UNIVERSITY OF ALBERTA

Cooling Plant on Campus (CPOC)

North Campus, Edmonton (2011) 7,500 m²

The Cooling Plant on Campus (CPOC) is unusually public for an industrial building, located beside one of the busiest teaching & research facilities, a large performing arts complex, 1,600 students living in residence and within sight of an LRT station. Though few will enter, thousands see this unique green building every day.

As an integral part of the university's District Energy System, which provides efficient, centralized utility services, CPOC is key to the sustainability of most buildings on North Campus. Behind the stylized gold façade, CPOC is itself one of the university's greenest buildings. Site planning, energy efficiency, water conservation and more contribute to this building's LEED® Gold certification.

Conservation

25% ↓

LESS ENERGY USE

61% ↓

LESS WATER USE

89%

OF CONSTRUCTION AND DEMOLITION WASTE WAS RECYCLED OR REUSED

See following pages for details

Green Features

SHOWERS FOR CYCLISTS

CFC-FREE

LIGHTING SENSORS

DES INTERPRETIVE CENTRE

TOURS AVAILABLE

Take a green buiding tour and see some of these features up close.

Email ***emso@ualberta.ca***

Certifications & Awards

LEED® Canada
New Construction 1.0
Gold
45 Credits
May 19, 2015

Cooling Plant on Campus (CPOC)

Large windows in office areas allow daylight to partially offset electrical lighting.

ENERGY

- Ventilation system includes highly efficient variable speed drives.
- Exhaust air is used to preheat fresh air intake.
- Large windows in office areas allow daylight to partially offset electrical lighting.
- High efficiency lighting.
- Uses 35 per cent less energy compared to a model building meeting minimum code compliance.
  Model based on the MNECB 1997 energy budget.
- Non-emergency lighting turns off following business hours.
- 1680 MWh of green power purchased for first two years.
  Sources meet ECOLOGO program requirements.

CONSTRUCTION & DEMOLITION MATERIALS

- 73 per cent of wood used in construction was certified by the Forest Stewardship Council (FSC).
- 33 per cent of materials used in construction were regionally sourced.
- 41 per cent of materials used in construction were recycled-content materials.
- No added urea-formaldehyde wood products were used.
- 89 per cent of construction and demolition waste was recycled or reused.

WATER

- Designed to use 61 per cent less water compared to a model building which meets minimum code compliance.
- Water is conserved with waterless urinals and low-flow fixtures (including toilets, shower, wash station and kitchen sink).

ENVELOPE

- Reflective roof keeps building cooler in summer and gathers snow to insulate in the winter.

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Cooling Plant on Campus (CPOC)

INDOOR AIR QUALITY

- Indoor CO_2 monitoring system helps optimize ventilation efficiency.
- Adhesives, paints, coatings and sealants are low-VOC emitting.
  Volatile Organic Compounds can cause health problems when inhaled or consumed.

LOW-IMPACT DEVELOPMENT

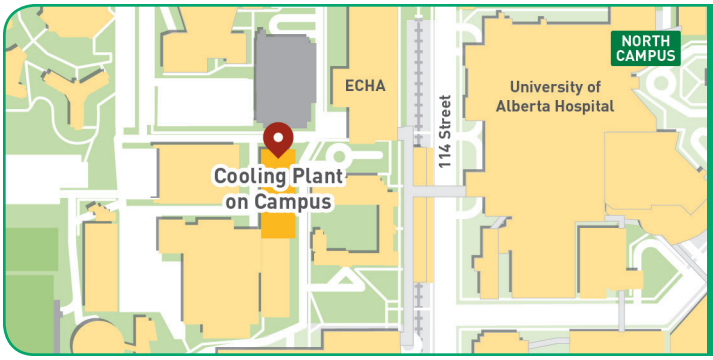
- Organic waste is collected under a pilot program.
- Nighttime lighting is minimized and light pollution mitigated.
- Over 50 per cent of the building's landscaping has been restored with native or adaptive vegetation.
- Ventilation system does not use any ozone-depleting, CFC-based refrigerants.

EDUCATIONAL PROGRAMING

- Green Buildings signage identifies interactive sustainability elements and educations on CPOC's hidden green building features.
- Building tours available on request.

CAMPUS-WIDE PROGRAMS AND POLICIES

- District Energy System efficiently delivers heating, cooling and electricity. Connected buildings do not require chillers or boilers.
- The Building Automation System adjusts temperature depending on weather and occupant schedules.
- Buildings are cleaned using high efficiency machines to save resources and ozonated water to avoid harsh chemicals in the indoor environment.
- All cleaning products used on campus are third party green certified.
- Grounds are landscaped with native and drought tolerant plants in mulch beds to minimize irrigation in Alberta's hot, dry summers.
- Water from annual fire pump testing is stored and used for irrigation.



Architects: ONPA Architects
Engineering: Capital Engineering
Construction: Chandos Construction
Commissioning: Stantec
Landscape: EIDOS
Sustainability: ONPA Architects

Energy Management and Sustainable Operations:
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