

## Green Buildings Are Good for You

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Did you know that a green retrofit of your building could be good for your bottom line and your employees, as well as for the planet? According to Don Anderson, VP of Business Development at Lundy Construction, and Ottawa Chamber of Commerce Environmental Committee Chair, investing in a green retrofit or new green building is a no-brainer and he is passionate about telling you why.

“We’re missing the opportunity here, because there is a bottom line to sustainability. And that bottom line is not measured in just energy savings. The real savings in a sustainable environment is in the increase in worker productivity and health, and occupant health in buildings that are built to certified sustainable standards.”

Most people assume that green costs more. It is true that there is a capital cost premium for green over conventional buildings, whether it is for a new building or a retrofit. Studies show that these costs mostly stem from the learning curve involved in researching and implementing sustainability practices as well as the cost of sustainability-capable designers and engineers. According to an assessment of literature on green buildings developed for Industry Canada in 2005 by Mark Lucuik of Morrison Hershfield, “The general consensus of these [capital costs of green buildings] studies is that green buildings cost around 2% more to design and construct”.

The return on investment for a green building, when looked at from an operational perspective, can be substantial. Energy and water use and costs can be reduced significantly. Mark Lucuik estimates that capital cost increases are typically offset by operational cost reductions within seven years. One study showed that when energy, water, waste and commissioning savings were factored in, a 9300m<sup>2</sup> building would save 1 million dollars over 20 years.

And that’s just one side of the equation. The biggest untold story here is the benefit to human productivity, health and wellbeing. Greater air quality, ample natural light, access to views and noise control incorporated in green buildings have a big impact on those who live and work there. For a work environment, this translates very directly to the bottom line. Don Anderson provides an example from the Rideau Valley Conservation Authority at 3691 Prince of Wales, which was built to Gold LEED standards:

“ (there were) 63 employees in seven buildings ... We finished the building to LEED standards in this beautiful space, and the offices are all on the sunny side, and the conferences on the back side. The employees call it the smiley space, things like that. So, I asked “Would you please check...” after they had been in it a little longer than a year, “you have the same 63 people – is there any difference in attendance in this building?” There was a nine percent better attendance from the same 63 people. That’s the equivalent of having one person freed.”

Don makes the point that this figure only captures the productivity gain from attendance which is easily measurable. Other factors in productivity are increased employee satisfaction and improved health. In a study commissioned by Deloitte in 2008, 93% of respondents reported greater ability to attract talent, 81% saw greater employee retention, 87% saw improvement in workforce productivity, and 75% improvement in employee health.

Green building owners can charge a premium to tenants and those tenants typically stay longer. A 2008 study of 1300 buildings in the US showed that LEED-certified buildings were commanding rent premiums of \$11.24 per square foot over conventional buildings and they had a 3.8% higher occupancy rate.

But what is a “green” building? A green building differs from a conventional building in that it integrates environmental and social considerations into the design, planning, construction and maintenance of a building. Environmental considerations include reduced greenhouse gas emissions, reduced material use and use of low impact materials, minimal impact on surrounding environment and reduced water use. Social considerations can include both features of the building itself, such as access to natural light, and features of the building location, such as access to public transit. The result is a building with a smaller ecological footprint that is healthier and more comfortable to live and work in. The most extensively used sustainability standard for buildings is LEED (Leadership in Energy & Environmental Design) certification. A LEED rating confers points according to specific performance criteria. The points earned on a project are translated into four ratings; certified, silver, gold and platinum.

The environmental impact of buildings in Canada is substantial. The Morrison Hershfield report estimates that all buildings in Canada account for the use of one third of Canada’s energy production, 50% of extracted natural resources, 25% of landfill waste and 35% of greenhouse gasses. These numbers do not account for the production and transportation of building materials.

What can be done to encourage green retrofits and green building construction in Ottawa? This was a question David Miller of the City of Ottawa, Environmental Sustainability Branch posed on the city website. Some of Don Anderson’s suggestions include: buildings planned as LEED-certified be moved to the head of the cue for permits. These LEED-preferred permits could involve no or reduced development fees. According to Don Anderson, this would benefit the city because green buildings increase asset value and life. A building that is worth more money and lasts longer has increased the tax base, providing a benefit to the city. Cities in Canada with progressive green building policies include Calgary, Vancouver and Markham.

There are barriers to greening the building stock in Ottawa. Most of the buildings in the downtown core are over 50 years old, few of which have been renovated, presenting an opportunity to introduce green standards. However with a 3% vacancy rate, there is little swing space available to bring buildings to sustainable and structural integrity. But by far the greatest barrier is lack of knowledge of the benefits of green buildings amongst prospective owners and the general public who are the employees and tenants.

The Deloitte 2008 study cautions that those who want to wait it out may be missing out:

“Deloitte believes that organizations taking this overly cautious approach should reconsider. We believe that over the next three years, companies that do not have green workplaces will be at a

competitive disadvantage from higher operating costs, lower productivity, declining attraction and retention of skilled workers and an increasingly negative brand image.”

Green building construction is a trend that is picking up steam in the US and in other parts of Canada. It is only a matter of time before the wave comes to Ottawa. In the meantime, it pays to be ahead of the curve.