

TENANT FIT-OUT & LEASING GUIDELINES



**SUSTAINABLE
SOLUTIONS
FOR
THE MODERN
OFFICE**

**SUSTAINABLE
SOLUTIONS
FOR THE
MODERN OFFICE:**
Tenant Fit-Out &
Leasing Guidelines



DC
SUSTAINABLE ENERGY
UTILITY



IMT
INSTITUTE
FOR MARKET
TRANSFORMATION

**YOU HAVE THE OPPORTUNITY TO
SET YOUR BUSINESS APART FROM
THE COMPETITION BY DESIGNING,
BUILDING, AND MAINTAINING A
SUSTAINABLE, ENERGY-EFFICIENT,
AND HEALTHY OFFICE SPACE FOR
YOUR EMPLOYEES.**

BY INCORPORATING THE STRATEGIES IN THIS GUIDE, YOUR BUSINESS WILL:

- Maximize energy and water cost savings;
- Increase employee retention and productivity;
- Reduce your business's carbon footprint;
- Conserve natural resources; and
- Create healthy interiors.

Moving your business to a new location gives you a clean slate to explore sustainable design solutions that provide a host of benefits. As a business leader, it's important to align your company's economic, environmental, and social goals—an energy-efficient office space can help achieve this.

As you begin thinking about your new space, communicate your sustainability needs to your design and construction teams as well as your landlord. These parties will best assist you in achieving your goals whether it be to obtain a sustainability certification, save on operating expenses, or to meet corporate social responsibilities. This guide also contains leasing strategies for when you discuss sustainability goals with your landlord, outlining specific concerns and benefits that are applicable to both parties.

This guide borrows strategies from the following sustainability rating systems:

- Leadership in Energy and Environmental Design (LEED) for Commercial Interiors Versions 3 (2009) and 4.
- WELL Building Standard Version 1.0

By adhering to these guidelines, you can be closer to achieving sustainability certifications for your own space. For more information about obtaining these certifications, please visit:

LEED

www.usgbc.org/leed

WELL

www.wellcertified.com

PLANNING TIMELINE

As you move toward key milestones during the completion of your fit-out, keep the design considerations listed below in mind. Create a checklist for these sustainability strategies as early on as possible and revisit them periodically during the process. Increase transparency by sharing the design strategies you want to execute with all stakeholders, which include; landlord, architect, general contractor, and employees, to yield the best results.



SPACE SELECTION/ LEASE NEGOTIATIONS

- Plumbing Fixtures
- Air Filtration
- Sub-metering
- Base Building Lighting
- Base Building HVAC



DESIGN PHASE/TEST-FITS

- Server Optimization and Cloud Computing
- Supplemental Lighting
- Lighting Controls
- Daylighting
- Materials Selection
- ENERGY STAR Equipment
- Water Filtration
- Thermal Controls
- Office Layout
- Acoustical Design
- Construction Waste Management
- Furniture Re-Use



CONSTRUCTION

- Construction Indoor Air Quality Best Practices
- MERV 13 Filters



POST-CONSTRUCTION/MOVE-IN

- Employee Recycling
- Commissioning

WATER QUANTITY AND QUALITY

Conserving water and maintaining its drinkability is critical to our planet's future. Implement these strategies to maintain water quantity and quality.

WATER QUANTITY AND QUALITY STRATEGIES



SPACE SELECTION/LEASE NEGOTIATION

Specify WaterSense-labeled low-flow kitchen faucets in the pantry and low-flow faucets in private bathrooms with the aid of your contractor.

Offset some of the costs of purchasing low-flow fixtures by having your contractor select faucet aerators and showerheads that meet the District of Columbia Sustainable Energy Utility (DCSEU) rebate program. Visit DCSEU.com for more details about rebates.



DESIGN PHASE/ TEST-FITS

Select dishwashers that are ENERGY STAR-labeled.

Discuss with your plumber about installing reverse osmosis systems, carbon filters, or kinetic gradation fluxion filters as a part of the water filtration system to remove dissolved metals, agricultural, and organic contaminants.

PLUMBING FIXTURE CONSIDERATIONS

Tenant

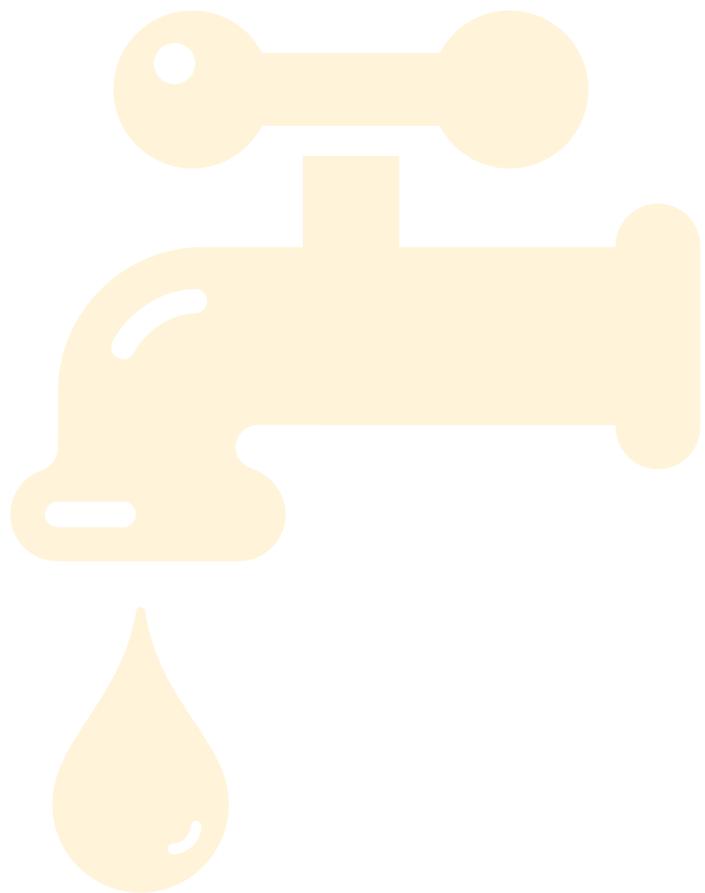
You can reduce the water that your employees use, while also fulfilling potential corporate sustainability requirements. This reduction in water can help you achieve third-party sustainability certifications (i.e. LEED). Low-flush and low-flow fixtures may be slightly more expensive than conventional fixtures; however, the payback period is typically less than one year. Confirm with your designer and landlord that applicable piping and fittings can accommodate low-flow fixtures.

Landlord

Your landlord can have his or her whole-building water usage reduced. This reduction in water can help your landlord achieve third-party sustainability certifications (i.e. LEED).

WATER QUANTITY AND QUALITY FACTS

- Three percent of the Earth is comprised of fresh water, and of that amount, two-thirds of it is trapped in glaciers.¹
- WaterSense-labeled fixtures can save 20 percent more water than typical plumbing fixtures.
- ENERGY STAR® -labeled dishwashers use less than 1.6 gallons of water per rack and save 20 percent in water costs.²



1 U.S. Environmental Protection Agency, Water Trivia Facts, water.epa.gov/learn/kids/drinkingwater/water_trivia_facts.cfm

2 U.S. Green Buildings Council. "2009 Water Use Reduction Calculator: ID:v06". 14 Jul 2014. <http://www.usgbc.org/resources/2009-water-use-reduction-calculator>

ENERGY MANAGEMENT

As a tenant, you have the ability to control energy end uses through effective energy efficiency tactics.

ENERGY MANAGEMENT STRATEGIES HVAC & EQUIPMENT



SPACE SELECTION/LEASE NEGOTIATION

Develop an energy-aligned lease that encourages your landlord to charge you based in part or in whole on your space's electrical usage versus a pro-rata share. Work with your landlord to install a sub-metering system to verify your billing rate.



DESIGN PHASE/ TEST-FITS

Avoid the use of chlorofluorocarbons (CFCs) and hydro-chlorofluorocarbons (HCFCs)- based refrigerants in your supplemental AC units with your contractor. These refrigerants are major contributors to ozone depletion.

Specify the use of ENERGY STAR products to efficiently meet your office space's needs for IT equipment, lighting, appliances, and supplemental HVAC equipment. These products are designed to limit energy use. DCSEU rebates are available for some appliances and equipment.

Consider moving your company's server to the cloud. Server rooms and IT closets, which often require an uninterrupted power supply and dedicated cooling, are major energy users. Discuss this opportunity with your IT professional.



POST-CONSTRUCTION/MOVE-IN

Engage a commissioning agent to verify that newly-installed mechanical, electrical, and plumbing systems will meet the design's energy goals. By properly commissioning systems from the onset, you can prevent repair fees over the system's lifetime.

SUB-METERING SYSTEM CONSIDERATIONS

Tenant

With a sub-metering system, you guarantee that your space captures the savings in part or in whole from energy efficiency investments.

Landlord

Sub-metering creates a new level of transparency between you and your landlord and it encourages both parties to explore energy efficiency solutions. By encouraging you to sub-meter and to explore energy efficiency strategies, your landlord may improve their ENERGY STAR score.

MAINTENANCE AND COMMISSIONING CONSIDERATIONS

Tenant

By properly maintaining equipment, you can lower the environmental impacts of your equipment, improve its lifespan, and improve indoor air quality.

**Note that there may be extra costs associated with maintaining spaces to sustainable standards.*

Landlord

Your landlord minimizes the risk of poorly operating equipment in your space effecting surrounding spaces.



ENERGY MANAGEMENT STRATEGIES

LIGHTING



DESIGN PHASE/ TEST-FITS

Work with your lighting designer to specify energy-efficient light bulbs such as LEDs, T-8, and T-5 linear fluorescents for supplemental tasks and accent lighting. These bulbs have longer lifespans and lower wattages than T-12s or incandescent bulbs.

Ask your lighting designer to connect occupancy sensors to private offices, file rooms, and corridors to save energy.

Consult your lighting designer to install daylight controls, which switch or dim lights in response to daylight, within 15 ft. of windows.

Minimize dependence on electrical lighting by asking your architect to install interior light shelves to reflect sunlight toward the ceiling.

Work with the DCSEU to reduce the cost of lighting upgrades. The DCSEU may have rebates for lighting and sensors. Visit DCSEU.com for more details about rebates.

Ask your lighting designer to incorporate stand-alone lighting controls, which allow for plug-and-play lighting systems that can be easily reconfigured.

LIGHTING SELECTION CONSIDERATIONS

Tenant

You benefit by reducing your energy consumption load; thereby, reducing your utility bill and your carbon footprint. Be mindful that you may anticipate higher costs for installing and replacing such light bulbs. Discuss these opportunities with your landlord prior to issuing your letter of intent.

Landlord

By encouraging you to reduce energy consumption with more energy-efficient light bulbs, your landlord may improve the building's ENERGY STAR score. Your Landlord may need to stock light bulbs specific to your needs.

ENERGY MANAGEMENT FACTS

- Lighting and plug loads account for 53 percent of commercial building energy use in the U.S.³
- Utility costs account for \$3.18 per square foot (sq ft) of leased space in the District of Columbia.⁴
- Commissioning typically has a payback of no more than four years and can reduce energy costs by up to 13 percent.⁵
- Standalone lighting controls can reduce lighting consumption by up to 55 percent.⁶
- Occupancy sensors can reduce energy costs by \$0.05-\$0.20 per sq ft.⁷
- We have the potential to cut 87 percent of Information Technology (IT) usage if we moved all U.S. office IT infrastructure to the cloud.⁸

3 NREL. 2013 Renewable Energy Data Book. <http://www.nrel.gov/docs/fy15osti/62580.pdf>

4 The Institute of Real Estate Management. "Trends in Office Buildings Operations, 2011." <https://www.irem.org/File%20Library/IREM%20Store/Document%20Library/IESamples/12Samples/2012OfficeBuildTrends.pdf>

5 Lawrence Berkeley National laboratory. "The Energy Efficiency Potential of Cloud-Based Software: A U.S. Case Study". http://crd.lbl.gov/assets/pubs_presos/ACS/cloud_efficiency_study.pdf

6 Philips. "Getting Smart with Controls". http://www.lighting.philips.com/pwc_li/gb_en/subsites/oem/download/controls/GettingSmart_Controls_Brochure.pdf

7 North Carolina Energy Alliance. "Occupancy Sensors: Energy Saving-Fact Sheet". <http://wastereductionpartners.org/phocodownload/userupload/Resources/Energy%20Saving%20Fact%20Sheet%20Occupancy%20Sensor.pdf>

8 Lawrence Berkeley National laboratory. "The Energy Efficiency Potential of Cloud-Based Software: A U.S. Case Study". http://crd.lbl.gov/assets/pubs_presos/ACS/cloud_efficiency_study.pdf



MATERIALS CONSERVATION

Develop a purchasing and recycling plan to preserve the earth's resources.

MATERIALS CONSERVATION STRATEGIES



SPACE SELECTION/LEASE NEGOTIATION

Discuss your day-to-day recycling needs with your landlord. Establish a main, single- or multi-source recycling hub for typical business operations.



DESIGN PHASE/ TEST-FITS

Implement a construction waste management plan in order to divert construction waste to proper recycling channels. Communicate these goals to your architect so that a materials-conscious waste hauler is selected.

Consider salvaging furniture and other nonstructural elements from your current office to your new office space. For items that will not be relocated to the new space, consider recycling or donating these items with a waste hauler.

Specify with your architect the use of materials that are made of recycled content especially for high-ticket items such as concrete, metals, drywall, carpet, and tile.

Ask your architect to source sustainable products from manufacturers who disclose their life-cycle impacts and/or extracting reports.

Limit the carbon emissions used to transport materials by asking your architect to source construction materials that are extracted and/or manufactured regionally.

Extend the useful life of your workspace by designing for flexibility. Design spaces with movable walls, furniture, lighting, data, and power systems with your architect.

Encourage environmentally responsible forest management by purchasing wood products that are certified by the Forest Stewardship Council. Discuss this purchasing preference with your architect.

Offset long-cycle renewable materials with the selection of rapidly renewable materials such as bamboo, cork, cotton and linoleum. Discuss this purchasing preference with your architect.

RECYCLING & COMPOSTING CONSIDERATIONS

Tenant

Early lease negotiations may help you reduce your solid waste footprint. If you desire stricter recycling protocols than your landlord currently offers, such as composting, you should negotiate this policy prior to signing the letter of intent. Such desired protocols should be outlined in the lease. Depending on the outcome, you may incur additional pass-through costs from expanding your landlord's current recycling or composting scope.

Landlord

With early lease negotiations, your landlord may be able to expand their capabilities for construction waste management and ongoing recycling operations; thereby, reducing waste from ending up in landfills. Be aware that your landlord may need to expand their recycling contract and protocol to fit your recycling objectives.

MATERIALS CONSERVATION FACTS

- 40 percent of the total solid waste stream in the United States is attributed to construction and demolition waste. Source reduction, reuse, recycling, and waste-to-energy are practices to reduce waste and conserve natural resource.⁹



⁹ EPA. "Municipal Solid Waste (MSW) in the United States: Facts and Figures". <http://www.epa.gov/solidwaste/nonhaz/municipal/msw99.htm>

WELLNESS

Investing in a healthy working space helps attract and retain talent, reduce absenteeism, improve morale, and increase productivity.

WELLNESS STRATEGIES



SPACE SELECTION/LEASE NEGOTIATION

Filter allergens, bacteria, and harmful chemicals from the air by installing carbon filters at return registers. Discuss the opportunity with your landlord.



DESIGN PHASE/ TEST-FITS

Select interior paints, coatings, sealants, and adhesives that are low volatile organic compounds (VOCs), such as formaldehyde, benzene, and xylene, which are known to be harmful chemical solutions. Ask your architect to solidify these requirements in your fit-out specifications.

Ask your architect to choose healthy flooring materials that are FloorScore-, Green Label- or Green Label Plus-certified.

Eliminate the off-gassing of harmful VOCs by installing furniture, composite wood, and insulation that is urea-formaldehyde free. Ask your architect to solidify these requirements in your fit-out specifications. Consult with your lighting design to develop a lighting scheme that manages employees' natural circadian rhythms, which determines our bodies sleep and wake cycles, by using the Equivalent Melanopic Lux calculation.

Design office spaces so that everyone has access to quality views to the outdoors, which can improve employees' moods, alertness, and overall health. Employ strategies such as open office plans, low cubicle walls, and interior glazing with your architect.

Increase office productivity by designating loud and quiet zones of work and locating noisy office equipment to copier and supply rooms.

Consult with your design team on how to limit outside noise disturbances with acoustical wall panels, acoustical ceiling tiles, curtains, and added wall insulation.

Utilize radiant thermal technologies to heat lobbies and common areas with electric radiant floors. Discuss this opportunity with your design team and landlord.

Designate a wellness room for employees to access a private quiet space that is appropriate for meditation, yoga, and pumping. Outfit the room with comfortable furniture and low lighting.

AIR FILTER CONSIDERATIONS

Tenant

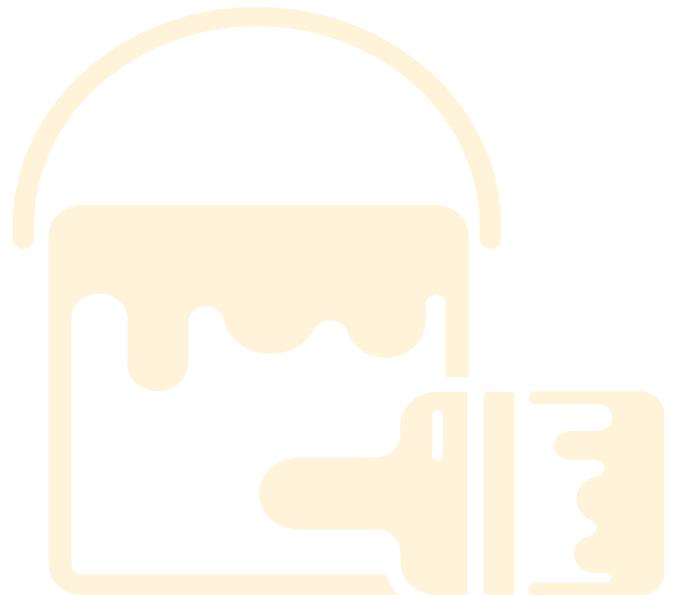
Installing air filters (HEPA, MERV 13, carbon, etc.) at return registers that service your space will improve your space's air quality, while also reducing absenteeism and increasing productivity.

Landlord

Discuss with your landlord the opportunity to install air filters. By agreeing to the install, your landlord can market a high-quality indoor environment. Installing higher caliber filters may mean higher operating costs for the owner as the building's HVAC system may need to run harder to accommodate such filters. During the site selection process, ask if the landlord has high-performing air filters or if the building's HVAC system can handle your filter selections.

WELLNESS FACTS

- Summit Health, Inc's study showed that nearly 50 percent of an organization's profits are put toward employee health care.



RESOURCES

GREEN LEASE LIBRARY

www.greenleaselibrary.com

View concrete examples of how to create a green lease to achieve your sustainability goals.

THE DISTRICT OF COLUMBIA SUSTAINABLE ENERGY UTILITY (DCSEU)

www.dcseu.com

This organization helps District residents and businesses save energy and more through energy efficiency and renewable energy programs and rebates.

ENERGY STAR

www.energystar.gov

This site provides tips and strategies on how to reduce energy usage. It also includes a comprehensive directory of ENERGY STAR-certified products.

WATERSENSE

www3.epa.gov/watersense/

Learn how you can save water in your workspace. It houses a comprehensive directory of WaterSense-labeled plumbing fixtures.

FOREST STEWARDSHIP COUNCIL (FSC)

www.fsc.org

This site promotes the responsible management of the world's forests. Find wood and paper-based products that are FSC-certified for your space.

THE CARPET AND RUG INSTITUTE

www.carpet-rug.org

This trade association site maintains the Green Label and Green Label Plus standard for carpets and carpet cushions.

SCIENTIFIC CERTIFICATION SYSTEMS (SCS) GLOBAL SERVICES

www.scsglobalservices.com/floorscore

FloorScore, the environmentally-friendly standard for hard-surface flooring is maintained by the Resilient Floor Covering Institute and the SCS. Find FloorScore compliant products for your new workspace.

THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

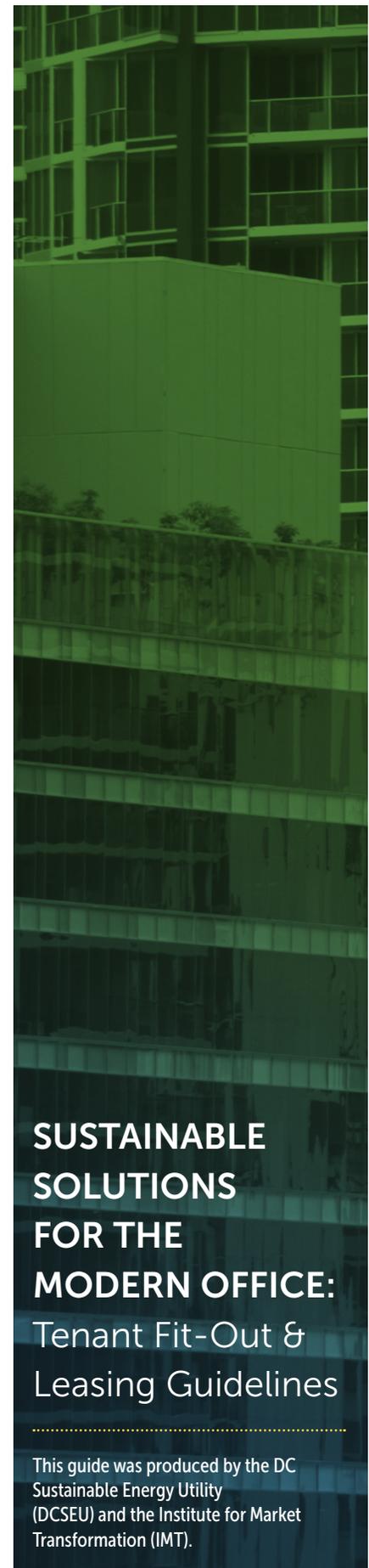
www.epa.gov

This agency's website features great resources on materials conversation and procurement strategies for office.

GREEN SEAL

www.greenseal.gov

Green Seal is a non-for-profit organization that develops life-cycle based sustainability standards for products. There criteria is especially useful in finding environmentally friendly cleaning products.



SUSTAINABLE SOLUTIONS FOR THE MODERN OFFICE: Tenant Fit-Out & Leasing Guidelines

This guide was produced by the DC Sustainable Energy Utility (DCSEU) and the Institute for Market Transformation (IMT).