A. Descriptive Details

PROJECT TITLE:	**CAMOSUN ENERGY MANAGEMENT PROGRAM**
PROJECT SPONSOR:	**PETER LOCKIE, CHIEF FINANCIAL OFFICER**
PROJECT MANAGER:	**IAN TOL, ASSOCIATE DIRECTOR, PHYSICAL RESOURCES DIVISION**
PROJECT DURATION:	**FIVE YEARS (07/08 TO 12/13)**

SIGNED _____ **DATE** _____

B. Purpose / Rationale

1. Camosun College is embarking on this project to reduce its energy use, to increase its energy efficiency and reduce its contribution to the production of greenhouse gasses. BC Hydro is piloting an Energy Management program to help organizations implement an integrated approach to energy management. It focuses on the areas that are both quantitative (saving energy) and qualitative (policies, practices, procedures).
   BC Hydro provides the Energy Management framework, expertise & support. It also funds the Energy Manager (100%), renewable on an annual basis; all Energy Studies (100%), the development & implementation of an Awareness Campaign (likely up to 70%), and project incentives apply for energy saving Retrofits (typically 15% of project cost).
   Camosun College's role will be to develop and implement the Energy Management Program, specific to its campuses, by working with the Energy Manager and others in the College. Subject to available budget funding, Camosun will also provide the capital necessary to implement the proposed energy saving retrofit projects approved from the energy studies and the Energy Manager's work. Parallel initiatives to reduce gas, water and other utility consumption along with environmental sustainability will also take place.

   There are a number of compelling reasons for undertaking this project:

   - Energy represents 1.5% of the college's global budget, and 24% of the Physical Resources Division (PRD) budget.
   - Effective management of energy will release funds for ongoing expansion of the College's education services and infrastructure or constrain annual increases.
   - BC Hydro has recently (Nov, 2006) renewed their support of the College's energy conservation work with:
     - one year funding for an Energy Manager;
     - promise of further incentives in support of energy saving projects.

- In a larger sense, successes in mitigating Climate Change and meeting one's social obligations and responsibilities can increase pride of association for faculty, staff and students, while helping to overcome what many believe to be the greatest challenge facing humanity.

2. Issues or problems the proposed project is designed to address:
   - Escalation of energy prices has been greater than general inflation, and is subject to influences which raise concerns about cost stability and proposed savings.
   - Energy intensity (the need for more energy) also continues to increase at the College due to:
     > longer hours of operation,
     > additional computers & equipment, expanding floor areas, etc.
   - The work is intended to contribute to the abatement of Climate Change.
   - Sub-optimal performance from outdated building systems, resulting in reduced quality of indoor environmental conditions (indoor air, lighting & noise).

3. Opportunities and/or benefits for the organization, department, School, or to others:
   - Long term cost avoidance relating to energy use and maintenance,
   - Increased awareness, measurement and management of rising energy intensity,
   - College infrastructure upgrade (a bi-product of energy retrofits),
   - Improved Indoor Air Quality and student/staff comfort leading to reduced absenteeism and a better learning environment,
   - Improved Light Quality for better learning outcomes,
   - Noise reductions for a better learning environment,
   - Improved documentation of systems and buildings,
   - Reduced Greenhouse Gas emissions (10% = 235 Tonnes / yr CO2),
   - Lower demands on the community energy and water infrastructure,
   - Less need of land and public expense for new dams, power plants and transmission lines to Vancouver Island,
   - Increased local economic activity (contractors and suppliers working on energy upgrades),
   - Improved image as responsible member of community.

4. How does this project support or link to the goals of the 2006-2008 Strategic Plan?

   This work would be in direct support of Issue 7 of the Strategic Plan: Sustainability, Productivity & Accountability.

C. Goals and Objectives

Objectives:

Camosun College will develop and implement an Energy Management Program that will optimize efficiency and savings as well as reduce the College's contribution to the production of greenhouse gas emissions. An **Energy Management Steering Committee**, chaired by Ian Tol, Project Manager, will be formed to oversee an organization-wide effort to manage energy use wisely, contribute to protecting natural resources and minimize the environmental impact of facility operations, without compromising the learning environment or safety of our staff and students.

Goals:

- to improve the efficiency of energy use through low-cost opportunities by implementing:
  - sound operating and maintenance practices;
  - employee training, and student awareness;
  - "green" purchasing policies; and
  - monitoring and tracking systems
- to implement a greenhouse gas emission monitoring program.
- to promote awareness of climate change and greenhouse gas emissions reductions.
- to optimize energy efficiency by performing cost-effective energy saving retrofits and upgrades.

D. Deliverables & Specifications

- Camosun College will attempt to obtain cost savings of 10% of 2005 levels by the year 2012 by implementing cost-effective energy management initiatives at both of its campuses. The savings will be adjusted for necessary load growth (more equipment, added floor space, etc.), weather, and utility rate changes.
- Camosun College will endeavor to reduce electrical and natural gas energy consumption intensity (usage per square foot) in both campuses by 10% of 2005 levels by the year 2012.
- Camosun College targets greenhouse gas emission intensity reductions of 8.5% (200 tonnes/yr) from its 2005 levels by the year 2012.

Changes to the deliverables will be negotiated and agreed-to at the time of the annual review of the project. New utility/government incentives, programs, carbon taxes, utility rates, developments in technology, etc. may have an impact on the importance of the Energy Program and the desire rate of implementation.

E. Project Risks, Constraints & Assumptions

1. Risks:

Risk	Probability	Impact	Risk Rating
Return-on-investment lower than anticipated	Medium	Medium	Medium
Risks common to all construction projects	Medium	Medium	Medium
Removal of support by BC Hydro Power Smart	Low	High	Low
Camosun ACA/Operating funding reduced/capped	Low	Extreme	Medium

2. Constraints: The project must deliver savings to maintain ongoing support and resources from BC Hydro (funding of Energy Manager, Energy Studies, Awareness Campaign and equipment upgrades), and to continue to motivate participants.

3. Assumptions: Preliminary estimates indicate that there is at least $1 million that could be applied to energy saving projects which have good returns on investment. Accordingly, under a 5 year plan, **$200,000** would be budgeted for energy saving upgrade work in 2007/2008 from Camosun College's Annual Capital Allowance. The target is a total savings/net reduction of $80,000 per year. With BC Hydro and other anticipated incentives, the payback period for the full capital investment is expected to be approximately 10 years.

PEOPLE & PLANNING

F. Who Needs To Be Involved & Why?

1. Peter Lockie, CFO and College Executive member responsible for Physical Resources.

2. Ian Tol, Associate Director of Physical Resources, will manage the project.

3. The BC Hydro Energy Manager and Energy Management Steering Committee will provide support to the project.

4. Others' Responsibilities:

   The Senior Management Team (SMT) is responsible for:
   - Approving the Energy Management Project Charter and any subsequent amendments.
   - Monitoring compliance with the Project Charter through reviewing the annual Energy Manager report.

   The Executive Sponsor (Peter Lockie) is responsible for:
   - Reviewing the Project Charter, making recommendations and seeking SMT approval;
   - Providing leadership to guide the ongoing evolution of energy policy;
   - Ensuring that Deans and Directors support energy consumption performance targets in their departmental business priorities where appropriate;
   - Including energy factors in planning decisions;
   - Ensuring appropriate funding allocation is made over the life of the project.

The Project Manager (Ian Tol) is responsible for:

- Monitoring and reporting to senior management on adherence to the Project Charter;
- Recommending changes to the Project Charter to ensure it remains current;
- Capitalizing on incentive offerings to maximize cost effectiveness of energy-related upgrades;
- Collaborating with all Deans and Directors to:
  - Maintain, update and report on the Energy Management Program, including agreed-upon delegation of implementation responsibilities;
  - Develop and include efficiency commitments in appropriate corporate contracts; and,
  - Develop supporting business tools, templates, training and communications, e.g., integrated design process (IDP) training, rating systems training, life cycle costing tools, and technical training for PRD.
  - Ensuring that employees receive the training, guidance and resources necessary to ensure the success of the energy plan;
  - Deliver training to ensure that employees understand how the policy applies to their job functions.
  - Monitor and regularly report on energy performance.

The Purchasing Department Manager is responsible for:

- Developing energy guidelines for the purchasing policy;
- Supporting the implementation of energy standards that support the goal of low energy use on campus.

The IT Director is responsible for:

- Developing and supporting the implementation of energy standards and performance that support the goal of low energy use on campus.

All Deans and Directors are responsible for:

- Including appropriate energy performance targets in their departmental business priorities where appropriate;

All project implementers will ensure that agreed energy performance targets are achieved and results reported to their directors.

All employees are responsible for understanding how the policy applies to their job functions and ensuring they adhere to it.

5. Other resources required to complete this project include the following:

- Administrative support
- Physical Resources staff involvement

G. Communication

- Project Manager to publicize the Energy Plan to inform and mobilize faculty, staff and students.
- Project Manager to deliver quarterly Energy Program performance reports to SMT.
- Project Manager to produce an annual Energy Manager report.

Training will be planned and delivered to the following groups:

AUDIENCE	TOPIC
ENERGY TEAM	ENERGY PLAN DEVELOPMENT
PRD STAFF	CAMOSUN ENERGY PROGRAM
FACULTY & STAFF	ENERGY SAVINGS - TEACH AND DO
	ENERGY TOUR OF COLLEGE DURING PRO-D
ROOM BOOKING	CLASS SCHEDULING
FINANCE	RETROFIT EVALUATION METHODS
PRD STAFF	LIGHTING OPPORTUNITIES
PRD STAFF	HVAC OPPORTUNITIES
PRD STAFF	CONTROLS OPPORTUNITIES
PURCHASING	EFFICIENCY SPEC'S
I.T. DEPT	LAN SOFTWARE, LCD SCREENS, ETC.
STUDENTS	ENERGY, CLIMATE CHANGE

H. Overview — Approaches/Processes

The 5 basic steps in the planned approach are as follows:

Commit: Start with an Energy Policy and allocation of funds to support energy initiatives.

Understand: Identify current energy performance and contributing factors.

Plan and organize: Carry out studies, and identify opportunities for savings.

Implement: Install / implement desirable projects.

Control and monitor: Review Key Performance Indicators regularly.

In July 2006 Camosun College participated in a BC Hydro sponsored review of the College's current state with regards to energy management. Using the One-2-Five Energy software tool, a facilitator led the discussion which looked at 22 elements of effective energy management, organized within 10 key energy management areas. It provided a comprehensive picture of our actual energy status, and its recommendations were worked into a systematic energy management plan that takes into account short, medium & long term objectives. It forms the baseline for Camosun College to move forward with energy management and assists in developing an organised process for managing energy, integrating it with our business objectives, and developing a strategy for continuous improvement.

The process:

Leadership
1.1 Demonstrated Corporate commitment

Understanding
2.1 Understanding of performance & opportunities

Planning
3.1 Targets, performance indicators (KPI) & motivation
3.2 Plans

People
4.1 Accountabilities
4.2 Awareness & training
4.3 Resourcing

Financial Management
5.1 Criteria/budgets for capital expenditure (CAPEX)
5.2 Energy operating budgets

Supply Management
6.1 Purchasing procedures & alternative energy options
6.2 Quality and reliability of supply
6.3 Optimizing purchasing with supply agreement

Operations & Maintenance
7.1 Operating procedures
7.2 Maintenance procedures

Plant & Equipment
8.1 Procedures for new facilities design
8.2 Procedures for equipment selection
8.3 Innovation & new technology

Monitoring & Reporting
9.1 Metering & monitoring
9.2 Reporting, feedback & control systems
9.3 Documentation & records

Achievement
10.1 Energy cost performance in the past 12 months
10.2 Auditing progress

The energy management plan identified the five most critical areas for Camosun College to focus on in the first year of implementation of the plan. The five focus areas are:

1.1 Demonstrated Corporate Commitment

2.1 Understanding Performance & Opportunities

3.1 Targets, Performance Indicators (KPI) & Motivation

4.2 Awareness & Training

4.3 Resourcing People

I. Resource Requirements

To achieve the goals and objectives Camosun College will form the following Energy Management Steering Committee:

NAME	TITLE	ROLES/RESPONSIBILITY
Peter Lockie	Chief Financial Officer	Executive Sponsor
Ian Tol	PRD Associate Director	Project Manager
Marian Miszkiel	Director- Physical Resources	Senior Management Support
Brian Calvert	Chief Engineer	Mechanical/Electrical Efficiency
Bob Landell	Energy Manager	Energy Manager

Project Participants will likely include the following, which constitutes the Energy Team:

School/Division/Group
Physical Resources
Administration
School of Trades & Technology
School of Arts & Science - Environmental Technologies Program
Sport Education – Health & Wellness
Information Technology Department
College Environmental Committee
Camosun Purchasing Department
Faculty
Energy Manager

J. Project Plan

Based on the Project Overview (H), the first year of the project will be completed based on the actions, milestones and timelines listed below.

SPECIFIC ACTIONS, MILESTONES AND TIMELINES

Specific Actions	Who	Completed By
A. Project Concept		
Conceptualize Project	BL, IT	April 10, 2007
Complete Charter	BL, IT	May 28, 2007
B. Project Sign-off		
Sign-off Charter	PL	May 30, 2007
Communicate	PL	Jun/07

Specific Actions	Who	Completed By
C. Project Conduct (Kick-off)		
Set Key Actions & Milestones	BL, IT	May/07
Communication Plan	BL, IT	Jul/07
Energy Study Interurban	BL	Oct/07
Plan and tender approved measures	BL	Jan/08
Energy Study Lansdowne	BL	Jan/08
D. Closure of Project Phases		
Report Out To Sponsor & Other Authorities	BL, IT	ONGOING
Communicate Conclusions	IT	ONGOING
Evaluate (lessons learned)	BL, IT	ONGOING
Celebrate		ONGOING