

Sustainable Buildings on Campus (Part 2)

20 April 2015 by [Giselle Weybrecht](#)



Engaging in sustainability and responsible leaders goes beyond the classroom curriculum. It must also be engrained into the business school itself on its campus. A growing number of business schools and universities are not just putting in place strategies to ‘green’ their buildings on campus, but certifying these buildings through different national and international schemes.

There has been a significant rise in a mix of voluntary certification and mandatory requirements for both new buildings and existing constructions that are changing the way University campuses look around the globe. These standards provide guidance on creating more sustainable buildings through a wide range of topics including, but not limited to site selection, energy efficiency and sourcing, materials, construction practices, water efficiency and use, the design of the space and landscaping. In [Part 1](#) we looked at LEED certified campuses (Leadership in Energy and Environmental Design) across the US. Here in Part 2, we look at a number of Sustainable Buildings around the world.

The [John Molson School of Business](#) building at Concordia University in Canada is LEED Silver certified. The 37,000 square metre, 15-storey building incorporates bright atriums, modern classrooms, and several auditoriums and amphitheatres. The low-flow plumbing fixtures throughout the building reduced water consumption by 45%, and a green roof on the fourth floor has a seating area with a garden to promote cultivation projects. The building’s southwest wall is considered the first even ‘solar wall’ in the world with solar panels stretching the length of the wall covering a surface of approximately 300 square metres. The photovoltaic panels will generate up to 25 kW of electricity and 75 kW of heat—that’s enough energy to turn on 1,250 CFL light bulbs, and provide heat for seven Canadian homes throughout the year. The greening project was funded by the NSERC Solar Buildings Research Network, based at Concordia University, which brings together twenty-six Canadian researchers from eleven universities to develop the solar optimised homes and commercial buildings of the future.

[CEIBS](#) became the first business school in China to have a LEED Gold certified building. This is thanks to an initiative started in 2007 by a handful of MBA students. Over the years other

students continued their work in the initiative, and by 2010 one of the major goals was ensuring that the end result of a planned campus expansion project would be a green building. The building relies heavily on innovative wastewater technology to maintain pools of water that surround the campus. An on site treatment facility converts 180 tonnes of waste water per day and through that the school saves 54,000 tones of potable water each year.

In India the [Great Lakes Institute's](#) 27-acre campus is LEED Platinum certified. It uses natural daylight and maintains further energy efficiency through solar energy and solar water heaters used throughout the building. Rainwater is harvested through percolation ponds and tanks across campus and greywater is produced on campus and reused in different ways such as for lavatories and gardening. An organic herbal garden including native vegetation promotes biodiversity on campus.

[Porto Business School](#) in Portugal earned LEED Gold certification on their new facilities in 2014, the first building in Portugal to receive this level of certification. Three artificial lakes that collect rainwater are partly used for lavatories and irrigation. The buildings have efficient air conditioning and lighting systems, and the intensity of the light is automatically adjusted by daylight and space occupancy in a room. A wide variety of recycled and non-toxic materials were used in the construction of the building.

At [Copenhagen Business School](#) (CBS) in Denmark, a 'green lighthouse' is the first carbon-neutral public building in Denmark and is certified LEED Gold. The building is energy-efficient with a significant amount of natural light. It relies on district heating, solar cells, solar heating and cooling. It is part of a campus-wide Green Campus 2020 strategy to make the school as resource efficient as possible, including specific targets for energy and CO2 reductions. The building is now being certified by a Danish certification system for sustainable office buildings, DGNB Denmark. The project is part of a public-private partnership between CBS, the Municipality of Copenhagen, the Danish Building and Property Agency, VELFAC and the FELUX Group.

LEED is of course by no means the only green building standard. Many countries have their own standards. The [University of Bradford's](#) 'The Green' received the highest rating from BREEAM, a UK design and assessment method for sustainable buildings used internationally. 'The Green,' the student accommodation on the university's main campus, is a ten-block student residential village with 1,026 bedrooms. Hot water is pre-heated by solar thermal panels and food waste is quickly composted on site. Landscaping includes vegetable beds and orchards for students to use—only planted with indigenous plants—as well as beehives. The aim of the building is to promote a sense of community among the students

In Australia, the [Green Building Council of Australia](#) awards Green Star certifications. For example, [Curtin University](#) received a Green Star rating for their plans to transform 114 hectares of one of their campuses through urban regeneration over a 20-year period that supports an urban economy based on education, business, technology, housing, public transportation, the arts and recreation. [Monash University](#) has a number of Green Star certified buildings. One of their buildings has a 1-megawatt co-generation plant that generates electricity and heating for the building and the wider campus, lights with sensors that adjust to daylight levels and occupancy,

and basement tanks that hold harvested storm water and rainwater for use in toilet flushing, landscape irrigation and the building's cooling system. Another building used for low cost student housing features the largest residential solar installation in Australia, as well as greywater treatment onsite, which is stored along with rainwater, for flushing, washing machines and irrigation.

The [Australian Catholic University](#) also has a Green Star building. Here the heating and cooling system is designed to adapt to the natural seasons, weather cycles and the general flow of people in the building. An under floor vent system helps keep the temperature at 21-25 degrees all year round. When the temperature hits 25, cool air flushes through vents integrated into the carpet tiles, and the vents pump warm air out when the temperature drops to 21. Floor to ceiling windows and unusually high ceilings let in enough natural light that artificial light is rarely needed.

The Green Building Council of South Africa also has a Green Star system similar to Australia. The [Nelson Mandela Metropolitan University Business School's](#) new building is the first in South Africa to receive a green design rating from this programme. Though the school found that doing the certification added up to 20% on initial building costs, they expect to recover those costs over the first year, through efficient lighting, solar energy and water use. The building uses 60% less energy than similar buildings and 75% less water due to low flow fittings.