

# PBS New Workspace

## SUCCESS

The new PBS workspace has positively affected the work patterns and behaviors of many Associates as well as overall effectiveness of the PBS organization.

- Overall satisfaction with the new workspace
- Individual and group productivity has improved
- High satisfaction with spaces to hold spontaneous meetings
- The youngest workers (30 and under) are most positive about the workplace
- High job satisfaction in the new space
- Increase in sense of pride
- Physical churn costs have diminished to \$0
- Tenant satisfaction exceeded the PBS target mark
- Exceedingly high World Class Workplace score

# Workplace 2020

*Maintaining a World-Class Work Environment*

## Workplace 2020 Guidelines



# Workspace Guidelines - Acoustical Privacy

- Open landscape design requires special considerations:
  - Keep sounds levels to a minimum in the open workspace
  - Speaker conference phone calls should take place in team or conference rooms
  - Quiet rooms or team rooms are available for necessary personal conversations
  - Avoid conversing across two or more workstations

*Coming Soon! Sound Matters: Spring 2011*



# **Sustainable Facilities Tool**

*Building sustainable practices one decision at a time*

# GSA Sustainable Facilities Tool



## Sustainable Facilities Tool

Log On

Search

### Sustainable Facilities Tool



Provided by  
U.S. General Services Administration

#### How can you "green" your project?

- ✔ Explore this easy-to-navigate tool to identify and prioritize cost-effective green building strategies you can implement to incorporate sustainable concepts into any remodel or small project.
- ✔ Learn how to select sustainable materials, incorporate daylighting strategies, educate your occupants, save on water, conserve energy and reference relevant regulations.
- ✔ Compare materials and systems, access design guidance, ask questions and even share your knowledge to help others "green" their projects as well.

Start Learning



workplace principles.

Start Learning!



When planning a project, you need to decide what materials and systems will be incorporated. Make selections with sustainability in mind. Use the comparison feature to understand the most sustainable materials for

# GSA Sustainable Facilities Tool

➤ A public-facing online tool to support decision-making regarding sustainable building principles, materials, and systems in acquiring sustainable work environments.

➤ Target User Community:

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



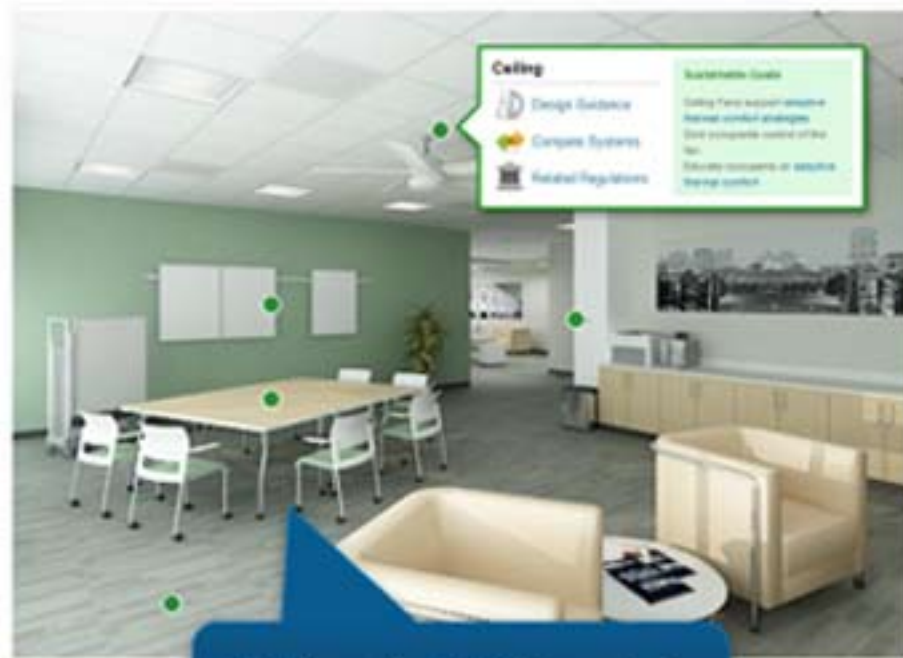
# GSA Sustainable Facilities Tool

## Open Teaching Space

Teaching spaces are designed to foster collaboration and innovation with tools for information sharing, easy to reconfigure work surfaces where groups can spread out the work, and vertical surfaces for making work visible. Seating is agile and passively ergonomic, to move around the space easily and comfortably. Configure space with privacy screens to surround team members and allow them to transition freely, without disrupting others. Energy savings are maximized through the use of occupancy sensors for powering down lamps and temperature when movement is not detected and automatic lighting controls to light dimming based on time of day and available daylight.

Click on a building to learn sustainable strategies and compare scores for that number.

Change View



3-D Interactive Walkthrough of Office Interiors

## 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

# GSA Sustainable Facilities Tool

## Open Training Space

Training spaces are designed to foster collaboration and innovation with tools for alternative sharing, ways to work together with surfaces where groups can stand out the work, and vertical surfaces for writing and notes. Training is agile and personal, ergonomically, to move around the space easily and comfortably. Confident users will provide feedback to enhance team members and allow them to maximize their, without disrupting others. Training spaces are measured through the use of consistent systems for counting.

	Wood Flooring	Cork	Bamboo
<b>Description</b>	There are many different species of wood and types of wood flooring including <b>reclaimed, engineered, and wood from responsibly managed forests.</b>	Cork flooring is made from the <b>by-product of cork oak trees.</b> The bark can be stripped without <b>harming the tree.</b>	Bamboo is a grass that has a short <b>growth cycle and continues to grow</b> after it is cut without replanting or cultivating. <b>Density is dependent upon the maturity of the bamboo.</b> Bamboo provides for <b>extremely durable commercial grade floors</b> when fully mature, usually 6-10 years.
<b>IEQ</b>	<b>Wood Flooring</b>	<b>Cork</b>	<b>Bamboo</b>
<b>Pollutants</b>	Does not retain pollutants, easy to clean	Does not retain pollutants, easy to clean	Does not retain pollutants, easy to clean
<b>VOC - Binders, Adhesives, Finishes</b>	VOC emitting products are used during finishing of material or system. Ensure that low-VOC finishes are used. Use cans or trays to avoid spill.	VOC emitting products are used during production, installation and finishing of material or system. Ensure that low-VOC adhesives, binders and finishes are used.	VOC emitting products are used during production and finishing of material or system. Ensure that low-VOC binders and finishes are used. Use cans or trays to avoid spill.
<b>Ergonomics</b>	Wood flooring is hard and therefore does not provide ergonomic benefits.	Consider installing in areas of the building where occupants primarily stand, such as a rest room, security, or possibly break room to help alleviate foot pain. As cork can naturally compress and absorb pressure.	Bamboo is a hard material that does not provide ergonomic benefits.
<b>Acoustical</b>	May contribute to noise pollution.	Provides acoustic benefits due to lower VOC emissions. Per cubic inch of cork, it absorbs 10% of sound.	May contribute to noise pollution.
<b>Air Quality, Maintenance</b>	Typically requires waxing and buffing, and may require sanding and refinishing. Look for low-VOC products.	Typically requires waxing and buffing, and may require sanding and refinishing. Look for low-VOC products.	Typically requires waxing and buffing, and may require sanding and refinishing. Look for low-VOC products.

Comparison feature provides benefits and considerations for each option selected

## 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

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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](#)

#### Indoor Environmental Quality (IEQ)

Indoor Environmental Quality (IEQ) is most simply defined as the quality of the environment of a space, which includes air quality, access to daylight and views, pleasant acoustic conditions, 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 building's impact on the environment; encourages regionally appropriate landscaping; rewards green building practices; and reduces stormwater runoff. Additionally, appropriate site management minimizes land effect and construction-related pollution. Buildings should choose the environmentally preferred option for site.

[Continue reading Sustainable Sites](#)

#### Energy & Atmosphere

Buildings and facilities rely on the operation of mechanical systems and electrical systems to maintain a comfortable indoor environmental quality for occupants. Building operations consume approximately 30%

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

The benefits of sustainable practices are clearly articulated

### 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.

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

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### Regulations and Guidelines

#### Laws

##### Federal Acquisition Regulation (FAR)

The Federal Acquisition Regulation govern how all government agencies acquire goods and services. Specifically, Subchapter D Part 23 dictates how the sustainability requirements are to be incorporated into the FAR made. [FAR - Part 23](#)

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

##### ENERGY POLICY ACT OF 2005

The purpose of the ENERGY POLICY ACT OF 2005 is "To ensure 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



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### Flexibility

Today's workplaces are often in flux. As organizations grow, people also move. Teams form and re-form. People and their workspaces themselves are transformed to meet new needs. New groups may be added to existing divisions, creating less stress on people and the organization.

Detailed case studies provide concrete examples of sustainability in action

### Achieving Both Flexibility and Sustainability: Key Practices

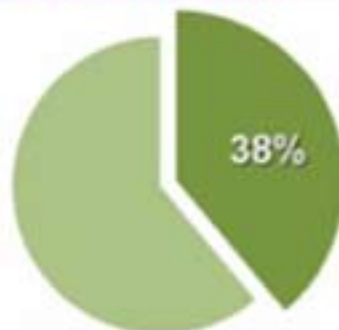
- 1. Move people, not things.** Workstation standards minimize the time needed to adjust space when people move to new locations.
- 2. Let people adjust their own workspaces.** Adjustable furniture and computer workstations enable people to meet personal preferences and work needs. Furniture on wheels enables easy moves within and between spaces.
- 3. Provide a flexible infrastructure.** Demountable walls, under floor data, power and conditioning systems make it easier to transform the workspace in an environmentally friendly way by reducing construction materials, especially hard walls.
- 4. Support mobility within the office.** Laptops, cell phones, and wireless connectivity enable people to move easily as their tasks and needs change.
- 5. Support alternative work settings.** Enable people to work in spaces outside of the office, such as home or a telework center, to reduce the environmental and economic costs of commuting.

### Benefits:

#### Social:

- ✔ Improved employee comfort and satisfaction
- ✔ Reduced likelihood of ergonomic-related injuries.
- ✔ Reduced employee stress associated with commuting

### Did You Know?

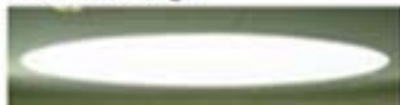


Buildings are one of the heaviest consumers of natural resources and account for a significant portion of the greenhouse gas emissions that affect climate change. In the U.S., buildings account for 38% of all CO<sub>2</sub> emissions.

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

### Case Study

**The Workplace Environment as a Catalyst for Social Change**





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MY PROJECTS

Each space type provides an overview with common strategies to make the space more sustainable

**Break/Pantry**

Break rooms provide space for beverage containers and use of refrigerators. Include ad...  
penetrate adjacent rooms b...  
to conserve water. Make su...  
**Strategies**

Click on a hotspot to learn sustainable strategies and compare materials for that system

Users can click on hotspots to compare materials, read related design guidance and regulations

**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  
to  
to  
ning  
  
View

## 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

... sustainable lighting practices such as **daylighting** and **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, aesthetically 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.

## Lighting

Design Guidance

Comparison

Comparison feature provides benefits and considerations for each option selected

## Compare Lighting Options

The intent of the 'Evaluate Section' is to assist users in understanding the sustainable attributes of various materials and systems. Please note that this tool does not promote any particular material or system, as each 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 consumed as controls respond to the	Manual light switches do not respond to the ambient light	May reduce the amount of electricity consumed as lights

## Lighting

Shows relevant regulations with link to source document.

### Relevant Regulations

### Relevant Regulations

EB = 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 I, 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 Lab21 Laboratory Modeling Guidelines. Use [ENERGY STAR](#) and FEMP-designated Energy Efficient Products, where available.



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MY PROJECT(2)

## 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 materials to the 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	<a href="#">Edit</a> <a href="#">Details</a> <a href="#">Add Materials</a> <a href="#">Delete Project</a>
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	<a href="#">Edit</a> <a href="#">Details</a> <a href="#">Add Materials</a> <a href="#">Delete Project</a>
Kitchen Installation	Need to replace aging and worn cabinets in office kitchen with green materials and environmentally preferable countertops	Kitchen		<a href="#">Edit</a> <a href="#">Details</a> <a href="#">Add Materials</a> <a href="#">Delete Project</a>
Office Furniture Replacement		Small Office		<a href="#">Edit</a> <a href="#">Details</a> <a href="#">Add Materials</a> <a href="#">Delete Project</a>

## Flooring

Design Guidance

Compare Options

Relevant Regulations

## Compare Flooring Options

## Carpet

 Broadloom Carpet Carpet Tile

Dynamically add project materials and systems to your green project

Compare Selected

## Hard Surface

 Terrazzo Ceramic Tile Linoleum Vinyl Flooring Wood Flooring Concrete Flooring Rubber Flooring Fluid Applied Cork Bamboo Cut Natural Stone

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## Share

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### 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.

Share green success stories and lessons learned!

[See All Stories](#)

### 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

Post sustainable design questions and discussion topics

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## Share

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### Question

**69**

Viewed

#### Is Bamboo a Sustainable Building Material?

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

### Answer

Bamboo flooring is a sustainable design choice. It is a durable product that is harvested from bamboo, a fast-growing wood product. It is a renewable resource that has a low carbon footprint, contains little to no recycled material, can negatively impact indoor air quality, and has a negative effect on indoor air quality.

Questions are tagged and linked to related site content

[Back to Questions](#)[LEARN](#)[PLAN](#)[EVALUATE](#)[IMPLEMENT](#)[SHARE](#)

## 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 5-10 years.

### Tip

#### 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 project 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 1158.

# Creating Your OWN Sustainable Workplace

## *Tips for Living & Working in Sustainable Buildings*

- Consider Organization first, space second
- Use an integrated design process
- Involve all stakeholders
- Use workplace as strategic tool
- Consider non-space options
- Pursue LEED CI Gold or better
- Plan for change
- Educate the Workforce and equip them to play their part
- Commission
- Evaluate

## Questions & Comments

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