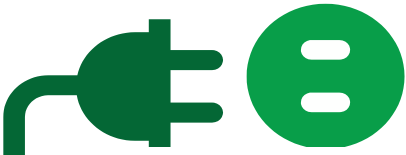


# Promising Practices



## Institutions

### Algonquin College shines with green roof, energy efficiency

While Canadian colleges play a fundamental role in shaping the future of Canadian society, these institutions are often associated with high energy consumption. Inspired to make a change, Algonquin College has taken the initiative to become more energy efficient through a number of practices. Steps towards achieving this goal include partnering with Direct Energy to create an Energy Services Contract (ESCO), the construction of the Algonquin Centre for Construction Excellence, and other energy saving projects.<sup>1 2</sup>

In 2006, Algonquin College, along with Direct Energy, implemented the ESCO. The purpose of the contract was to reduce energy use at the college by 20%—in the end, a 23% reduction was achieved.<sup>3</sup> To meet this goal, various projects were undertaken including upgrades to the heating and cooling plant, and retrofitting lighting. The college also worked with Direct Energy to enhance seals on doors and windows and to optimize many Building Automation System components.<sup>4</sup>

The business services sector of Direct Energy played a major role in the ESCO by carrying out the initial assessment of the College's facilities. Direct Energy then suggested improvements to the existing infrastructure, which created the foundation of the ESCO. Also, Direct Energy was responsible for working with a contractor to optimize energy use and for increasing awareness of the ESCO amongst Algonquin students and staff.<sup>5</sup>

Overall, the projects associated with the ESCO cost \$6 million and are projected to save \$600,000 annually in energy costs, which gives the ESCO a payback period of 10 years.<sup>6</sup> The projects were partially funded by grants reserved for energy efficiency upgrades. Additionally, the achievements of Algonquin College have been recognized by Hydro Ottawa. Specifically, it was the college's ability to reduce annual energy use by about 4,800,000 kilowatt-hours that prompted Hydro

Ottawa to name Algonquin College a "Company for Conservation".<sup>7</sup>

Algonquin College has taken other steps to ensure energy efficiency in the future, such as the creation of the Algonquin Centre for Construction Excellence (ACCE). The structure of the ACCE is intended to be environmentally friendly and energy efficient because it is being built to target Leadership in Energy and Environmental Design (LEED) Platinum certification. This means that the ACCE will have the highest rating possible on criteria such as efficient energy use, sustainable water use, selection of green materials, and the quality of indoor environments.<sup>8</sup> Upon completion, which is targeted for fall 2011, the ACCE will be the largest LEED Platinum certified building in Canada.<sup>9</sup>



*The ACCE, at Algonquin's Ottawa campus, is intended to be a showcase and teaching lab for best practices in sustainable construction. The structural, environmental, and energy performance of the building will be monitored and displayed interactively, informing students and visitors about the processes at work around them.*

There are many reasons why the ACCE is projected to gain platinum certification from LEED. The ACCE has the largest green roof in Ottawa. The green roof, composed of sedums, contributes to energy conservation through heat regulation, which reduces

demand on the traditional heating system. In addition, the ACCE will save energy through its high performance building envelope, the extensive use of skylights for natural lighting, the implementation of solar panels, the use of heat-pump technology, and by having well sealed doors and windows.<sup>10</sup>

Not only is the ACCE impressive structurally, but this building will be used to teach students about environmentally sustainable construction practices. The building will also support the use of public transit due to the creation of a below grade transit tunnel that will connect the ACCE to a future Baseline Transitway Station.

The ACCE has been generously invested in by multiple organizations, including \$35 million each from the Governments of Ontario and Canada, \$7 million from the Constructing our Future Capital Campaign, and \$2 million from the City of Ottawa in the value of land donated.<sup>11</sup>

While the creation of the ESCO and the ACCE are both commendable initiatives, Algonquin College is going even further to have an environmentally friendly campus. Algonquin was the first Canadian college to sign the Talloires Declaration, which was the first official commitment of post-secondary institutions to environmental sustainability.<sup>12</sup> This persistent dedication to sustainable practices is further emphasized by Algonquin's statement that all future campus buildings will be LEED Gold Certified. Additionally, Algonquin signed the Association of Canadian Community College's Pan-Canadian Protocol for Sustainability in 2009.<sup>13</sup> This protocol obligates those involved to increase their contributions to an environmentally sustainable future through methods such as establishing a sustainability policy and integrating the values of sustainability into the curriculum.<sup>14</sup>

Overall, Algonquin College is setting the bar high for energy efficiency. From implementing small changes, such as window sealing upgrades, to large scale construction projects, such as the ACCE, the college should serve as an example to other Canadian colleges looking to become more energy efficient.

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<sup>1</sup> Algonquin College. "Green Power Home." Website text. 26 November 2007. [www.algonquincollege.com/greenpower/PEC.htm](http://www.algonquincollege.com/greenpower/PEC.htm). Accessed June 2011.

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<sup>5</sup> Direct Energy. "Algonquin College (Ottawa) Determined to Lower Energy Use Through Innovative Program." Case Study. <http://debusiness.directenergy.com/EN/Business-Services/Documents/Case-Studies/DEBSL-Algonquin-Case-Study.pdf>. Accessed June 2011.

<sup>6</sup> Supra Note 5.

<sup>7</sup> Supra Note 3.

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<sup>9</sup> Supra Note 2.

<sup>10</sup> Ibid.

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