



Carbon Footprint Reduction Program Preliminary Project Strategy January 12, 2011

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Project Summary

Project Objective

Reduce the University's carbon footprint by 30% by 2014.

Project Justification

- One of the University of Lethbridge's fundamental principles is Commitment to Responsible Action – “When making decisions about the design and operation of the University of Lethbridge, we act ethically and responsibly, considering environmental sustainability and good citizenship.” (University of Lethbridge Strategic Plan 2009-2013)
- The University's student population has increased by 143% between 1983 and 2009; the total consumption of electrical power has grown by 138% from 1972 to 2009; and the total annual cost of electrical power has grown by 1393%. (The University of Lethbridge SUSTAINABILITY REPORTING November 2009)
- In 2009 Alberta's electrical generation capacity was 13,007 MW. If demand for electricity continues to increase at its present rate of growth, the province will require another 11,500 megawatts of new generation by 2030. (Alberta Energy: Outgrowing our Electricity System)
- In 2002 Alberta was the first jurisdiction in North America to enact legislation (Climate Change and Emissions Management Act) that requires certain sectors to reduce greenhouse gas emissions.

Project Strategy

Manage each of the following areas*:

- 1. Project Initiation and Integration**
- 2. Scope Definition**
- 3. Estimating and Controlling Time**
- 4. Estimating and Controlling Costs**
- 5. Quality Assurance**
- 6. Human Resource Management**
- 7. Information Creation, Collection and Distribution**
- 8. Risk Management**
- 9. Procurement**

(*source: Project Management Institute – Project Management Body of Knowledge)

Project Initiation and Integration

Determine Stakeholders

- Students
- Faculty and Staff
- Surrounding Community

Determine Sponsor

- Sponsor – Executive Director Facilities
- Deputy Sponsor – Associate Director of Facilities

Determine Carbon Reduction Champions

- Student Body Representatives
- Department and Faculty Representatives

Core Project Team

- Project Manager
- Assistant Project Manager
- Selected members of the U of L Energy Management Sustainability Team

Project Initiation and Integration (continued)

Complete an Carbon Inventory for Baseline Period

- Utilities (List of Buildings)
- Travel (Commuting and Fleet Vehicles)
- Waste (Recycled and Landfill)
- Water and Waste Water

Assumptions and Constraints

- High Level of Program Awareness and Acceptance
- Monies Available
- Outside Resource Available

Additional Considerations

- Include Lessons Learned from Previous Projects (e.g. 10% GHG Reduction Project)
- Resource Availability (e.g. Full-time Environmental Manager)

Scope Definition

Scope Definition

- Determine baseline period
- Determine carbon emission boundaries - which emission sources are to be included
- Annual Rate of carbon footprint reduction (e.g. 10% per annum for three (3) years)
- Develop Project Plan
 - Initial Carbon footprint reduction projects to be completed
 - Summarize resources, timing and budget details

Additional Considerations

- How are Specific Carbon Footprint Reduction Projects Selected (e.g. Payback vs. Ease of Implementation)
- How are Projects Approved
- Development of Business Cases

Project Timeline

Develop Project Timeline

- Project Deadline December 31, 2013
- Develop Work Breakdown Structure (WBS)
 - Clear understanding of goals & objectives, constraints and assumptions
- Select Tracking Software (e.g. MS Project)
- Timeline to Include:
 - Tasks and Task Time Estimates
 - Milestones

Additional Considerations

- Smaller Projects within the Main Projects
- Not all Tasks Easily Identifiable
- How and Who will Control Timeline(s)

Project Costing

Develop Project Costing

- Internal Funding Availability
- External Funding Availability
- Costs associated with specific carbon footprint reduction projects

Additional Considerations

- Reduced government support for higher education
- Budget Plans already in place
- Competing opportunities for the same dollars

Quality Assurance

Project Objectives should be Quantifiable and Measurable (Metrics)

Define Test and Verification Activities as related to Project Objectives

Schedule Application of Test and Verification Activities

Additional Considerations

- Designating QA Team
- Selecting appropriate test and verification activities and completing audits
- Report generation

Human Resource Management

Develop Process for Stakeholders to Provide Input

Approach and Recruit Students, Faculty and Staff that have specialize skill set to assist in specific carbon footprint reduction projects

Contract Outside Contractors when necessary and economically justifiable

Additional Considerations

- Increased Demands on Constant (or Reduced) Human Resource Base
- Tracking level of involvement and quality of contribution
- Developing an efficient method of two-way communication to ensure contributors receive a timely response
- Developing an incentive program for voluntary contributors

Information Creation, Collection and Distribution

Selection of Project Management Documents may include

- Carbon Footprint Inventory
- Project Plan
- Project Timeline
- Budget Schedules
- Meeting Minutes
- Other Documents as Required

Dissemination of Information Accomplished by

- Written updates to senior management
- University of Lethbridge Website Updates

Additional Considerations

- Tracking Updates

Risk Management

Risk Identification

- Determination of risks and risk consequences
 - Health, Safety and Environmental Risks
 - Failure to Meet Main Objective
 - Cost Over Run Risks
 - Milestone Date Risks
- Probabilities associated with identified risks

Risk Mitigation

- Develop activities to eliminate or reduce risk consequences or probability

Risk Documentation

Additional Considerations

- Who determines risks
- Who signs-off on risk assessment

Procurement

Meet Purchasing Department Requirements

- Provide list of qualified vendors
- Develop budget level cost estimates
- Supply required documentation in a timely fashion

Additional Considerations

- Include Purchasing lead time requirements in timeline
- Inclusion of suppliers' carbon footprint

Summary

Reducing the University of Lethbridge's Carbon Footprint by 30% by 2014 would be challenging and, depending on the approach, potentially affect all students, faculty and staff at the University.

A number of key considerations were highlighted in this presentation, including the development of:

- **Contributing Teams;**
- **Carbon Footprint Inventory based on a selected baseline period;**
- **Detailed Scope of Work;**
- **Detailed Project Plan (including a project timeline); and**
- **Quality Assurance and Risk Management Processes.**