



2013-2016 Strategic Energy and GHG Management Plan

Summary

BCIT
3700 Willingdon Ave
Burnaby, British Columbia
www.bcit.ca/sustainability
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BRITISH COLUMBIA
INSTITUTE OF TECHNOLOGY

sustainability
at BCIT

Executive Summary

BCIT's vision is to be integral to the economic, social and environmental prosperity of British Columbia. Since climate change is an imminent problem, and energy represents 98% of BCIT's greenhouse gas (GHG) emissions in-scope under Provincial Bill 44, we are compelled to act. No single factor explains the comfort and quality of life in the 21st century more than our ability to enlist external forms of energy to do work for us; however, things may change because the long-term load forecast shows that demand for electricity in BC could grow by approximately 50 % over the next 20 years. This projection means that we won't have enough BC-made electricity to meet the local demand. Electricity imports combined with a local increase in use of natural gas means GHG emissions will inevitably increase. With our qualified team of leaders at BCIT, we have the capacity to prepare for change and lead the way towards a world of better energy use.

Energy management will be part of our proposed solution. Our experts and government believe that 66 % of this electricity consumption increase must be met through conservation and efficiency. A win/win situation: BCIT can be part of the energy solution at the Provincial level while energy conservation means dollar savings for the Institute. Reducing energy spending means the money can be spent elsewhere, such as on education. The timing is good, with government funding cuts in Higher Education of 1% - 1.5% for operational budgets over 2013/2014 and 2014/2015, a 5% decline in Industry Training Authority funding, and a sharp cut in Annual Capital Allowance funding since 2009. And BCIT is already doing it! \$300,000 per year are already being saved on electricity alone because of good energy management. During the 2009-2012 period, more than \$3.7 million were received in external incentives, non-research grants and other funding directly related to energy management projects. 2009-2012 total energy "savings" and "grants" have had a total cumulative value of more than \$5.5 million. That's good money.

The 2009-2012 period is now over and BCIT needs a new energy management plan to maximize GHG reduction, energy conservation and associated capital expenditures. In addition to the typical reasons for planning (i.e. to coordinate our efforts and prioritize ideas), the world of GHG reduction also requires a long term plan to piggy back on other activities, avoid the "low hanging fruit pitfall" and have "Shovel-Ready" projects so that when GHG reduction funding is announced, BCIT is in a strong position.

This 2013-2016 energy and GHG management plan will help BCIT reduce its energy and carbon footprint to new levels. We know BCIT can operate using less energy. If all our buildings were to operate at the energy cost of those at Kwantlen University (known for good energy management practices and for offering similar programs to the ones offered at BCIT), BCIT would save more than \$920,000/yr. Over 10 years, this would be worth more than \$11,000,000. In order to save money and reduce BCIT's ecological footprint, this plan outlines 11 Strategic Actions to be followed:

Strategic Action #1: Embed Energy and GHG in BCIT's Policies, Procedures and Plans

Strategic Action #2: Proceed Immediately with Some Energy Retrofits

Strategic Action #3: Build a New List of "Shovel-Ready" Projects

Strategic Action #4: Improve our Understanding of Renewal Options of our Thermal Energy Systems

Strategic Action #5: Pilot Green Labs with School of Computing and Academic Studies

Strategic Action #6: Develop an energy and GHG checklist for major renovations and new buildings

Strategic Action #7: Improve our Understanding of AHU Coil Cleaning as a Means to Saving Energy

Strategic Action #8: Improve our Understanding of Building Continuous Optimization Programs

Strategic Action #9: Keep Reducing Energy Consumed in Information Technology

Strategic Action #10: Keep Building Employee Energy and GHG Awareness and Education Initiatives

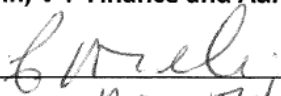
Strategic Action #11: Pursue Living Labs and Include Energy and GHG in Scope

At BCIT, energy management is a team effort. The full version of this document outlines how we, at BCIT, will implement these 11 Strategic Actions. If you are a member of the BCIT community, please visit the "Strategic Energy and GHG Management Plan" page on The Loop for more details.

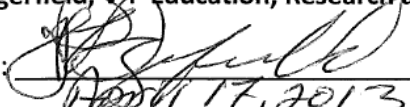
Approval Of This Plan

This document falls under the jurisdiction of the BCIT Sustainability Committee co-chairs:

Lorcan O'Melinn, V-P Finance and Administration

Signature: 
Date: April 17/13

Paul Dangerfield, V-P Education, Research and International

Signature: 
Date: April 17, 2013

Questions or Comments

All questions can be either directed directly to the project owners or to BCIT's Energy and Sustainability Manager at

alexandre_hebert@bcit.ca