THE UNIVERSITY OF BRITISH COLUMBIA

Okanagan Campus

Sustainability Office

UNPLUG AND YOU'LL SAVE ENERGY

Plug load refers to the continuous energy consumed by electronic devices and equipment that are plugged into an outlet, no matter if they are turned off or unconnected to a gadget.

Although the campus has realized reductions in building energy consumption through measures such as the Building Optimization Program, even in office buildings with improved lighting, heating and cooling efficiencies plug load can represent nearly 50% of the total electricity use[1]. In support of energy conservation, the Sustainability Office offers the following tips to reduce plug load:

- Unplug devices that are not in use, are infrequently used, or don't require charging – speakers, calculators, cellphone chargers, kitchen appliances, and personal fans or space heaters.
- At the end of each workday, unplug personal computers and related accessories (monitors, speakers, printer, scanner, etc.).The start-up time of a shut-down computer that was unplugged is the same as a computer that was only shut down and not unplugged.
- Use a power bar strip with independent on/off outlet switches that are easy to access and allow one to turn off

multiple outlets that are not in use. Many power bars have time delay settings which cause devices to enter sleep/hibernate mode during programmable periods of inactivity.

- If unplugging devices is inaccessible or there is a physical barrier preventing one from doing so, connect with your leadership or Facilities Management to help realize practical solutions.
- Volunteer or designate staff in your office to be responsible for unplugging large office equipment and kitchen appliances at the end of the work week, as well as plugging them in again Monday morning (printers, photocopiers, microwaves, water coolers, etc.).

Plug Load

In 2014, staff and faculties' awareness and practice of energy efficient behavior was surveyed. The majority of respondents claimed they were not clear who was responsible for turning off and unplugging shared office resources (printer, photocopier, kitchen appliances, etc.). Through survey analysis, plug load was identified as the most untapped energy savings potential on campus. When viewed from a campus-wide perspective, equipment and devices plugged in while not in use contributes to huge energy draws that, at times, are completely unnecessary.

Unplug for Energy Savings

The unnecessary energy consumed by the average staff's desktop equipment turned off but left plugged in to an outlet can be significant. A computer tower, two LCD monitors, computer speakers, and a phone charger consume approximately .00715 kWh of power just by being plugged in and not turned on[2]. When this figure is attributed to the average amount of non-working hours in a year, electricity consumed by one staff member's personal desktop equipment not in use is approximately 48.9 kWh. The electricity required to light a 2.5 hour basketball game at UBC Okanagan is 43 kWh[3]. By unplugging personal desktop equipment for the hours you're away from work, in one year you can save more energy than required to light a basketball game at UBC Okanagan.

Reducing plug load in campus offices, workspaces, and shared facilities will help the University improve energy efficiency and achieve reductions in power consumption and electricity costs. Our collective actions to manage power consumption will make a difference.

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[1] *New Buildings Institute – http://newbuildings.org/sites/default/files/PlugLoadBestPracticesGuide.pdf*

[2] *Lawrence Berkeley National Laboratory – http://standby.lbl.gov/summary-table.html*

[3] *FortisBC – http://fortisbc.com/Electricity/PowerSense/Pages/Calculations.aspx*

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