



McGill

Pulse Check

Promoting Energy
Efficient Practices

Proposal to:

McGill's Sustainability Project Fund

Project team members:

- Project Leader - Jerome Conraud: jerome.conraud@mcgill.ca
- Project mentor - Professor Dror Etzion: dror.etzion@mcgill.ca
- Project Manager - Wissam Shaar: wissam.shaar@mbcg.com
- Project analyst - Roger Rushemeza: roger.rushemeza@mbcg.com
- Project researcher - Kevin McMahon: kevin.mcmahon@mail.mcgill.ca

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Pulse Check: Promoting Energy Efficient Practices

Project Overview and Objectives

Pulse is a new tool introduced at McGill to monitor energy consumption of approximately 30 buildings within the McGill campus. This number will soon reach up to 60 buildings. Although Pulse represents a positive initiative, much remains to be known and done about energy efficiency at McGill. This project will synthesize all important dimensions related to energy issues at McGill such as the cost structure, consumption sources and key stakeholders. The team will also categorize different building profiles and target within each of them recommended practices specific to the students, the administrative staff, the specialized workers and the management. The project will help spread awareness about energy efficiency and encourage a sustainable culture within the McGill community. The purpose of this project is to leverage the positive effects of the information provided by the dashboard and more broadly provide a comprehensive picture of energy management and consumption at McGill.

This project will involve a variety of members of the community ranging from executives, building managers, employees and students. It is important to outline that the following project will improve end-user's behaviours, operational and managerial practices. The choice of more efficient technologies is important, but not directly related to our managerial expertise and therefore excluded of this mandate.

Project team members

Here is a list of the team members who will be involved throughout the stages of the project. For a brief bio of each of the members, refer to Appendix 1.

- Project Leader - Jerome Conraud
- Project mentor - Professor Dror Etzion
- Project Manager - Wissam Shaar
- Project analyst and MBCG member - Roger Rushemeza
- Project researcher - Kevin McMahan

Project Stakeholders

- Office of Sustainability: this office will provide support to the project in the form of information and guidance on what has been done in the past, what has worked, and what hasn't. The goals of Pulse Check coincide with those of the Office of Sustainability.
- Operations and Management Department: the building directors will be involved in the project where information on their responsibilities and daily tasks will constitute part of the project team's data.
- Residence Hall Occupants: one option of involving the students on campus is to design competitions around energy and water savings. The residence halls will participate in such competitions and their energy consumption will be recorded.
- Building Occupants: the occupants of the buildings that will be another source of information of how and where energy and water is consumed. The occupants will benefit from the project and see the progress up close.
- Professor and students of ENVR 401: This class is a practical course where students engage in a project to apply learned concepts. Pulse Check will be one of the projects available to them, and its implementation will be coordinated by the Pulse Check team and the course's instructors.
- Human Resources: the HR department will be contacted to discuss possible incentives to building directors and operators. These incentives will be tied to energy and water conservation.

Project Stages and Timeline

This project will take place over 6 months and be divided into five stages.

Stage 1: The initial stage includes detailed planning and setting a schedule for the project rollout. The team will also hold a kick-off meeting with key stakeholders to determine the project outline.

Stage 2: The team will then conduct research and data collection. The team will analyse documents provided by different departments, including organization charts, roles and responsibilities, costs and budgets. The research period will also include shadowing building managers to better understand the challenges they face and gather best practices as well as suggestions. We plan to understand the daily tasks and operations related to building maintenance. Through the building managers' suggestions and the review by the project team, we will suggest and pinpoint areas of improvement.

Stage 3: Our analysis and recommendations will be synthesized within a report that will become a reference for anyone interested to understand energy related issues on the campus. Based on our analysis, the report will include recommendations for changing behaviour and practices, incentive plans, and ways of involving students.

Stage 4: During the fall, the first energy initiatives and communication actions will be implemented. We propose that the students in ENVR 401 monitor the implementation as part of the project requirement of their class with MBCG taking on a supervising role at this point. We anticipate an extensive communication strategy integrating Pulse-driven measures, clear and visual signalization, professional courses and potentially improved management practices. Promotion strategies could include competitions between the different buildings on energy conservation and awareness. Other potential promotions include educational tools to members of the community.

Stage 5: Finally, following the fall semester, a final report will document the effectiveness of the initiatives, lessons learned and future possible improvements. It will be supported by a quantitative research executed by Kevin McMahon and Professor Etzion. They plan to conduct a match pair design in which they will compare the energy efficiency of buildings where initiatives are implemented and buildings where they are not introduced. This report will also suggest ways to integrate this case study into specific environment and management courses.

Refer to Appendix-2 for the project schedule.

Project Cost and fee breakdown

Below is an estimate of the cost of each stage of the project.

Stage Description	Estimated Cost
Stage 1 - Planning	\$900
Stage 2 - Research and data collection	\$3,000
Stage 3 - Document/deliverables preparation	\$4,600
Stage 4 - Implementation & monitoring	\$2,000
Stage 5 - Wrap up	\$1,800
Other expenses – printing, transport, etc.	\$400
Total	\$12,700

Project Continuity Potential

We hope the findings and recommendations of this project will serve as enduring guidelines for future sustainable initiatives. In specific, the project outcomes will serve:

- The Utilities and Energy Management Department
- The Sustainability Department
- The expansion of Pulse Energy’s dashboard
- Future energy and water conservation initiatives

Appendix 1 – Team Members

Project Leader - Jerome Conraud

Before joining McGill in February 2010, Jerome worked as Energy Manager for the Montreal Municipal Housing Bureau (2007-2010) where he was in charge of implementing energy conservation and greenhouse gas reduction projects. As an active member of the OMHM Sustainability Committee, he piloted several projects (GHG emission quantification and verification reports, sustainable transportation plan for employees etc.) At McGill, his tasks include overseeing McGill's Five-Year Energy Management Plan whose corner stone is the implementation of an Energy Management Information System accessible to all members of the community.

Project mentor - Professor Dror Etzion

Professor Etzion joined the Desautels Faculty of Management as Assistant Professor in 2008. In the past, he worked at The Natural Step, an international non-profit research and consultancy organization focused on sustainable development. His research program focuses on environmental metrics, including how accurately metrics capture what they are intended to capture, and the role of metrics in directing attention and behaviours. He teaches the core undergraduate course: Social Context of Business (MGCR-360); the MBA elective: Strategies for Sustainable Development (MGPO-640).

Project Manager - Wissam Shaar

Wissam is a MBA student at McGill. He also holds a bachelor degree in electrical engineering and an extensive experience in engineering consulting; he worked in the sector of utilities and energy management, with a focus on energy efficiency and LEED certification for construction projects. He is a member of the McGill Business Consulting Group (MBCG) which is a partnership of five Masters of Business Administration (MBA) students that offer integrated and customized management consulting solutions for businesses. The group was created about 28 years ago.

Project analyst and MBCG member - Roger Rushemeza

Roger has a bachelor degree in Accounting and extensive consulting experience around budgets and human resources.

Project researcher - Kevin McMahon

Kevin is a PhD student in Management interested by corporate environmental performance. Kevin was awarded a FQRSC grant. The actual project would be a great research field for Professor Etzion and him in order to test the effectiveness of different management practices and communication efforts based on reliable data about energy consumption. Kevin was a business sustainability advisor during three years. He helped GlaxoSmithKline implement tangible energy efficiency initiatives.

