupants in the dark.
Energy
Occupant Sensor
Manual Light Switch
Timer
Other
May reduce the amount of electricity
Manual light switches do not
May reduce the amount of

Sustainable Facilities Tool

Log On

Search

Shows relevant regulations with link to source document.

Lighting

Relevant Regulations

Relevant Regulations

= Existing Buildings **NC** = New Construction and Major Renovation

Guiding Principles *More Info in Next Section*

Environmentally Preferable Product (Guiding Principles, Executive Order 13514 & 13423 [EB, NC])

Section: V. Reduce Environmental Impact of Materials

Use products that have a lesser or reduced effect on human health and the environment over their lifecycle when compared with competing products or services that serve the same purpose. A number of standards and ecolabels are available in the marketplace to assist specifiers in making environmentally preferable decisions. For recommendations, consult the Federal Green Construction Guide for Specifiers.

Federal Green Construction Guide for Specifiers - Whole Building Design Guide
Federal Green Construction Guide for Specifiers
Environmentally Preferable Purchasing (EPP)

Daylighting and Lighting Controls (Guiding Principles, Executive Order 13514 & 13423 [EB])

Section: IV. Enhance Environmental Quality

Automated lighting controls (occupancy/vacancy sensors with manual-off capability) are provided for appropriate spaces including restrooms, conference and meeting rooms, employee lunch and break rooms, training classrooms, and offices. Two options can be used to meet additional daylighting and lighting controls performance expectations: ? Option 1: Achieve a minimum daylight factor of 2 percent (excluding all direct sunlight penetration) in 50 percent of all space occupied for critical visual tasks, or? Option 2: Provide occupant controlled lighting, allowing adjustments to suit individual task needs, for 50% of regularly occupied spaces.

Energy Efficiency (Guiding Principles, Executive Order 13514 & 13423 [NC])

Section: II. Optimize Energy Performance

Establish a whole building performance target that takes into account the intended use, occupancy, operations, plug loads, other energy demands, and design to earn the ENERGY STAR - targets for new construction and major renovation where applicable. For new construction, reduce the energy use by 30 percent compared to the baseline building performance rating per the American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE)/Illuminating Engineering Society of North America (IESNA) Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential. For major renovations, reduce the energy use by 20 percent below pre-renovations 2003 baseline. Laboratory spaces may use the Labs21 Laboratory Modeling Guidelines. Use ENERGY STAR and FEMP-designated Energy Efficient Products, where available.

Sustainable Facilities Tool

Welcome **DHorn** | My Account | Log Off

Search

LEARN | PLAN | EVALUATE | IMPLEMENT | SHARE | MY PROJECT(0)

Implement

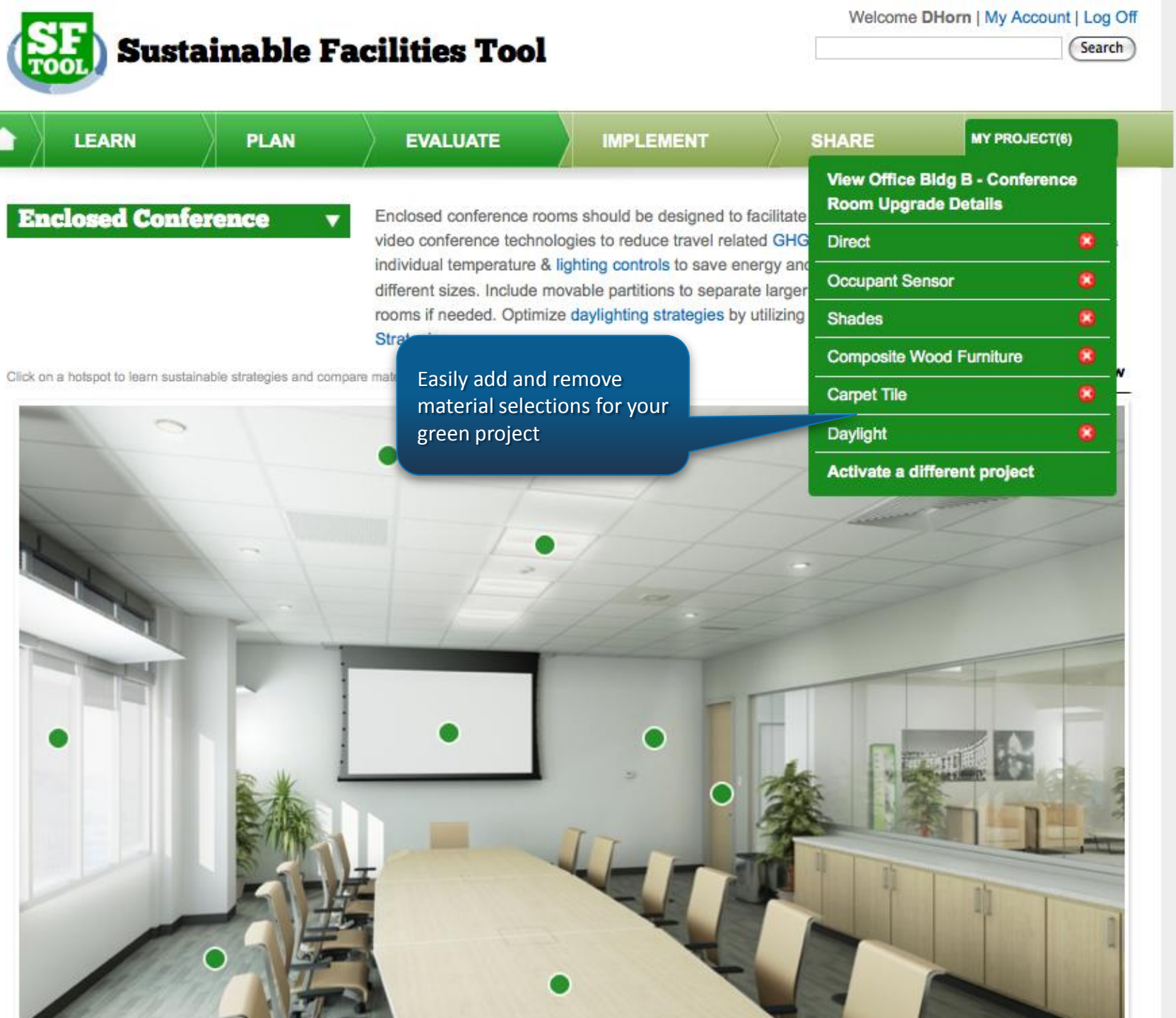
My Projects

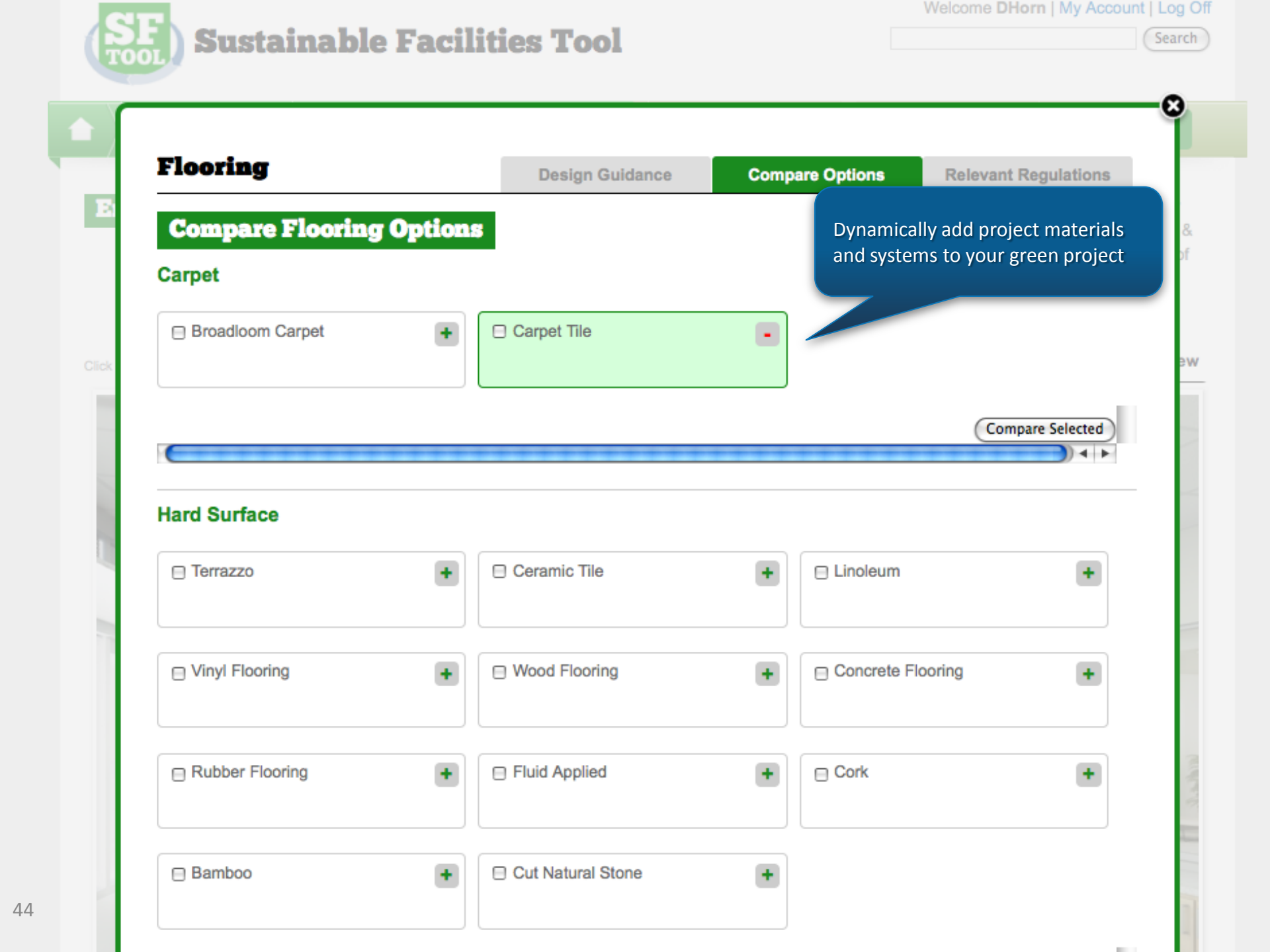
Store and manage green project information including material checklists

Add a New Project

Click "Add Materials" to active the project and add ma… …e evaluate section.

Name	Description	Type	Size	Actions
Office Bldg A - Bathroom Renovation	Old bathroom needs new flooring and upgrades. Existing toilets are operating at 3.5 gallons per flush, need to replace 5 toilets and install water conserving faucet aerators.	Bathroom	400	Edit Details Add Materials Delete Project
Office Bldg B - Conference Room Upgrade	Office Bldg B project includes retrofitting 6 large conference rooms and 2 support work areas with efficient lights, occupancy sensors, Energy Star office equipment and other technologies to lower energy use.	Conference Room	4000	Edit Details Add Materials Delete Project
Kitchen Installation	Need to replace aging and worn cabinets in office kitchen with green materials and environmentally preferable countertops	Kitchen		Edit Details Add Materials Delete Project
Office Furniture Replacement		Small Office		Edit Details Add Materials Delete Project


SF TOOL
Sustainable Facilities Tool
Welcome DHorn | My Account | Log Off
Search
LEARN
PLAN
EVALUATE
IMPLEMENT
SHARE
MY PROJECT(6)
View Office Bldg B - Conference Room Upgrade Details
Direct
Occupant Sensor
Shades
Composite Wood Furniture
Carpet Tile
Daylight
Activate a different project
Enclosed Conference
Enclosed conference rooms should be designed to facilitate
video conference technologies to reduce travel related GHG
individual temperature & lighting controls to save energy and
different sizes. Include movable partitions to separate larger
rooms if needed. Optimize daylighting strategies by utilizing
Click on a hotspot to learn sustainable strategies and compare mat
Easily add and remove material selections for your green project


Welcome DHorn | My Account | Log Off
Search
Sustainable Facilities Tool
Flooring
Design Guidance
Compare Options
Relevant Regulations
Compare Flooring Options
Dynamically add project materials and systems to your green project
Carpet
Broadloom Carpet
Carpet Tile
Compare Selected
Hard Surface
Terrazzo
Ceramic Tile
Linoleum
Vinyl Flooring
Wood Flooring
Concrete Flooring
Rubber Flooring
Fluid Applied
Cork
Bamboo
Cut Natural Stone

Log On

Search

Sustainable Facilities Tool

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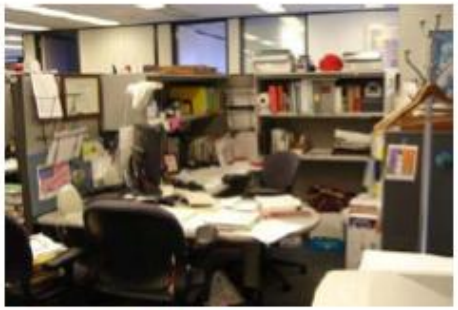
Share

Share green success stories and lessons learned!

Home | Stories | Questions

User Stories



Centralized Filing

Connected Workplace

Have a story to share?

Have you successfully integrated sustainable design into your space? Did something not go the way you planned? Upload your pictures and a brief write-up to share your success/struggles with your green renovation. Get comments from the community and helpful suggestions to your issues.

See All Stories

Post sustainable design questions and discussion topics

Questions

Ask a Question

68 Viewed — **Is Bamboo a Sustainable Building Material?** — 9 Nov by bgardner

64 Viewed — **What are VOCs?** — VOC — 12 Nov by mcorrigan

Log On

Search

Sustainable Facilities Tool

LEARN | PLAN | EVALUATE | IMPLEMENT | SHARE | MY PROJECTS

Share

Home | Stories | **Questions**

Question

69 Viewed

Is Bamboo a Sustainable Building Material?

I'm thinking of choosing bamboo flooring for our break room, but I answers as to how sustainable it is.

Answer

Bamboo flooring able design b
durable product harvesting of
wood products. ocial impacts
transit energy, contains little to no recycled material, can negatively impact
have a negative affect on indoor air quality.

Questions are tagged and linked to related site content

Back to Questions

LEARN | PLAN | EVALUATE | IMPLEMENT | SHA

Bamboo

Description

Bamboo is a grass that has a short growth cycle and continues to grow after it is cut without replanting or cultivating. Durability is dependent upon the maturity of the bamboo. Bamboo provides for extremely durable commercial grade floors when fully mature, usually 8-10 years.

Tips

O+M Tips

- Use cleaning chemicals and solutions that are Green Seal certified.

End of Life Tips

- Not easily recycled as the bamboo strips may be bound together with adhesives during production and finished during the installation process.
- Visit Earth 911 http://earth911.com/ to determine the most responsible way to dispose of the material.

For alignment with LEED Standards

- Regional Materials: At a minimum, use 20% of the combined value of construction and Division 12 (Furniture) materials and products that are manufactured regionally within a radius of 500 miles. Additionally, use a minimum of 10% of the combined value of construction and Division 12 (Furniture) materials and products extracted, harvested or recovered, as well as manufactured, within 500 miles of the project.
- Construction Waste: Recycle and/or salvage a minimum of 50% of nonhazardous construction and demolition debris.
- Rapidly Renewable Resources: At a minimum, use rapidly renewable construction and Division 12 (Furniture and Furnishings) materials and products for 5% of the total value of all materials and products used in the projected based on cost
- FloorScore certified
- Adhesives & Finishes: Must meet the volatile organic compound (VOC) requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113 & Rule 1168.

Sustainable Facilities Tool

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Plan

Start Planning | Sustainable Project Strategies

Start Planning

- Planning to Build Green
- **Keys to Success**
- Plan Section Guidance

Keys to Success

Sustainable design, construction, operation, and renovation are best thought of as an integrated process, rather than a collection of things. The process involves new ways of designing, constructing and operating our buildings and facilities. A few keys to

Introduction to Integrated Design includes sharing Keys to Success

- **Think abo…ies as early as possible.** Early planning allows you to identify synergies a…veness and reduce costs, and makes it easier to budget for the green eleme…
- **Use a systems thinking approach.** Instead of thinking about each strategy in isolation, systems thinking asks you to think about how the strategies interact, how they work together (or against one another) in the whole project, and whether there are unintended consequences. You look first at the project overall, then work toward specific strategies, such as selecting a floor covering or appliance, rather than starting with the details.
- **Use an integrative design approach.** An integrative approach usually involves a team of relevant professionals and stakeholders - for a small project, this might include the facility manager, engineer, systems furniture vendor, a space planner, an interior designer, representatives of users of the space and owner's representative. When this team works together early in the process to address space requirements, it works! For example: the paint color selected for walls should enhance the daylighting strategies, the modular furniture can allow light to penetrate the space, and the enclosures for private offices (located near the core of the building) should include enough glass to permit daylight to reach the occupant.
- **Use green building strategies that are appropriate for the project type, existing conditions and intended use of the space.** The "best" strategies for any project will vary based on the project type, goals, existing conditions, opportunities and constraints. This Plan section helps you identify these strategies for your projects.

The Learn Section contains more information on these concepts.

Log On

Search

Sustainable Facilities Tool

LEARN | PLAN | EVALUATE | IMPLEMENT | SHARE | MY PROJECTS

Plan

Start Planning | Sustainable Project Strategies

Sustainable Project Strategies

Best Practices Applicable to All Project Types

Materials, Furniture, and Furnishings Replacement

Space Reconfiguration and Renovation Projects

Under 10,000 SF Interiors Gut Rehab Project

Building Systems Upgrades

Sustainable Building Operations and Maintenance Services

Best Practices Applicable to All Project Types

Sustainable design, construction, operation, and renovation are best thought of as an integrated process, rather than a collection of things. The process involves new ways of designing, constructing and operating our buildings and facilities. A few keys to success include:

- **Think about sustainability goals and "greening" strategies as early as possible.** Early planning allows you to identify synergies amo… …nd reduce costs, and makes it easier to budget for the green element…
- **Use a system…** …rategy in isolation, systems thinking asks you to think about h… …ne another) in the whole project, and whether there are unintended … …n work toward specific strategies, such as selecting a floor covering or appliance, rather than starting with the details.
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The Learn Section contains more information on these concepts.

Users can click on one of five different types of projects for relevant best practices, resources, and sustainable strategies

Log On

Search

Sustainable Facilities Tool

LEARN | PLAN | EVALUATE | MY PROJECTS

Presents sustainability metrics to inform decision-making & promote learning

Learn

Home | Sustainability Topics | Regulations and Guidelines | Did You Know | Case

Sustainability is best thought of as a process, rather than a thing. US Executive Order 13423 states that sustainability "means to create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations." In order to achieve such conditions, new ways of designing, constructing and operating buildings and facilities must be identified.

Continue reading "What is Sustainability"

Did You Know?

Buildings are one of the heaviest consumers of natural resources and account for a significant portion of the greenhouse gas emissions that affect climate change. In the U.S., buildings account for 38% of all CO2 emissions.

Source: Energy Information Administration (2008). Assumptions to the Annual Energy Outlook.

Word cloud diagrams group sustainable terms

Learn About Sustainability Topics

Materials & Resources

Energy & Atmosphere

Sustainable Sites

Log On

Search

Sustainable Facilities Tool

LEARN | PLAN | EVALUATE | IMPLEM

Topics, regulations, case studies, metrics, are readily available in navigation and sidebar

Learn

Home | **Sustainability Topics** | Regulations and Guidelines | Did You Know | Case Studies

Sustainability Topics

Materials & Resources

In the construction and day-to-day operations of buildings, many materials and resources are used and a great deal of waste is generated. The materials selected for use in a facility and the way they are disposed of impact the environment.

Continue reading Materials & Resources

Content is presented at both high and detailed levels for those who want to learn more.

Indoor Environmental Quality (IEQ)

Indoor Environmental Quality (IEQ) is most simply [illegible] not refer to the air quality alone, but the entire environ[illegible]ity of a space, which includes air quality, access to daylight and views, pleasant acoustic con[illegible] and occupant control over lighting and thermal comfort.

Continue reading Indoor Environmental Quality (IEQ)

Sustainable Sites

Choosing a building's site and managing that site during construction are important considerations for a project's sustainability. Environmentally responsible site selection discourages development of previously undeveloped land; minimizes a b[illegible] encourages regionally appropriate landscaping; reward[illegible] runoff. Additionally, appropriate site ma[illegible]land effect and construction-related pollution. B[illegible]s should choose the environmentally preferred op[illegible]ite.

The benefits of sustainable practices are clearly articulated

Continue reading Sustainable Sites

Energy & Atmosphere

Buildings and facilities rely on the operation of mechanical systems and electrical systems to maintain a

Did You Know?

People in the U.S. spend about 90% of their time indoors.

Source: Environmental Protection Agency (1987). The Total Exposure Assessment Methodology (TEAM) Study.

Case Study

Health

Good health has both physical and psychological components. Being healthy means the absence of disease and illness, as well as feeling positive about life and work. The workplace can play a role in the health of workers by eliminating risks and creating conditions that support cognitive, emotional, and social well being.

Sustainable Facilities Tool

Log On

Search

LEARN | PLAN | EVALUATE | IMPLEMENT | SHAR

Case studies and Metrics in sidebar can be aligned to main content

Learn

Home | Sustainability Topics | **Regulations and Guidelines** | Did You Know | Case Studies

Regulations and Guidelines

Important Regulations and Guidelines are described and a link to the source document is provided

Laws

Federal Acquisition Regulation (FAR)

The Federal Acquisition Regulation govern how all government
Specifically, Subchapter D Part 23 dicates how the sustainabilit
made. FAR - Part 23

ENERGY POLICY ACT OF 2005

The purpose of the ENERGY POLICY ACT OF 2005 is "To ensu jobs for our future with secure, affordable, and reliable energy." View Act

ENERGY INDEPENDENCE AND SECURITY ACT

The stated purpose of the act is "to move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy greenhouse gas capture and storage options, and to improve the energy performance of the Federal Government, and for other purposes."

Executive Orders

HIGH PERFORMANCE and SUSTAINABLE BUILDINGS GUIDANCE

The Interagency Sustainability Working Group (ISWG), as a subcommittee of the Steering Committee established by Executive Order (E.O.) 13423, initiated development of the following guidance to assist agencies in meeting the high performance and sustainable buildings goals of E.O. 13423, section 2(f).1 View Guidance

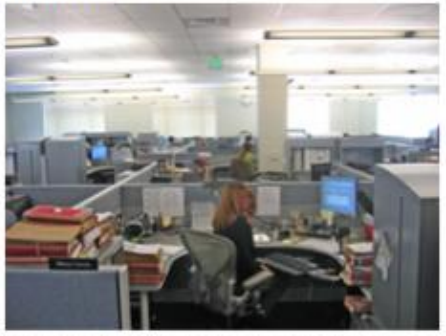
Did You Know?

The U.S. generated approximately 254 million tons of municipal solid waste (MSW) in 2007. Excluding composting, the amount of MSW recycled increased to 63.3 million tons, an increase of 1.9 million tons from 2006. This is a 3 percent increase in the tons recycled.

Source: US EPA, Municipal Solid Waste in the United States. 2007 Fact and Figures.

Case Study

Spatial Equity

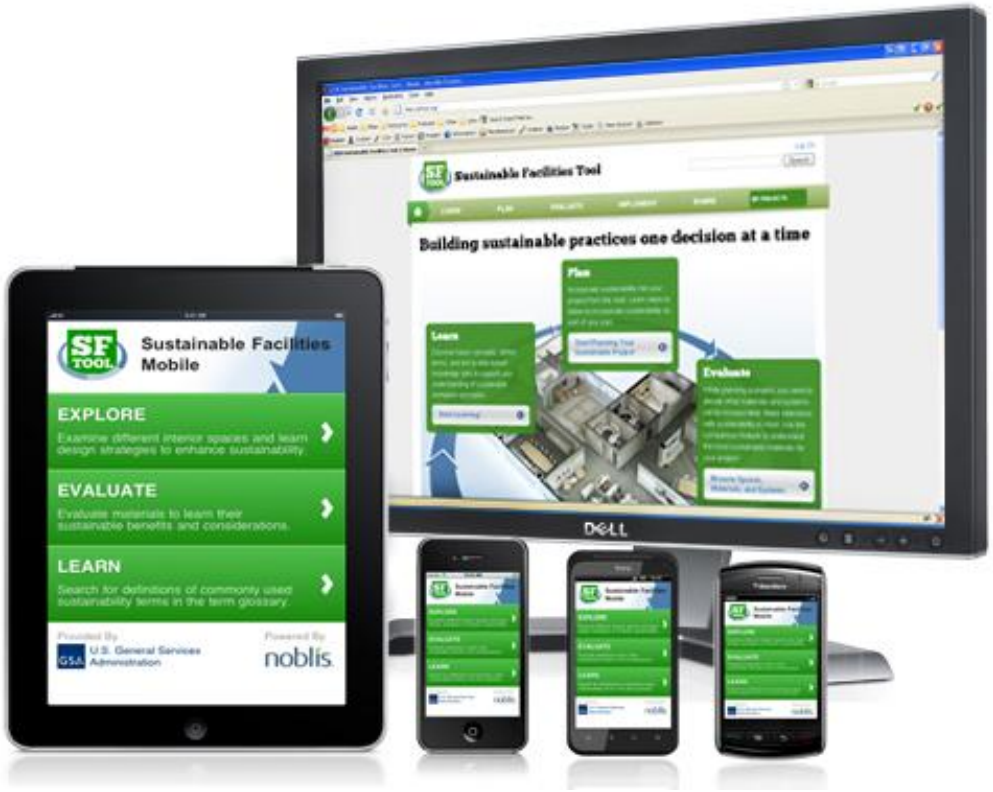


Organizations today are less hierarchical and work is more team based, more mobile, and

Mobile

GSA is leveraging digital delivery channels to promote sustainability

- Provides decision-making resources optimized for your hand-held device
- Increases public accessibility to SF Tool resources
- Free to all users

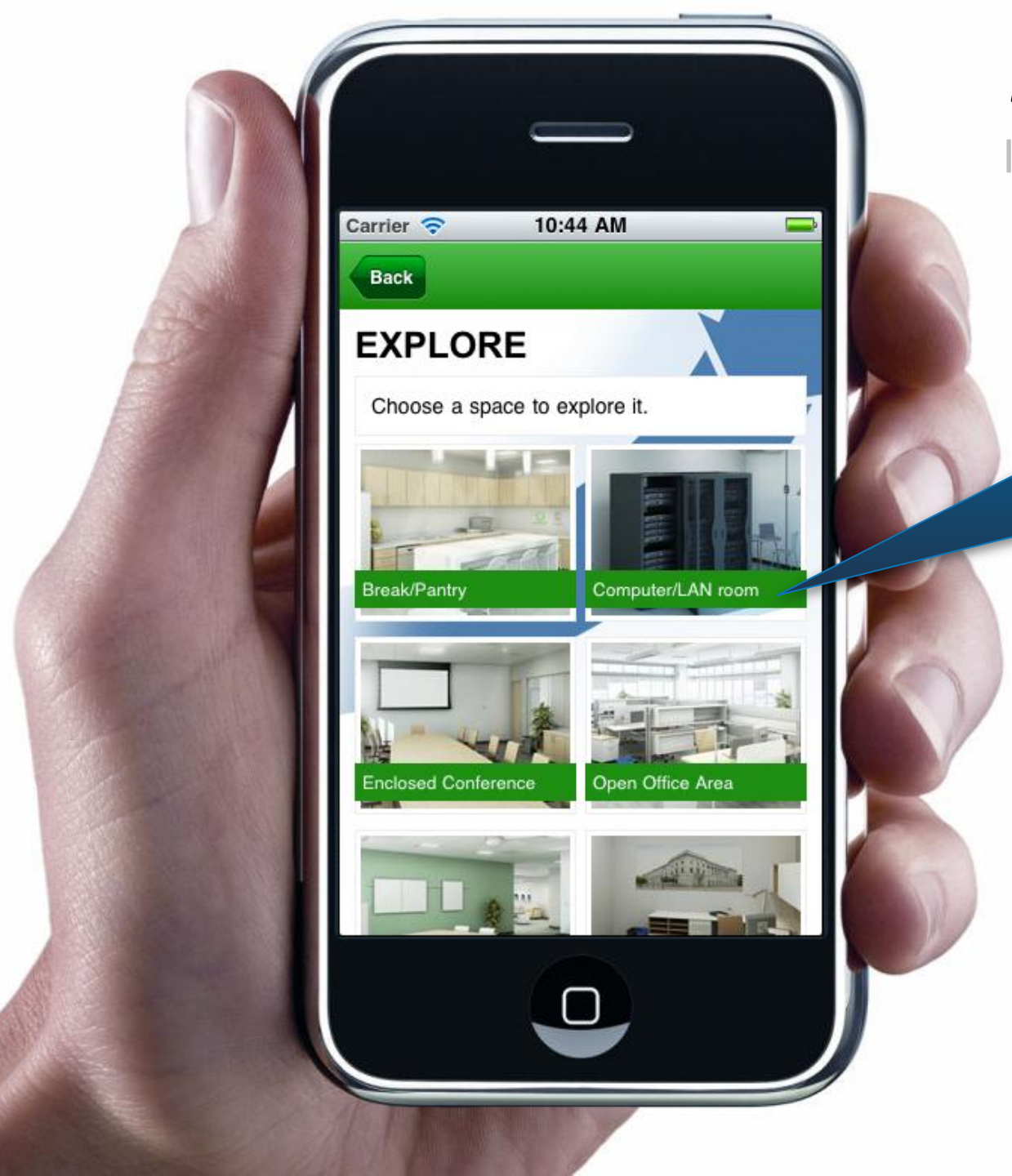


SF Mobile Home

Application interface is optimized for touch-enabled operations, allowing for quick and intuitive navigation

Explore

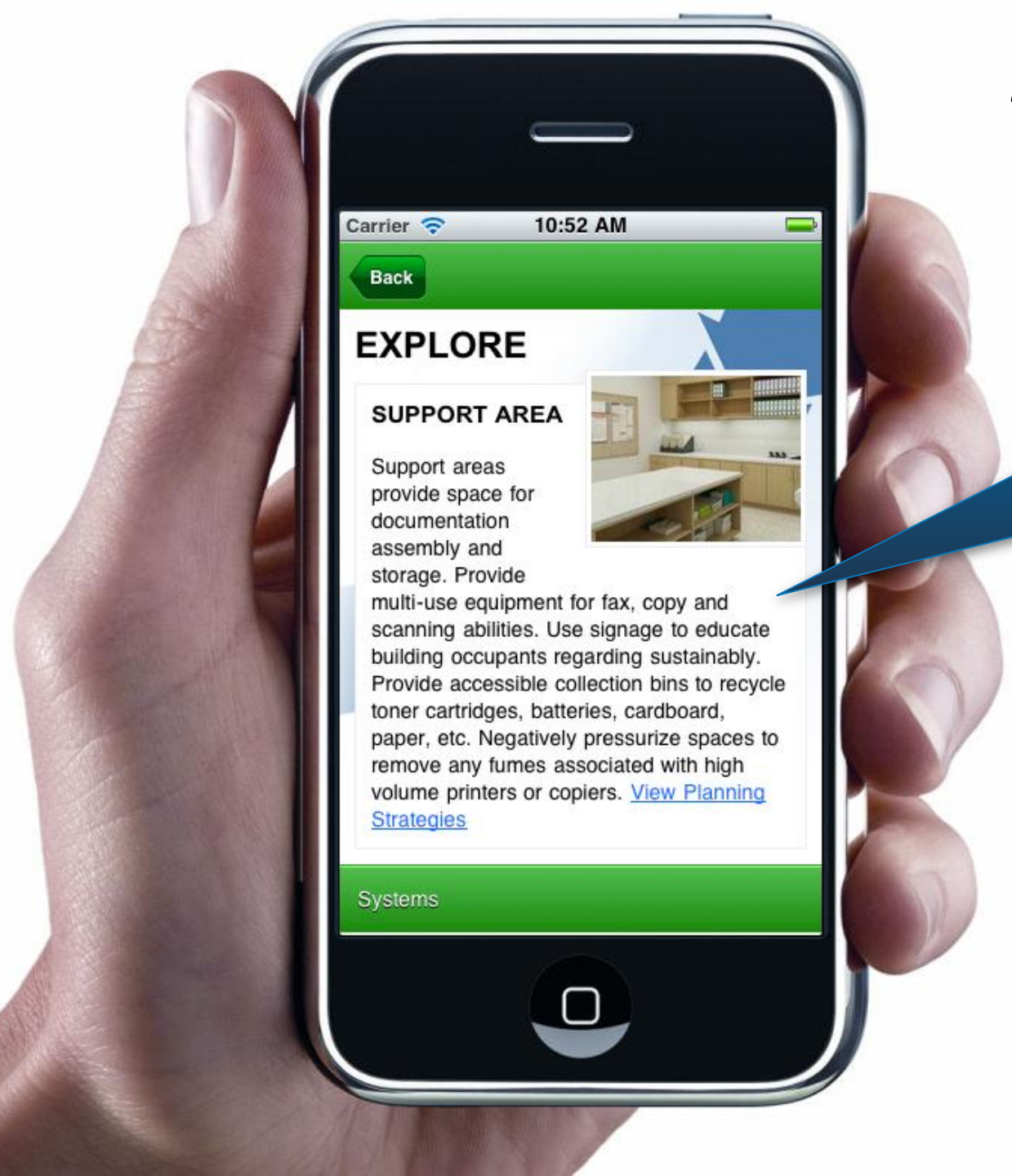
Interior Space Types



Explore up to 10 office space interiors to learn context-specific sustainable strategies

Explore

Sustainable Strategies



Access general design guidance and planning strategies for each interior space type

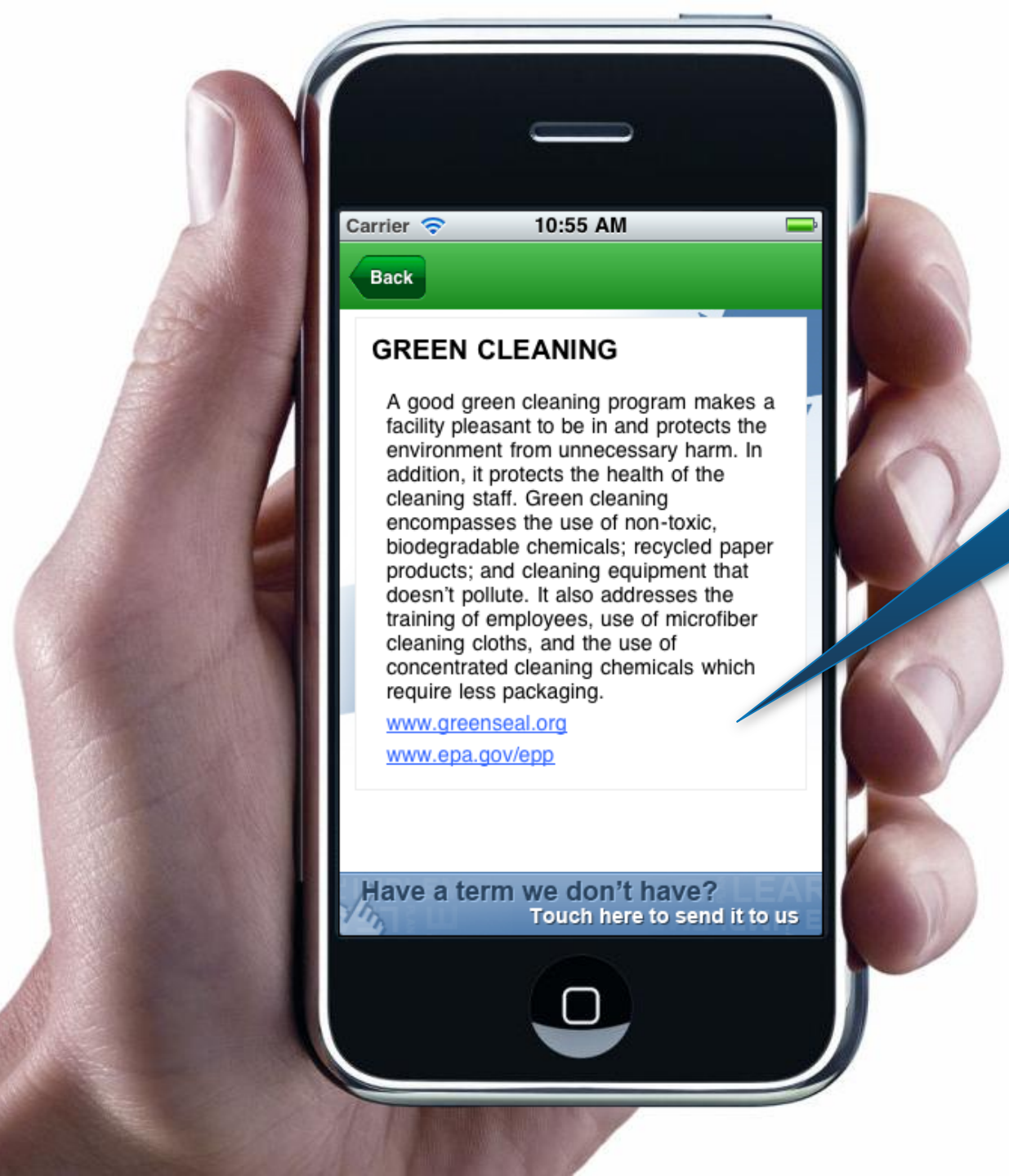
Evaluate

Materials

Learn about IEQ, material content, energy impacts, and cost for each type of material

Learn

Sustainability References



Term definitions provide reference links and additional resources

Sustainable Facilities Tool

Sustainable Facilities Tool: www.sftool.gov

SF Mobile:

Blackberry http://appworld.blackberry.com/webstore/content/50279?lang=en
Android https://market.android.com/details?id=com.phonegap.sfmobile
Apple AppStore or http://itunes.com/apps/sfmobile

Thanks!

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