

Durham College Corporate Governance

CASE STUDY

ABOUT DURHAM COLLEGE

Durham College is a post-secondary institution with campuses in Oshawa and Whitby, Ontario. The College offers more than 130 full-time programs in business, information technology, health and community services, interdisciplinary studies and employment services, justice and emergency services, media arts and design, science and engineering technology, skilled trades, apprenticeship and renewable technology. The School of Continuing Education offers more than 1,500 courses, 60 certificate programs, 15 diploma programs and two post-graduate programs in a wide variety of career and personal interest subject areas.



In 1967, Durham College opened its doors to 205 students, employing 14 staff. Over four decades later, the College employs more than 700 full-time and close to 700 part-time staff and faculty. More than 9,000 full-time students attend Durham College. Thousands of part-time, continuing education and online studies students, and over a thousand apprentices enrol in studies at Durham College each year.

LOCATION

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CORPORATE GOVERNANCE – CORPORATE SUSTAINABILITY

At Durham College, sustainability is at the core of decision-making and campus practices. Durham College believes in fostering sustainable behaviours and in sharing responsibility for the continued well-being of students, the community and planet. As part of its commitment to sustainability, Durham College is one of many signatories of the Pan-Canadian Protocol for



Sustainability, and initiative of the Association of Canadian Community Colleges to encourage member colleges and institutes to formalize their commitments and efforts toward sustainability. Through “green” building measures and other initiatives, Durham College strives to be better environmental stewards.

In 2013, Durham College is one year into its sustainability commitment. The College has formalized this commitment in its Business Plan for 2012-2013. Sustainability is also addressed in environmental, social and economic strategies included in the College’s Strategic Plan.

FOSTERING SUSTAINABLE BEHAVIOURS

Living Green Initiative

In April 2012, Durham College launched a new campus sustainability initiative under the banner of “Living Green”. With oversight by Durham College’s Sustainability Committee (see below), the Living Green initiative seeks to enhance the environmental sustainability of campus operations, planning, administration, curriculum, research, innovation and stakeholder engagement. In 2012, the College hired a Sustainability Co-ordinator to promote Living Green initiatives and foster a culture of sustainability.



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Employee and Student Engagement

Durham College’s Sustainability Committee was formed in 2011 with a mandate to promote awareness, understanding and the practice of environmental, social and economic sustainability with all Durham College stakeholders. About 20 people serve on the committee, which includes representatives from Facilities, Human Resources, the President’s Office, faculty, and a “Green Team” comprised of students. The Green Team works with Sustainability Committee members to develop goals and initiatives, raise awareness, and participate in sustainability events and projects.

Green Education

Durham College not only engages its students in green activities on campus; it is training Canada’s next crop of green leaders and technicians. Through a range of sustainability focused and related courses, students acquire the sustainability training needed to meet the growing demands of the “green economy”.

Among the College’s programs with a sustainability focus are the following:

- Energy Management and Sustainable Building Technology
- Environmental Technology
- Water Quality Technician
- Renewable Energy Technician

At least 85 courses are dedicated to sustainability concepts, while another 175 incorporate distinct



sustainability concepts, principles or modules. These courses embed content and/or pedagogies that are consistent with the values, attitudes, skills and knowledge that have the potential to advance sustainable communities. Seven departments within the College currently offer at least one sustainability course.

SUSTAINABLE BUILDINGS

Lighting Retrofit

Durham College's Whitby campus began a lighting retrofit project in the summer of 2012 that included upgrading lighting fixtures to current standards and improving shop light levels. The upgrade removed more than 290 inefficient metal halide fixtures and replaced them with energy-efficient T5 fluorescent fixtures. The six-week project was covered by one of the many saveONenergy incentive programs offered throughout Ontario to implement energy conservation measures. The upgrade will save about 206,670 kWh of electricity annually.



Solar panels provide energy to the grid, which has incentives through the FIT program

On December 7, 2012, Durham College received a \$30,660 incentive through the saveONenergy program from Whitby Hydro in recognition of the College's ongoing commitment to sustainability through upgrades that reduce energy consumption at the Whitby campus.

Solar Panels

When Durham College expanded the Whitby campus in 2009, it located more than 350 solar panels on the roof of the 20,000-square-foot expansion, representing an installed combined capacity of 72 kilowatts (kW) of electricity. The three banks of panels use solar photovoltaic (PV) cells that provide efficient solar energy to the entire facility.



The wind turbines also feed the grid and receive an incentive through the FIT program.

Wind Turbines

Contributing to the energy-neutrality of the Whitby Campus expansion are the six Cleanfield Energy V3.5 vertical axis wind turbines that are installed on the roof along the south wall. The Darrieus turbine derivatives are different than the more common horizontal propeller-type wind turbines. They start spinning at minimum wind speeds of 16.2 km per hour and are capable of producing up to 3.5 kW of electrical power each (18 kW total) at speeds of approximately 52.2 km per hour. The turbines are used not only as a source of renewable energy generation, but also as a learning tool for students in the College's Renewable Energy Technician



and Energy Management and Sustainable Building Technology programs.

The electricity produced by the solar panels and wind turbines combined is enough to operate the Whitby expansion. Excess energy goes back into the grid, capturing the premium rates offered by Ontario Power Authority's Feed-in Tariff (FIT) program, which was designed to help the province phase out coal-fired electricity generation by 2014.

White and Green Roofs

The Whitby campus expansion also features a white roof that reflects sunlight rather than absorbs it. With the white roof, the building uses less air conditioning in summer, making it more cost-efficient. Elsewhere on campus, the Student Services Building features a 20 X 120 foot green roof on the northeast side of the building.

Geothermal

The Whitby campus expansion incorporated a new ground source heat pump (GSHP) system to provide adequate and energy-efficient heating and cooling to the expansion. The GSHP system uses 60 tons of refrigeration cooling-load pumped through 35 U-shaped pipes installed approximately 350 feet underground. Depending on the season, the system circulates to transfer hot or cool air back into the building.

Boiler Upgrade

In August, 2012, Durham College received a \$12,990 incentive from Enbridge Gas Distribution (Enbridge) for recent upgrades to the boiler room in the Gordon Willey building at the Oshawa campus. The incentive was part of Enbridge's Demand Side Management program, which aims to reduce natural gas consumption.

The upgrade involved removing four less efficient two-stage boilers and replacing them with two new near-condensing, 88 per cent efficiency boilers that are fully modulating allowing hot water temperatures to be precisely set. Upgrades to all the boiler control and building automation systems ensures only the required amount of water needed to operate the heating system is used. The upgrade also included installation of new 96 per cent efficiency water heaters.

The changes to the boiler system will see a significant increase in plant efficiency and reduced energy consumption with estimated savings of 131,178 cubic metres of natural gas.

Building Automation

Durham College has a building automation system which regulates temperatures and allows setbacks while rooms are not occupied. About 95 per cent of the Whitby and Oshawa campuses building spaces have timers for temperature control.

Energy Saving Sensors

Durham College employs the following censoring devices that help save energy:

- Occupancy sensors that control lighting (and in some cases HVAC) in most classrooms
- Vending machine sensors that can determine whether there is a client browsing the selection and then activate the lights on the machine



Energy Management System

Durham College uses a centralized energy management system that allows it to track energy consumption and performance in multiple buildings in a central location. The College chose the Siemens Apogee system, which monitors over 60,000 building automation points across about 95 per cent of the College's building space.

WASTE DIVERSION

Reduction and Recycling. Durham College is committed to reducing the amount of waste it sends to landfill. Through its co-mingled recycling program, the College recycles paper, plastics, glass, and aluminum cans. Corrugated cardboard is recycled separately. Co-mingling stations are set up around campus to collect materials. In addition to the co-mingling program, Durham College collects printer cartridges, batteries and electronic wastes (from both the institution and students) for recycling. To reduce the amount of paper waste generated by students, the College sets a limit for free printing at the start of each academic year. Given the large volumes of waste that are generated in September and April (i.e., during move-in and move-out periods), the College ensures that recycling bins are stationed near residences to maximize capture rates. The College diverts approximately 2.86 metric tons of cardboard and 9.81 tons of co-mingling to recycling monthly.

Composting. Aramark, the College's food services provider, has instituted a food waste collection program at the South Village residence. All retail locations place pre-consumer food waste into bins, which are then brought to the residence program for composting. Aramark provides waste reduction training to staff to ensure that 100 per cent of meal plan, conference and retail location pre-consumer food waste is collected. Post-consumer food waste is also collected and sent to the composting program. One hundred per cent of post-consumer food waste from the meal plan and conference meals is composted, while about 25 per cent of retail location food waste is composted. The Green Team audits waste annually to identify areas for improving waste diversion.

Hazardous Wastes. Hazardous wastes are generated at Durham College primarily through the auto shop and housekeeping services. The auto-shop recycles all waste fluids to ensure that oils, coolants, fuels, etc. are not put into the waste stream. Housekeeping services uses automated chemical dispensing units to reduce chemical usage and uses green chemicals where possible.

TRANSPORTATION

Mass Transit

Over half of Durham College students take public transit. To encourage students to use mass transit, Durham Region Transit offers a "U-Pass" for all full-time students at Durham College. The pass allows unlimited free transit seven days a week on all conventional DRT and GO Bus service for travel in the Region of Durham. The full-time student U-Pass fee is paid with full-time student fees.

Cycling & Carpooling

Twelve per cent of students use non-motorized means to commute to campus. On both the Oshawa and Whitby campuses, Durham College provides multiple bike racks to encourage cycling



to and from campus. The College is also working with Smart Commute Durham to increase carpooling among staff and students.

Electric Vehicles

Durham College is one of several partners participating in Durham Strategic Energy Alliance (DSEA)'s Electric Vehicle (EV) To Grid program. The program, which launched in November 2011, involves installation of seven EV charging stations throughout Durham Region, including one at the Whitby campus. DSEA plans to evaluate the impact of several different EVs, including Durham College's 2012 Chevrolet Volt, on the smart grid throughout Durham.

GREENING CAMPUS SERVICES

Green Purchasing

Aramark supplies all food services on Durham College campuses. Durham College has worked with Aramark to establish guidelines for green purchasing for food services. Green purchasing initiatives include:

- napkins that are made from 100% recycled material;
- utensils that contain recycled content;
- discount offered when patrons bring their own travel mugs;
- fair trade coffee at its Express coffee concepts; and
- compostable plates for the Orientation Week BBQ.

Durham College also has a policy to purchase Green Seal™ or EcoLogo™ certified cleaning products. The College's housekeeping services are provided by Omni (see below), which provides green cleaning services that include the purchase of green cleaning supplies.

Buying Local

Buying local products is a campus priority as outlined in Durham College's Purchasing Policy Guidelines. This policy extends to all products and services. Buying local is also prioritized by the College's food services provider, Aramark, which uses local farmers to supply as much food as possible. Farmers, such as Geissberger Farmhouse Cider, Gallery on the Farm, Pingle's Farm Market, Hy Hope Farm, and Ashton Maple, supply Aramark with quality local products. Aramark has a brochure describing their food purchases, the energy involved for those purchases and waste management choices. The choices relate back to sustainability and how it is important to choose local food when possible. Aramark assures a vegan option for every meal served in the residence dining.

Durham College (with Aramark) has also been hosting farmers markets in the dining hall since 2011. As well, the College collaborates with Reel Food, an initiative of the Foundation for Building Sustainable Communities (fbcs.org) to educate the public about growing their own food. For more information about Reel Food, visit <http://reelfood.org>.



Green Housekeeping

Durham College uses Omni Facility Services Canada Limited, an ISO 14001:2004 certified company, to provide its OmniGreen housekeeping services to both the Oshawa and Whitby campuses. Omni's green cleaning initiatives help Durham College to reduce polluting impacts associated with housekeeping, while minimizing health and safety impacts.

SUSTAINABLE GROUNDS

Grounds Maintenance and Landscaping

Durham College is committed to sustainable practices for its grounds maintenance and landscaping. Among the initiatives employed to minimize the environmental impact associated with grounds maintenance and landscaping activities are the following:

- a four-tiered Integrated Pest Management plan that applies to about 66 per cent of the campus grounds;
- mandatory inclusion of native plants in all landscaping drawings and specifications requested through the College's RFP process;
- adherence to Central Lake Ontario Conservation Authority (CLOCA) policies and procedures to protect neighbouring CLOCA land;
- use of environmental products in place of salt around buildings and on sidewalks;
- three storm water management ponds that reduce sediment load to the adjoining creek;
- on-site composting and mulching for grass cuttings and organic debris;
- requirements to reduce stormwater runoff from new development projects;
- stone and vegetated swales line the College's parking lots to facilitate the runoff; and
- irrigation systems that run on timers or rain sensors, and are operated at night.

RECOGNITION

On February 23, 2012, Durham College began to benchmark its sustainability initiatives with the Sustainability Tracking Assessment and Rating System (STARS). STARS is a comprehensive tool offered through the Association for the Advancement of Sustainability in Higher Education that allows for meaningful comparisons of participating colleges and universities regarding their sustainability initiatives. STARS focuses on several key areas of sustainability within an educational institution: Education and Research; Operations; Planning; and Administration and Engagement. Each area holds percentage-based scores.

In October, 2012, Durham College received a Bronze rating after submitting months of data – an excellent score for a first submission. Through STARS, Durham College has identified its sustainability strengths and weaknesses, which will assist the College as it continues on its sustainability journey.



MOVING FORWARD

Though Durham College is at the beginning of its sustainability journey, it has accomplished much in a short time. The College plans to continue expanding its sustainability practices and monitoring progress along the way. Specific actions the College plans to take to make it a better environmental steward and champion in the year ahead (2013) include:

- developing and implementing programs to reduce energy consumption by 5 per cent;
- developing a campus-wide waste management plan; and
- ensuring Leadership and Academic Leadership teams become paperless.

Ultimately, the College hopes to achieve a Gold STARS rating, which it is well on its way to realizing.

WHAT IS DURHAM PARTNERS IN PROJECT GREEN?

Durham Sustain Ability (DSA) and its partners have been developing Durham Partners in Project Green (DPPG) since mid-2011 in order to assist local companies to improve their environmental and financial performance. DPPG builds strong relationships with the business community, while providing tools and resources to assist local companies in improving their productivity and reducing their direct and indirect emissions of greenhouse gases and other pollutants.

Working with the Toronto and Region Conservation Authority (TRCA), the Region of Durham, local utilities and municipalities, DSA is managing and delivering DPPG. The program is being modeled on, and is leveraging the resources and experience of the very successful Partners in Project Green: A Pearson Eco-Business Zone initiative that has been in operation around Toronto Pearson International Airport for the past several years.

DPPG acts as the interface for green business in the region of Durham. DPPG has its own programming, as well as acts as a clearinghouse that connects businesses to other green business related programming in the region. By taking this approach, it will become easier for companies looking to reduce their costs to contact a single organization who can then connect them to the various resources available throughout the region through this “one-window” approach.

For more information about Durham Partners in Project Green, please visit:

www.partnersinprojectgreen.com/durham

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905.985.3279, ext. 12

Durham Partners in Project Green delivers programming that helps businesses reduce energy and resource costs, uncover new business opportunities, and address everyday operational challenges in a green and cost-effective manner.

www.partnersinprojectgreen.com/durham

