

## *Innovation Center of Vermont (128 Lakeside Avenue)*



### *Energy Star awarded by the EPA*

As part of the EPA's push toward energy efficiency, the Energy Star rating documents a building's carbon footprint and efficient use of energy, primarily electricity and heating energy, natural gas and oil. The Innovation Center of Vermont at 128 Lakeside Avenue in Burlington achieved a 93% rating putting it in the top 7% of all office buildings in the United States for environmentally-friendly office space.

Introduced in 1992, the Energy Star is a national symbol for superior energy efficiency and environmental protection. In addition to energy efficiency, the buildings must meet Indoor Air quality test requirements, illumination levels and thermal comfort of its tenants in accordance with ASHRAE standards.

The Innovation Center of Vermont has enjoyed a close working relationship with Burlington Electric's Commercial Energy Services Department who provided engineering review and financial rebate incentives for Energy Efficiency Measures (EEM). Also providing support in the form of EEM during renovations within the tenant premises was General Dynamics Armament and Technical Products. The Innovation Center managed to significantly reduce its electrical consumption and carbon footprint through use of state-of-the-art Direct Digital Control (DDC) of the buildings' air conditioners, lighting, compressors, and fan motors. The building uses geothermal energy to produce "energy free" cooling for much of the year rather than running electrical compressors and refrigerant to cool the space. New ultra efficient boilers use natural gas to provide additional heat beyond the geothermal water loop in the coldest winter months.

Lighting in the building has been upgraded and operates on motion detectors or computer switches controlled by DDC. All the lighting uses electronic ballasts and new T-8 or T-5 bulbs. Many of the light fixtures can illuminate 1, 2, or 3 bulbs depending on the occupant's desires and lighting requirement. Use of natural light was employed in the R&D Building using skylights and within the main building using light harvesting techniques near the large new windows on the fourth floor.

Complex computer algorithms within the Building Management System (BMS) utilize free cooling to decide which compressors need to run based on real time cooling requirements sensing both outside air temperature combined with the indoor air temperature of hundreds of thermostats keeping occupants comfortable.

Primarily due to the use of geothermal energy and energy savings enhancements, the actual electrical consumption at the facility has been cut by over 32% during the last 5 years. Natural gas consumption has decreased by more than 60%. We are proud of these achievements. It demonstrates our commitment to environmental stewardship while lowering our energy costs.