



## ENERGY COMMITMENT STATEMENT OF ACTION



We support SFU's Sustainability Policy GP 38 in recognizing sustainability as an institutional priority for all University activities, and we commit to work to develop and adopt environmentally sustainable practices and processes in our operations.

We are proud of our long track record of pro-active energy management and we take the lead in implementing energy efficiency projects and in managing energy consumption. However, we know we must do more to accelerate our impact and in pursuing responsible solutions to meet the institutional need to reduce energy consumption and greenhouse gas emissions. Therefore, we commit to the following actions:

- ✍ We will reduce our total energy consumption by a minimum of 2% per year.
- ✍ We will develop achievable and practical plans to achieve our reduction goals.
- ✍ We will support the provincial goal of reducing greenhouse gas emissions by 33% (from 2007 levels) by 2020, to achieve the goal of 80% reduction by 2050.
- ✍ We will put in place rigorous measurement and verification procedures, and strive to be fully accountable for our actions.
- ✍ We will exercise leadership in engaging the university community to contribute to saving energy through behavioral change and educational events.

### Signatory

Name Title: **Dr. Patricia Hibbitts**  
**Vice-President Finance and Administration**  
**Simon Fraser University**

Signature Date: *July 14, 2010*

### Support Team:

**Lee Gavel, Chief Facilities Officer/University Architect**  
Sam Dahabieh, Director Facilities Operations  
Larry Waddell, Director Facilities Development  
Joyce Chong, Director Facilities Administration  
**And the SFU Sustainability Team**

## Appendix I: Energy Conservation Standards

### Recommended Occupant Practices

All building occupants are encouraged to contribute to their own comfort by dressing appropriately and adapt for seasonal changes. Within their work space occupants can also enhance the building operating systems by ensuring that windows and shading devices are working & positioning for the season:

Summer: naturally ventilated space- windows are to be open and shades & blinds are to be closed to minimize heat built up.

Winter: close all windows and doors to minimize heat escaping to outdoors and open shades and blinds to capture the heat and daylight from the sunshine.

### Environmental Space Conditions

The comfort range of space temperatures are predominately adjusted in accordance with the recommendations of the latest ASHRAE Guide. Temperature set-points are determined and programmed from the central computerized direct digital control (DDC) system. The operating temperature parameters are:

#### 1. Interior Temperatures

The HVAC systems shall be capable of maintaining the following temperatures in the space and shall have the capacity to restore the building from the setback temperature prior to the occupied hour start time.

*Table 1- Interior Temperatures (Lecture Rooms, Classrooms, Offices,)*

	<b>Occupied Hours:</b>	<b>Unoccupied Hours:</b>
<b>Heating</b>	21°C	15°C
<b>Cooling</b>	26°C DB, with the humidity not exceeding 60%.	N/A

*Table 2- Interior Temperatures (store rooms, hallways, stairwells and other unoccupied areas)*

	<b>Occupied Hours:</b>	<b>Unoccupied Hours:</b>
<b>Heating</b>	7°C to 13°C	7°C
<b>Cooling</b>	Not provided	Not provided

The guidelines above are discretionary for laboratories and experimental areas, and other chemical storage areas where there is a demonstrated functional requirement for consistent temperatures. Electric heaters to supplement

central heating are not permitted without the written authorization of the Facilities Managers. Windows shall remain closed during the winter and not allowed to open to cool spaces.

2. **Air Conditioning Spaces** – where provided the space temperatures shall be set at 26°C. The actual temperatures may vary from set-points due to the building characteristics, HVAC systems and control limitations.

Exceptions: defined laboratories and research laboratories where specific continuous temperatures are required.

3. **Ventilation** – all ventilation systems are operated in accordance with ASHRAE 62-2001 Standards “Ventilation for Acceptable Indoor Air Quality” and WorkSafe requirements. At reduced occupancy load, fan speeds will be reduced through adjustable speed drives for all fan systems to conserve energy consumptions and systems will be shut down when there is no occupancy.
4. **Lighting** –SFU is committed to adhere to energy efficient lamps and high power factor electronic ballasts. SFU standards for lighting levels will be in accordance with IESNA & WorkSafe BC Standards.

### **Implementation**

SFU’s Facilities Services will take the lead to ensure that the standards in this Commitment will be implemented and followed stringently. Facilities Operations will review their operating procedures and make adjustments as needed. Facilities Development will ensure that the requirements are incorporated into the planning & design of all new facilities and all retrofits of existing facilities.

## Appendix II: Energy Standards for Design and Construction

### Recommended Passive Design Principles

New buildings should be oriented with their main (long) facades generally east west, to minimize solar heat gain and maximize natural light.

As much as possible, air-conditioned spaces should be kept to a minimum. Natural ventilation is the preferred option wherever possible.

Site landscape features should be considered as these can help to reduce heat gain and ambient temperatures. Vegetated ground cover and white reflective roofing (or vegetated roofs) help reduce the “heat island” effect of urban settings.

### Recommended Design Standards for High Energy Efficiency Performance in Projects

1. **Energy efficient new construction and major renewal:** LEED Gold is a minimum requirement for new buildings and major renewal projects:

LEED criteria address energy efficiency by requiring significant energy improvements in existing buildings, and high performance ratings on new buildings. The LEED-NC rating system requires that buildings meet the provisions of ASHRAE/IESNA Standard 90.1-2004 as a minimum level of energy performance.

2. **Building Envelope:** Buildings are to be insulated to high levels of effective insulation and have a superior and consistent air-barrier system.
3. **Energy Modeling:** Do energy modeling to assist in right-sizing of mechanical equipment selection, and to meet LEED requirements
4. **Air Conditioning Spaces:** where provided, look for opportunities for “free cooling” or to achieve net energy balance
5. **Ventilation:** all ventilation systems are designed to meet ASHRAE 62-2001 Standards “Ventilation for Acceptable Indoor Air Quality” and WorkSafe requirements.
6. **Lighting:** SFU is committed to adhere to energy efficient lamps and high power factor electronic ballasts. Refer to SFU Lighting standard fixtures.
7. **Commissioning:** develop and implement an enhanced commissioning plan in conjunction with an SFU Commissioning Authority (where possible) and Facilities Operations Superintendents support.
8. **Life-cycle Costing:** Include life-cycle operational costs in making choices on systems and equipment to achieve best value and durability.
9. **Equipment:** Select Energy Star (or equivalent rating) electrical appliances & electrical equipment as a minimum

### Implementation

SFU Facilities Services (Development, Operations and Administration) will take the lead in applying these standards as part of the Energy Commitment (July 15, 2010).