

CONCRETE

Build for life™

MANITOBA HYDRO PLACE 360 Portage Avenue, Winnipeg

Completed: 2009
Height: 22 storeys
Size: 64,590 sq. meter²
Owner: Manitoba Hydro Place
Architect: Kuwabara Payne McKenna Blumberg Architects
LEED Rating: Platinum certification, 2012

BUILT FOR ENERGY EFFICIENCY

A model for bioclimatic design in an extreme climate, Manitoba Hydro Place is one of the most energy efficient large office towers in North America. It was designed to achieve a 60% energy reduction compared to the Model National Energy Code for Buildings (MNECB) — and has bested this objective. Concrete's thermal mass is central to the building's energy efficiency design.



How it works

The thermal mass of the 35,500 metres³ concrete structure is activated by advanced geothermal heating and cooling systems. This combines with an innovative "solar chimney" design to allow the building to coast through outdoor temperature changes.

Exposed radiant concrete ceilings maintain a comfortable indoor temperature year-round, while radiant concrete floor slabs produce additional heating and cooling energy efficiencies, reducing energy demand.

Energy & cost savings

Compared to conventional office towers, Manitoba Hydro Place achieves reductions in energy use of over 70 per cent — from over 300 kW.h per square metre to under 85 kW.h per square metre — resulting in estimated energy savings of over \$500,000 annually.

More Benefits

Fresh air 24/7 — MHP's innovative design also supports 100% fresh air circulation, 24 hours per day, 365 days per year — even in the depth of Manitoba's winter.

"We really wouldn't have been able to achieve this climatically responsive concept and this level of energy efficiency without the thermal mass in concrete. That was absolutely essential."

— MARK PAULS, BUILDING ENERGY MANAGEMENT ENGINEER,
MANITOBA HYDRO PLACE

AWARDS

- RAIC Awards of Excellence — Innovation in Architecture, Honourable Mention, 2011
- SABMag Award, 2010