Holland College

Charlottetown P.E.I.

Designed by North 46 Architecture

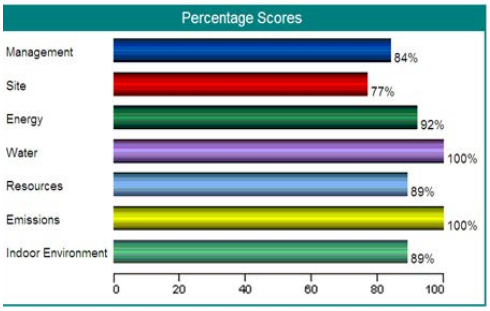
Certified April 2012

Holland College Centre of Applied Science & Technology (CAST)

One of few facilities to score 100% on their Green Globes energy analysis, Holland College Centre of Applied Science &Technology (CAST) in Prince Edward Island shows that energy responsibility does not need to come at a cost that is out of reach for the majority of buildings. The building also fits in with the colonial style of the campus, showing that new technology does not have to look out of place.

By following integrated design principles, and incorporating cutting edge energy and construction technology strategies, the project team was able to combine elements in a way that is only possible when an entire build team works together for a common goal. By taking advantage of the layout, orientation and natural resources on the site, the design team was able to create a building shell that would harness and retain heat in winter and avoid excessive summer heat gain. This was complemented by passive energy features including a large solar wall and geothermal heat system. An innovative photovoltaic array supplies much of the building's lighting load, while also acting as an interactive classroom, offering students a real-world example of just how much energy can be harnessed. A green roof offers a finishing touch.

In addition to serving as a beacon of sustainability for the surrounding community, this state of the art college building is also a living lab for students studying renewable energy technology and environmental science. These students have access to a dazzling array of technologies integrated into the structure that allow them to participate in ongoing measurement & verification as well as the maintenance and customization of building systems. This enables them to quantify the emissions of the structure and develop methods to further reduce the environmental impact of the facility.



Project Highlights

- Solar wall & PV Array
- Green roof
- Geothermal system
- Maximized passive heating & cooling
- High performance glazing
- Water use at less than 1.5 m^3/m^2/year
- Rapidly renewable building materials
- Energy-efficient lighting fixtures, lamps and ballasts
- Public transport is easily accessible
- Water-saving devices or proximity detectors included on urinals, toilets, shower heads, and faucets
- Rainwater runoff reduction strategies integrated, utilized as greywater
- Flexible, scalable learning and meeting spaces
- Daylight harvesting in all learning spaces
- Real time energy systems management displays throughout the building
- Weather station