green|SPACE

Sustainability Assessment + Certification

RESOURCE GUIDE

A Supplement to the Green Space
Sustainability Assessment and Certification Program

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RESOURCE GUIDE.
Green Space: Sustainability Assessment and Certification

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RESOURCE GUIDE

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Green Space

Sustainability Assessment + Certification

Green Space is a simple sustainability assessment and certification program for departments and offices. The goal is to award departments and offices with a green certification rating and recognize their outstanding sustainability efforts to lower their environmental impact.

Overview

The Green Space program identifies a set of conditions and actions – some optional and some required – that departments / offices should implement to improve sustainable practices. The process consists of five simple steps to become a certified department or office. These include: 1) Application, 2) Prerequisites, 3) Assessment + Checklist, 4) Verification, and 5) Certification. Green Space is based on a point system similar to other sustainability office surveys. The three levels of certification – from highest to lowest – include the following: Green (Prerequisites and 40+ points), Silver (Prerequisites and 35+ points), and Bronze (Prerequisites and 30+ points). Certification is contingent upon documentation of all three prerequisites and each category point from the checklist. Certification is good for 2 years; criteria and other requirements are subject to change.

Getting Started

Starting the Green Space Sustainability Assessment and Certification is simple. Below you will find explanations of each of the five steps. Please note that all resources and information to help you succeed can be found on our website on the "Green Space" webpage: <www.greencampuscpp.org/greenspace.htm>.

1) Application

The easiest way to get started is to have a representative from your department or office fill out and submit the Green Space application. This can be done online through our website on the "Green Space" webpage under "Resources." <www.greencampuscpp.org/greenspace.htm#670137845>.

For general inquiries please contact us at: greencampus.cpp@gmail.com

2) Prerequisites

There are three prerequisites that must be completed by each department or office before proceeding to the checklist. Note that completing with all prerequisites makes your office Green Space eligible.

I. The office/department should have at least one Green Delegate that represents the department or office (this could be yourself or the person who submitted the application). A Green Delegate

should meet at least quarterly with the department/office to inform about the program, discuss green goals, announce certification progress, offer training, etc.

II. At least 75% of the department or office staff must review and/or see the "Green 101" presentation and take the online quiz. Both can be accessed through our website on the "Green Space" webpage under "Resources." <www.greencampuscpp.org/greenspace.htm#670137845>.

III. At least 75% of the department or office staff must pledge to go green by participating in the online Sustainability Pledge. This can also be accessed through our website at: <http://www.greencampuscpp.org/sustainabilitypledge.htm>.

3) Assessment + Checklist

Upon completion of the prerequisites, the checklist is used to perform an assessment of the office. There are seven areas of sustainable office practices that are taken into consideration. These include: 1) Energy; 2) Waste; 3) Transportation; 4) Purchasing; 5) Food + Dining; 6) Networking + Awareness; 7) Innovation. The Green Delegate and department or office should identify which points they want to pursue. Consulting with the *Resource Guide* and *Assessment Checklist* (both available on our website) can be useful at this stage in the process.

After the desired points are identified, simply use the checklist as a guide to improve your office's sustainable practices. Please note that for each point(s) area that is pursued, the department / office must also document and provide a brief description explaining how your office has complied with the requirement.

Once the assessment checklist is complete, the results and documentation must be entered into the online *Assessment Form* and submitted via the web. A confirmation of your submission will be received through the email address provided.

Special notes: For a point to be recognized, it must be valid for 75% of all staff members and/or buildings of the department. Points will only be certified for initiatives that have been active in the last year. However, there are occasional exceptions when circumstances will not permit the above. Please provide an explanation if you believe your office falls under this category.

4) Verification

After completing the checklist, your office must complete the final online *Assessment Form* through our website. After both your *Application* and *Assessment* have been submitted, a team of student Green Campus Project Coordinators will schedule a time to come to your office to verify your assessment and application. At that time, a short audit and review meeting will be scheduled where additional information or minor modifications may be requested.

5) Certification

Based on the total number of points your department or office earns from the *Assessment*, you will be awarded a level of certification. Your department or office will be widely recognized across campus for having achieved this certification. We will spotlight your achievements in the monthly newsletter *Green Pastures* (readership over 3,400) and on the Green Campus website. You will also be issued a Green Space certificate of achievement based on the level of certification. Certification is good for 2 years; criteria and other requirements are subject to change.

Levels of Certification

Green	–	Prerequisites and 40+ points
Silver	–	Prerequisites and 35+ points
Bronze	–	Prerequisites and 30+ points

NOTE: There are a total of 50 points possible

Cal Poly Pomona

Green Space Assessment Checklist

Please use this checklist for your office's personal use only. The purpose of this printable version of the checklist is to assist you when conducting the assessment as well as filling out your final online Assessment Form submission. This can also be found our website at: <http://www.greencampuscpp.org/greenspace.htm#670137845>.

Prerequisites

☐ Department should have at least one Green Delegate (this could be you or the person submitting the application) that represents the department or office. The Green Delegate should meet at least quarterly with the department/office to inform, discuss green goals, certification progress, offer training, delegate tasks, etc.

Description/Documentation:

☐ At least 75% of the department or office must review or see the "Green 101" presentation and take the online quiz. Both can be accessed through our website at: <http://www.greencampuscpp.org/greenspace.htm#670137845>.

Description/Documentation:

☐ At least 75% of the department or office must commit to go green by participating in the online Sustainability Pledge. This can also be accessed through our website at: <http://www.greencampuscpp.org/sustainabilitypledge.htm>.

Description/Documentation:

Energy (20 points possible)

☐ There are no CRT monitors in use by the department or office. Please provide the total number of monitors. This includes CRT and LCD flat screen monitors (*For a definition of CRT, see "Glossary," in Resource Guide*). (1 point)

Description/Documentation:

☐ Department or office has conducted an appliance audit and eliminated any unnecessary personal refrigerators or other appliances *AND/OR* there are no refrigerators older than 7 years in use by the Department (Energy Star rated appliances are appropriate). (1 point)

Description/Documentation:

☐ Department or office shares information on building energy usage with all employees at least quarterly (*Facilities Management & Planning can provide this information).* (1 point)

Description/Documentation:

☐ Department or office utilizes power strips and organizes them for easy accessibility. These are turned off at night to prevent "phantom loads" *(See "How to Organize Power Strips," in Resource Guide).* Please note that programmed phones should be plugged into their own power strip or surge protector and not turned off at night, as many need to be reprogrammed. Phones are plugged into surge protectors strictly to keep them working after a power outage and power return. (1 point)

Description/Documentation:

☐ Department or office turns off unattended computer monitors. For example, turn computer monitors off for a lunch break or when leaving the room for more than 20 minutes to conserve energy. (2 points)

Description/Documentation:

☐ Department or office utilizes computer power save modes and has disabled screen savers. Have a staff meeting to educate all employees on how to set their computer settings to energy saving mode. Remind staff to turn off computers at the end of the day *(See "How to Help Your Computer Save Energy," in Resource Guide).* (2 points)

Description/Documentation:

☐ Department or office turns off all printers and electronic devices and their power strips when the office is vacant (i.e. vacation days, after hours, etc) *(See "Ten Tips for Office Sustainability" in Resource Guide).* (1 point)

Description/Documentation:

☐ Department or office lighting has been assessed for energy reduction strategies by Facilities Management and/or the Green Campus Program. (1 point)

Description/Documentation:

☐ Department or office lighting has been delamped and/or is using energy saving lighting strategies. These can include the following: inviting the use of natural daylight; creating individual space lighting by placing a lamp on one's desk to eliminate the use of unnecessary overhead lighting; having Facilities Management replace unnecessary light tubes in ballast with 'phantom tubes'; having Facilities Management install dual lighting switches that control separate sections of overhead lighting. (6 points)

Description/Documentation:

☐ Department or office has installed Compact Fluorescent Bulbs (CFLs) in any available lighting fixtures. Identify quantity of CFLs used. (2 points)

Description/Documentation:

☐ Department or office unplugs all unused electronic devices. We recommend walking through the office to make sure all electronic devices that are not needed are unplugged. Assign someone to be in charge of unplugging and turning off power strips to all electronic devices at the end of the work day (this can include coffee machines, etc.). (2 points)

Description/Documentation:

Waste (7 points possible)

☐ Department or office has well-labeled recycling bins for paper in all offices, copy rooms, and common areas (i.e. break and meeting rooms) and are located near or adjacent to waste bins. (1 point)

Description/Documentation:

☐ Department or office offers well-labeled beverage container recycling in at least one location per floor or provides information on the location of the closest recycling container. (1 point)

Description/Documentation:

☐ Department or office offers composting in one central location. (1 point)

Description/Documentation:

☐ Department or office has a one-side clean paper bin near each public printer and/or copier for single-sided print jobs. This paper can be collected in a tray or drawer and loaded into the printer in a separate paper tray (printers often have more than one drawer in order to select different paper from the comfort of your computer). Single-sided paper can also be used as scratch paper. It is understood that confidential documents cannot be used for this purpose. (1 point)

Description/Documentation:

☐ Department or office has set double-sided printing as the default for each public printer. (1 point)

Description/Documentation:

☐ Department or office has a scanner available to all employees to minimize the need for printing and has a program in place to train employees on how to use it. (1 point)

Description/Documentation:

☐ Department or office fully utilizes the services of University Recycling. (1 point)

Description/Documentation:

Transportation (6 points possible)

☐ Department or office has created an area dedicated to posting information on rideshare opportunities and alternative transportation, including alternatives to business travel. (1 point)

Description/Documentation:

☐ A majority of the department or office uses alternate means of transportation to get to work. Please include the number of people who do the following: 1) bike, walk, telecommute; 2) take public transportation; 3) carpool, rideshare; 4) drive a hybrid; 5) drive and drive own car. (Up to 5 points)

Description/Documentation:

Purchasing (6 points possible)

☐ Department or office uses 30% post consumer content copy paper for at least 90% of purchases (1 point). Department or office uses 100% post consumer content copy paper for at least 90% of paper purchased. (2 points)

Description/Documentation:

☐ Department or office uses rechargeable batteries and/or offers battery recycling. (1 point)

Description/Documentation:

☐ Department or office utilizes furniture that is reused or manufactured with recycled or environmentally-friendly materials. This must be true for 75% of new acquisitions in last year. (1 point)

Description/Documentation:

☐ Department or office purchases refilled ink cartridges and recycles them through campus recycling. (1 point)

Description/Documentation:

☐ Department or office uses the "Green Pages" as its purchasing guide from vendors. For example, those offices that use Office Max have a choice of "green products." When making last minute purchases, try to obtain these items from a locally owned business rather than a large commercial retailer. This is good for Pomona's economy and community ties. (1 point)

Description/Documentation:

Food + Dining (5 points possible)

☐ Department or office offers reusable plates, cups, and silverware (along with a means to wash them) in each break room. (1 point)

Description/Documentation:

☐ Department or office offers no bottled water and encourages reusable / refillable canteens, cups, etc. (1 point)

Description/Documentation:

☐ Department or office continues to eliminate waste at office parties. When having office parties, request the catering service to provide reusable dishes. Otherwise, ask everyone to bring their own plates and utensils, or purchase an office set. (1 point)

Description/Documentation:

☐ Department or office employees have a weekly "Waste Free Lunch." This will reduce packaging and assist in creating a sustainable social practice within personal office practice. (*See "Waste Free Lunch" in Resource Guide*) (1 point)

Description/Documentation:

☐ Department or office uses environmentally friendly cleaning supplies. It is recommended that offices use biodegradable and environmentally conscious cleaning products. When appropriate request "Green Seal" for ALL cleaning supplies for the office. "Green Seal" products are third party certified as environmentally friendly and are often used by custodial services on campus. (1 point)

Description/Documentation:

Networking + Awareness (6 points possible)

☐ Your office strives to increase networking and awareness by placing the link to the Green Space webpage (www.greencampuscpp.org/greenspace.htm) and/or the Green Space logo (available for download on our website at: <www.greencampuscpp.org/greenspace.htm#670137845>) on any website or homepage that the office controls (if you have a website). Please include the link to the webpage in the description. (2 points)

Description/Documentation:

☐ 75% of office members have signed up for the Green Campus mailing list. This can be done through our website. (1 point)

Description/Documentation:

☐ One or more office staff members have recruited another office to participate in this program by filling out the application form. (2 points)

Description/Documentation:

☐ Department or office submits an article to "Caught Green Handed," which is published in our monthly newsletter and displayed on our website. This is a way to spotlight an individual or office that is going the extra mile in sustainability or green initiatives and is worthy of recognition. Follow instructions on the following webpage: <www.greencampuscpp.org/caughtgreenhanded.htm>. (1 point)

Description/Documentation:

Innovation Points (10 points possible)

Departments can earn up to 10 additional points for departmental sustainability initiatives not listed above, subject to approval. These initiatives can include those addressing individual behaviors in the areas including but not limited to energy or water use. Please itemize, describe, and document below. If you have questions about whether something qualifies please contact us at GreenCampus.CPP@gmail.com (10 points maximum)

☐ _____ (1 point)

Description/Documentation:

☐ _____ (1 point)

Description/Documentation:

☐ _____ (1 point)

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Description/Documentation:

☐ _____ (1 point)

Description/Documentation:

☐ _____ (1 point)

Description/Documentation:

GREEN SPACE: Sustainable Assessment and Certification Pledge

"As the designated representative of _____, I _____ pledge that:

- *we currently meet the requirements of the Green Space certification,*
- *we intend to maintain the programs and initiatives described in our application,*
- *we will seek to continually improve and expand our internal green initiatives, and*
- *we will work to educate our faculty, staff, and/or students about our participation in this program."*

Please fill out all contact information below:

DEPARTMENT NAME: _____

Number of Staff in Department: _____

Green Delegate (Contact Person and Title): _____

Email : _____ Telephone: _____

NUMBER OF POINTS: _____

Ten Tips for Office Sustainability

1. Remember the 3 R's (in this order to minimize waste)

a. Reduce: All your consumption
b. Reuse: as much as you can
c. Recycle: everything!

2. Reduce Paper Use to Save Trees

a. Use e-mail instead of hard copy whenever possible
b. Print on both sides of the paper
c. Use recycled/reuse scratch pads
d. Use paper that is printed on one side as a scratch pad or to reprint on
e. Eliminate printed forms and use virtual documents whenever possible

3. Eliminate Phantom Loads to Save Energy

a. Plug computers into power strips and turn them off when leaving the office for the day
b. Unplug electronics (or their power strip) when not in use

FYI: Do not unplug phones (as they will have to be reset)

4. Conserve Lighting to Save Energy

a. Turn off lights when the office is closed
b. Use compact florescent light bulbs when possible
c. Utilize natural lighting
d. Use task lighting or lighting strategies
e. Ask facilities about using T-8 lighting instead of T-12

5. Make Your Computer Energy Efficient

a. Set your computer to the energy save mode
b. Turn off your monitor when you are away from your desk
c. Don't use screensavers- they use a lot of energy

6. Recycle your Ink Cartridges to Minimize Waste

a. Have Cal Poly Pomona Recycling pick up your ink cartridges
b. Purchase refilled/remanufactured ink cartridges

7. Use the Recycling Bins Correctly

a. Put a paper recycling bin next to the printer and desk
b. Put a paper and drink container recycling bin next to the trash cans
c. Get to Know what items you can recycle (it is a lot more than you think)

8. Use Reusable Containers and Dishes to Minimize Waste

a. Use a reusable water bottle
b. Use a reusable coffee mug
c. Use reusable dishes and silverware for lunch and office parties

9. Use Your Purchase Power to Support Sustainability

a. Purchase paper with 30% or more recycled content
b. Utilize the green pages in the Office Max catalog
c. Purchase in bulk- it saves packaging
d. Purchase recycled content and eco-friendly office supplies and furniture

10. Keep Your Office Healthy

a. Keep your office free of dust
b. Use natural cleaning supplies
c. Keep living plants around the office

How to Organize Power Strips

Office Assessment Recommendations: Plug Loads- Power Strips

Why organize your power strips? Most of the time power strips are tucked behind desks and are frequently inaccessible to be turned off conveniently. If the power strips were better organized, office occupants would be more likely turn off the power strips, eliminating phantom loads and promoting energy efficiency in the office.

Required Materials and their use:

- **Extension Cords**- Used to extend the power strip from the wall to the office occupants feet so that it can be turned off.
- **Silver Sharpie**- Used to empower and educate office occupants about which cord corresponds to which device (i.e. desk computer to desk monitor).
- **Twist Ties**- Generally used to tie up excess clutter and promote cleaner looking power strips.
- **Foot Switch**- Especially applicable to office occupants who would have a hard time tuning off the power strip in normal circumstances.

Tips on how to organize Power Strips:

- When convenient, place power strip right on the table, just behind the monitors so that it can be easily turned ON and OFF.
- If possible, install a **Foot Switch** with the power strip so that the desk occupant can tap it ON and OFF with their foot.
- Use the **Silver Sharpie** to label items that need to be unplugged conveniently.
- Use **Twist Ties** to decrease the amount of cords that are lying around.
- Note: Each office occupant should receive:
    - 1 Monitor Sign that says: "TURN OFF YOUR COMPUTER AND POWER STRIP AT THE END OF THE DAY!"
    - 1 Extension cord to extend the power strip to their desk.
    - All cords twist tied for organization.
    - All appliances sharpie so the cords can be easily identified.

How to Make your Computer SAVE Energy

Do you ever get up from the computer for a minute, and then get distracted and wander off for 10 to 20 minutes? Perhaps you don't want the hassle of shutting down your computer and booting it back up if you're only going to be away from it for an hour or two.

There is only one problem: these actions waste energy! Fortunately you have the power to prevent this, and it's easy!

Some simple steps to save energy:

- DISABLE YOUR SCREEN SAVER
- You may also want to consider hibernation mode which allows your computer to save everything that's running and then turn itself off. Upon restart, your programs will still be where you left them. To enable, this feature, select the "Hibernation" tab in the Power Options Properties menu.

Disabling Screen Saver Instructions for Windows XP:_____

1. Right-Click on the desktop and select "Properties".
2. Click the "Screen Saver" tab at the top.
3. If the screen saver is enabled, click on the blue box next to the name and select "None".
4. Find the button that says "Power" near the bottom. Click on it. You may see a nearby Energy Star logo that looks like this:

5. Choose the time settings you would like to implement. Green Space **recommends** 5-10-15; (5 minutes until the monitor goes to sleep, 10 minutes until the hard drives sleep, and 15 minutes until the computer sleeps.)

Disabling Screen Saver Instructions for Macintosh OSX:_____

1. Click on the .Apple. menu in the top left corner of the screen.
2. Select "System Preferences"
3. Under "Hardware," select "Energy Saver" (the light bulb icon).
4. Slide the bars to the desired settings. Green Space recommends 5 minutes for the display (the lower one) and 15 minutes for the computer to sleep. You may also want to check the box that says "Put Hard Disks to sleep when possible".

Waste Free Lunch

In an effort to create less waste, eat more nutritious foods and save money, Green Space recommends the Waste Free Lunch!

Waste Free Lunch: *A lunch that is packed at home in re-usable containers, allowing you to meet your need for lunch without creating the waste of disposable items.*

- Prevent or reduce waste by avoiding over packaged goods. Lots of items are packaged using layers of cardboard, foil and paper that are thrown away. Buy items in bulk, not individual servings, for example cakes, biscuits and family bags of cereal.
- Prepackaged foods produce waste when consumed. Preparing your own foods and transporting them in a re-useable container will eliminate waste.
- Recycle any waste from your lunch that can not be reused. Glass and cans can be rinsed and recycled at your nearest recycling site. Aluminum foil can be saved and reused or recycled.
- Uncooked food waste such as chips, sandwich crusts, banana skins, apple cores and orange peel can be put on a compost heap. They will decompose and the compost can be used to grow plants. Place compostable items back in your containers to place in a home compost.
- Reuse glass and plastic bottles, instead of throwing cartons and cans away every day. Put your lunch in a reusable sandwich box or container.
- Reusing containers simply by washing them means there is less waste to go in the trash bin and no need to buy foil, food bags, and cling wrap.
- Avoid using disposable items which are made to be used only once.
- Encourage your friends and family to have a waste free lunch. Preventing waste, reusing and recycling means saving natural resources such as wood, oil, metal and minerals.
- A waste free lunch will also help cut down the need for landfill and incineration of waste.
- For more information: http://www.wasteonline.org.uk/resources/Education/DPackTeachers.htm

Glossary of Assessment Terminology

A_____

Ambient Light: Lighting spread throughout a space for safety, security and aesthetics.

B_____

Ballasts (magnetic and electronic): (1) These devices regulate the flow of the energy current to the florescent bulbs. (2) A coil of wire or electronic device that provides a high starting voltage for a lamp and limits the current flowing through it.
There are two types of ballasts: magnetic and electronic. Traditional magnetic ballasts are less efficient than modern electronic ballasts.

- **Magnetic ballasts** are the older fluorescent light ballast. Due to the minute light strobes that are produced, older fluorescent light ballasts can cause some people to experience headaches. Additionally, they are less efficient, using more energy than electronic ballasts.
- **Electronic high-frequency ballasts** increase lamp-ballast efficacy which leads to an increase in energy efficiency and lower operating costs. Electronic ballasts produce constant light, and are up to 10% more energy efficient than magnetic ballasts.

Building Envelope: The building shell; exterior walls, floor and roof assembly of a building that separates heated/cooled space from unconditioned space.

Bulbs: See Lighting/ Fluorescent

C_____

Cathode Ray Tube (CRT) Monitor: An older type of computer monitor that has a box-like shape. The energy consumption comparison between a CRT and LCD (flat screen) computer monitor conducted over a 24-hour period shows that on average a CRT monitor consumes about three times as much power as an LCD. A CRT monitor has about a 20 watt difference in energy consumption when switched on, caused by the colors on the screen.

Closed system: A system that uses what it produces and produces what it uses, creating a zero waste output. See Open System.

Color Rendering Index (CRI): A measurement of a light source's ability to render (produce) colors the same as sunlight. CRI has a scale of 0-100, with 100 representing the "best" color rendering.

Compact Fluorescent Light Bulb (CFL): This is a bulb that contains a mercury filament. When electricity flows through it, the phosphorus inner bulb coating is illuminated and produces high levels of light for a low-energy exchange.

Conduction: Heat flow from molecule to molecule in a solid substance.

Convection: The transfer of heat caused by the movement of a fluid, such as water or air.

Cost-effective: Having an acceptable payback, return-on-investment or savings-to investment ratio.

D_____

Day lighting: The use of sunlight to supplement or replace electric lighting.

Demand: The peak need for electrical energy. Some utility customers pay a monthly charge for demand, in addition to the total energy used.

Delamping: Analyzing a rooms lighting levels and reducing or eliminating unnecessary lighting through the use of natural light and individual space lighting.

E_____

Efficacy: The number of lumens produced by a watt for lighting a lamp. (Used to describe lighting efficiency)

Energy: A quantity of heat or work.

Energy Audit: The process of identifying energy conservation opportunities in buildings.

Energy Charge: In a typical electric bill, the amount charged for actual kWh's consumed during a period.

Energy Consumption: The conversion or transformation of potential energy into kinetic energy for heat, light, electricity, etc.

Energy Conversion (Transformation): A process in which energy changes from one form to another through the interaction of one system within its surroundings in such a way that the energy of the system increases (or decreases) while that of the surroundings decreases (or increases) by the same amount.

Energy Efficiency: The ratio or output divided by input.

Ergonomics: The scientific discipline concerned with designing according to the human needs, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.

F_____

Fluorescent Lamp: See Lighting/Types of Lamps

Fluorescent Light: Light and heat created when electricity excites a gas in the light bulb.
Traditional florescent bulbs are long tubes, but compact fluorescents can be used in ordinary light sockets and are energy efficient. However, these need to be recycled properly and cannot be sent to a traditional landfill.

Florescent tubes: The standard tube is called a "T-12 fluorescent tube." The "T" standing for its tubular shape, and the "12" standing for its diameter in eighths (i.e. T12= 12/8ths = 1 ½"). This tube, although the most common, is in the process of being replaced by more energy efficient tubes such as "T-8" or "T-5".

Foot-candle: A measure of light striking a surface.

Fossil Fuels: Coal, oil, natural gas and products are made from them. Fossil fuels are the remains of once-living (organic) plants and animals formed underground and subject to intense heat and pressure over millions of years.

G_____

Green computing: The study and practice of using computing resources efficiently. The primary objective of such a program is to account for the triple bottom line; an expanded spectrum of values and criteria for measuring organizational (and societal) success. The goals are similar to green chemistry; 1) reduce the use of hazardous materials, 2) maximize energy efficiency during the product's lifetime, and 3) promote recyclables or biodegradability of defunct products and factory waste.

Greenhouse Gas: Certain gasses in the atmosphere that contributes to trapping heat energy from the sun in earth's atmosphere: the resulting heat energy warms the planet's surfaces. These gasses are sometimes referred to as C02e.

Green Print: A computer application designed to scan your document for unnecessary pages, thus eliminating wasted paper in printed documents.

H_____

HVAC: Heating, Ventilating and Air-Conditioning systems used in buildings.

Halogen lamp: See Lighting/Types of Lamps

High-intensity discharge (HID) lamps: See Lighting/Types of Lamps

I-J_____

Incandescent Lamp: See Lighting/Types of Lamps

Indoor Air Quality (IAQ): IAQ deals with the content of interior air that could affect the health and comfort of building occupants. The IAQ may be compromised by microbial contaminants (mold, bacteria), chemicals (such as carbon monoxide and radon), allergens, or any mass or energy stressor that can induce adverse health effects.

Insulation: Material with relatively high thermal resistance.

Illuminance: The light level measured on a horizontal plane in foot-candles.

K_____

Kilowatt-hour: The most common unit of measurement on the electricity meter. A unit of electric energy is equivalent to 3412 BTUs. One kilowatt of energy equals one pound of coal.

Kilowatt meter: A device that measures energy such as kilowatts and phantom loads.
This device is used to measure a component's average energy use.

L-M_____

Lifetime cost: The complete cost of something including purchasing, operation, maintenance, and disposal costs.

Lighting controls

- **Dimmer:** A device in an electrical circuit used for varying the brightness of lamps in a lighting installation. The use of dimmers with incandescent bulbs, sensors, and halogen light sources also increases the life of the lamps and decreases the use of electrical energy.
- **Occupancy sensor:** These are also known as ultrasonic switchers (can also be used with infrared sensing). When movement is detected, the lights are turned on and remain on as long as there is movement in the room.

Light fixture: A complete lighting unit consisting of a lamp or lamps, housing, and connection to the power circuit.

Light meter (Lux meter): An instrument that measures the intensity of light in foot-candles.

Lighting Retrofit: A lighting retrofit is the practice of replacing components in the system with counterparts that make it utilize energy more efficiently.

Lighting Upgrade: This is any strategy that reduces the system's energy use. Energy savings are realized over time and can be significant enough to not only pay for the new equipment, but produce a return on the investment.

Lumen: A unit of light output from a lamp or natural sunlight.

Types of Lamps:

- **Halogen lamp:** A type of incandescent lamp that lasts much longer and is more efficient than the common incandescent lamp. The lamp uses halogen gas, usually iodine or bromine, which causes the evaporating tungsten to be re-deposited on the filament, thus prolonging its life.
- **High-intensity discharge (HID) lamps (mercury vapor, metal halide and high-pressure sodium):** Lamps that produce light by passing electricity through gas which cause the gas to glow. HID lamps have extremely long lives and emit far more lumens per fixture than fluorescent lights.
- **Incandescent Lamp:** The common light bulb found in residential lamps and fixtures.
- **Fluorescent Lamp:** A glass enclosure in which light is produced when electricity is passed through mercury vapor inside the enclosure. The electricity creates a radiation discharge that strikes a coating on the inside surface of the enclosure, causing the coating to glow.

N_____

O_____

Open system: A system that exchanges energy and material with the outside environment. See Closed Systems.

P- Q_____

Phantom Load: *Also called* ***Standby power****,* ***vampire power,*** *or* ***leaking electricity****.*
Refers to the electric power consumed by electronic appliances while they are switched off or in a standby mode.

Photo sensors: An electronic component that detects the presence of visible light, infrared transmission, and/or ultraviolet energy.

Pollution: Deposits in the air, water, or land that lead to dirty, impure, and/or unhealthy conditions.

Power Saver Mode: The computer mode that allows you to personalize your computers shut-off times. The Power Saver Mode, when utilized, reduces your computers energy usages.

Power Management Software: Energy Saving Computer Software that shuts down computers when they are not in use. This software can save large computer banks thousands of dollars in saved energy.

Plug Load: The amount of electricity that can be pulled from one circuit or plug at a time. A common misuse of plug loads is to plug a power strip into another power strip.

Power Surges: In electrical engineering, spikes are fast, short duration electrical transients in voltage (voltage spikes), current (current spike), or transferred energy (energy spikes) in an electrical circuit. Fast, short duration electrical transients (overvoltage's) in the electric potential of a circuit are typically caused by lightning strikes, power outages, tripped circuit breakers and short circuits.

R-S_____
Rate Structure: A system used to charge customers for the use of a resource.

Retrofit: An energy conservation measure applied to an existing building. It is also the action of improving the thermal performance or energy efficiency of the building and systems in it. See Lighting Retrofit.

Standby Mode: Also called **Sleep mode** or "stand-by" refers to a low power mode for electronic devices such as computers, televisions, and remote controlled devices. These modes save electrical consumption compared to leaving a device fully on, when it is idle. "Waking up" the electrical device resumes normal operations.

Sustainability: Living in a manner today, that ensures the needs of all life are met, now and in the near and distant future.

Sustainable Development: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (1)

T-U_____
Task lighting: Lighting provided to the area where a seeing task is performed.

TED- The Energy Detective (**TED**): A monitor that reads and reports energy use and cost in your home.

Thermostat: Automatic switch that turns heating or cooling equipment on or off in response to changing room temperatures.

V_____
Ventilation: The movement of air through an area.

W-Z_____

Waste Free Lunch: A lunch that is packed at home in re-usable containers, allowing you to meet your need for lunch without creating the waste of disposable items.

Watt: A unit of electric power equivalent to one joule per second or 3.4 BTUs per hour.

Weatherization: The process of reducing energy consumption and improving comfort by making efficiency changes to a building.

Weather stripping: Flexible gaskets, often mounted in rigid metal strips, for limiting air leakage around doors and windows.

Window treatments: Anything used to improve the efficiency of a window; could include insulated shades, films, blinds, etc.

Sources:

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