Cal Poly Pomona
Green Space Efficiency Audit

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>.

Introduction

The Energy Efficiency Audit is the last step to our Green Space Office Assessment Program and where your office will be evaluated for further measures that can be implemented to increase its efficiency rating. The purpose of this audit is foremost to encourage efficiency behavior as well as realize measureable energy savings, however it is simply an educational opportunity for your office to understand the basics of energy auditing. We hope this walkthrough will benefit your office through a few simple ways that reduce the amount of energy being used, and open your eyes to the effectiveness of behavioral change.

Process

This efficiency audit is divided into three categories that include: the Lighting Audit, Plug Load Audit, and HVAC Audit. In each of these sections, there will be provided background information to introduce the audit as well as define any terms that will be used throughout the checklist. Following the background information is the audit. Here, interns along with office staff will conduct an energy audit in an office and assess lighting and behavioral conditions as a basis for the next step, the recommendations sheet. Following each audit will be list of recommended changes, completed following the office audit. Should your office not meet our efficiency standards, implementation of a few of these recommendations will be needed. However, should your office be considered efficient according to our standards, your office will be awarded Platinum certification! Thank you for your interest in our program and happy auditing!

Lighting Audit

Background Information

On School campuses worldwide, lighting constitutes about 30% of all electricity usage. The focus on this lighting audit is to reduce your office impact by increasing its efficiency. A few terms to keep in mind for this section:

Ballast - These are what help lamps start up and regulates light output by maintaining a constant operating current and voltage. It typically consumes about 10% of what is used by the fixture. There are two kinds of ballasts, magnetic and electronic. You might be familiar with magnetic ballasts as these are the ones that flicker. Electronic ballasts however, do not cause buzzing or flickering, and are generally lighter than magnetic ballasts. (flicker checker)

Luminance - Light arriving at a surface, expressed in lumens per unit area; 1 lumen per square foot equals 1 footcandle, while 1 lumen per square meter equals 1 lux. Luminance will be used to determine if your office space has either adequate or excessive lighting. (light meter)

Lamp - Manufactured light source; the 3 broad categories of electric lamps are incandescent, fluorescent, and high intensity discharge (HID). Please note that this is the proper term for "bulb" in the lighting industry.

Room Behavioral Information

Behavior	Yes/No	Notes/Comments
Are Lights turned off when room is not occupied?		
Is day lighting being used effectively?		
Other:		

Lighting Audit

#	Room/Fixture type	Type of lamp/ wattage	# of lamps per fixture	# of fixtures in a single room	Hours used per day	Days used per year	Lumens

Recommendations Report (Interns only)

#	kWh used per day	Total kWh used per year	Cost per kWh	Cost per year	Recommendations	Wattage of new lamps	kWh saved per year	Dollar savings per year

Plug Load Audit

Background Information (Watt meter how many watts each appliance uses)

Plug loads are quickly becoming a main source of energy consumption as all appliances that are plugged in, are rarely turned off. In this section of the audit, we will determine the behavioral uses of your office plug loads. A few terms to keep in mind: Phantom Load - Phantom load is the electricity consumed when a device is switched "off" but is still drawing a little bit of power. Many consumer electronics products use energy even when switched off. Consumer electronics use about 15% of household's electricity – and this figure is only increasing as we continue to add more electronics and gadgets to our repertoire.

Room Behavioral Information

Behavior	Yes/No	Notes/Comments
Are Plug Loads turned off when not in use?		
Are computers shut down when not in use?		
Other:		

Plug Load Audit

#	Electronic/ Appliance name		Wattage	Is this always plugged in?	Hours per day	Days used per year	Total number of appliances
		In use					
		Phantom Load					
		In Use					
		Phantom					

		Load					
		In Use					
		Phantom Load					

Recommendations (Interns only)

#	kWh used per day	Total kWh used per year	Cost per kWh	Cost per Year (+ phantom load)	Recommendations	Wattage of new appliance	kWh savings per year	Cost per year

Recommendations Summary

Congratulations!

The Alliance to Save Energy's Green Campus Program would like to thank you for allowing us to assess your current and potential sustainable office practices. We believe that sustainability is about a healthy environment, smart economics, and cooperative community. Your willingness to accept feedback from our team shows that you are committed to making a positive impact within the Cal Poly Pomona community, which is an important aspect of sustainability on this campus.

PowerSave Green Campus' goal is to assess offices like yours and create easy to follow recommendations for you to share with your office staff. We have enjoyed working with your office and learning about your current sustainable office practices. We hope you will read our recommendations and implement the suggested changes to move towards a more sustainable work environment. The purpose of this recommendations report is to encourage office practices that will support the health of the environment. Once again, we thank you for the opportunity to assess your office and look forward to working with you again.

Areas of Assessment (Poor – Excellent)

• **Excellent** - Most or all attainable sustainable office practices are implemented. Room for improvement continues to exist.
• **Very Good** - Incorporation of many sustainable office practices; more can be done to achieve excellence.
• **Good** - Average inclusion of functional sustainable office practices.
• **Fair** - Many more sustainable office practices can be integrated with the few currently in use.
• **Poor** - Indicates the majority of the simple, generally recognized sustainable office practices are not currently in use.

Area of Assessment	Rating
Lighting Audit	
Plug Load Audit	
Result	

Top 3 Recommended Changes

Area of Assessment	Recommendation	Potential Energy Saved
1.		
2.		
3.		

Positive Existing Behaviors

- Lighting
- Plug Load
- Other

Thank You!

Once again, congratulations on completing the PowerSave Green Campus efficiency audit and Green Space Office Assessment Program! We would love to arrange a time to continue the education of your staff about sustainable office and lifestyle practices. We can tailor this opportunity to meet the specific needs and wants of your office as well as schedule it within a timeline chosen by you. If you would like more information on sustainability related learning opportunities please contact us.

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: _____