

# MANITOBA HYDRO PLACE

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Manitoba Hydro Place  
360 Portage Avenue  
Winnipeg, MB R3C 0G8  
Phone: 204 480-5900  
<http://www.hydro.mb.ca>



The building was certified  
LEED® Platinum in 2012.



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Located at 360 Portage Avenue in Winnipeg, Manitoba Hydro Place is Manitoba Hydro's corporate headquarters. It was constructed to meet the corporation's present and future business needs while serving as a model for superior energy-efficient sustainable building design and operation. The largest office building in Winnipeg Manitoba Hydro Place is expected to use 65 percent less energy than a comparable office tower built to current standards.

## Eco•Facts

Eco•Facts written and designed  
by Prairie Architects Inc.

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The following is a summary of the health, performance and environmental **features of the building based on the LEED® (Leadership in Energy and Environmental Design)** criteria:



## Sustainable Sites

Manitoba Hydro Place is built on a **previously developed and remediated site** in a dense downtown location. The site is located **close to over 30 bus routes** in the neighbourhood. **Shower facilities** have been provided for staff to encourage cycling to work. To further encourage alternative transportation, Hydro provided **90% less parking** than required and has a fleet of **11 hybrid vehicles** available for staff to use during work hours. Over half of the site was restored to include adaptive vegetation, which also helped the project **reduce the rate and quantity of stormwater runoff**. The heat island effect was mitigated by implementing a combination of **green roofs and light-coloured, reflective roofing**. Careful thought and planning was put into interior and exterior lighting design so as to **reduce light pollution** into the night sky or adjacent properties.



## Water Efficiency

The building maximizes water efficiency by the use of **aerator faucets, dual flush toilets, and waterless urinals**. These measures contributed to a total **water use reduction of 43%**. The site's greenspaces will be irrigated (via **high efficiency drip irrigation**) with water collected from the tower's cooling coils and some rainwater, meaning **no potable water will be needed for irrigation**. The majority of the plants selected are **native, drought-tolerant species** that will not require irrigation once established.



## Energy & Atmosphere

Elements of the building design were selected to maximize employee productivity and comfort and minimize energy consumption. Hydro achieved an **energy cost savings of 60%** compared to a baseline building designed with the Model National Energy Code for Building's standards. Some energy efficiency features include:

- **Geothermal system**, using 280 wells, taps natural energy stored in the ground to provide building heating and cooling
- Unique solar chimney helps provide **energy-free passive ventilation** by relying on the natural "stack effect" that occurs in high-rise structures
- **Three, six-story winter gardens** on the south side of building help to precondition intake air using solar thermal energy and waterfalls for humidity control
- Automated shading systems
- Advanced T-5 fluorescent lighting fixtures with motion and daylight sensors

To minimize the impact of the building on the depletion of the ozone layer, **all systems are CFC and HCFC free** and the fire suppression system contains **no halons**. Increased energy efficiency reduces environmental impact in relation to energy production and building systems emissions.

Hydro has implemented a **Measurement and Verification Plan** to provide a framework for measuring and verifying the actual energy and water performance of Manitoba Hydro Place for a 2 year period after full occupancy. An advanced, **fully-integrated Building Management System (BMS)** coordinates and controls all systems (ventilation, heating, lighting, solar shades) to ensure the entire structure operates as a single entity, actively responding to changes in the climate, environment and operational requirements.

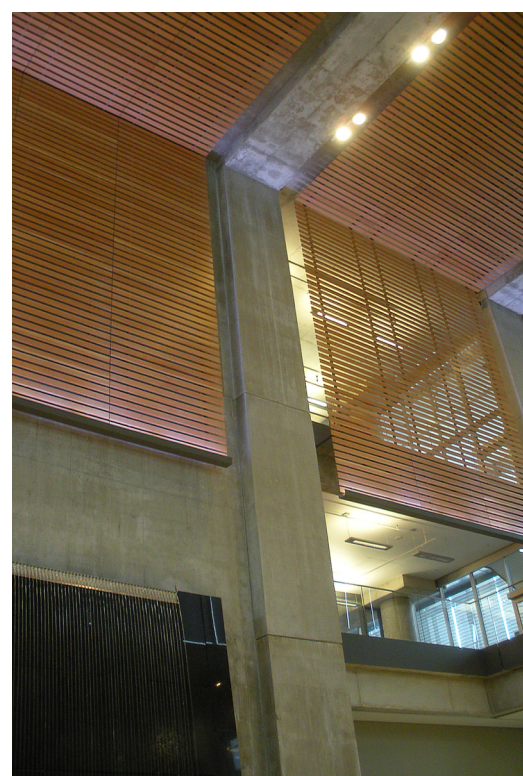
Hydro has committed to purchase **50%** of the project's energy consumption in **renewable power** for a period of two years from a source that meets the Environment Canada Environmental Choice program's EcoLogo requirements.



## Materials & Resources

During construction, **85% of construction waste was recycled or salvaged**, including the deconstruction of the buildings that were existing on the site. Over **23%** of new materials, including carpet, concrete and steel, **contained recycled content** and **33%** of new building materials used were extracted and manufactured **within an 800km radius** of the project site or transported by rail within a 2400km radius.

A **durable building** ensures the selection of durable materials and components, quality control during construction, and increasing the service life of the building.

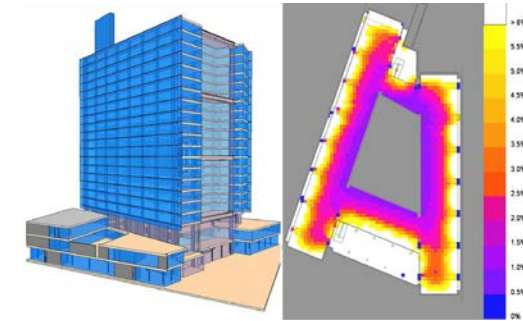


## Innovation & Design

Manitoba Hydro Place has implemented a **Green Housekeeping Policy** for the building. The goal of the Green Housekeeping Policy is to maintain high standards of cleanliness and protect occupants' health while minimizing negative impacts to the environment. This will be achieved, broadly, by ensuring that cleaning products used are certified by either Environmental Choice (Canada) or Green Seal (US), and by performing janitorial duties in accordance with Green Seal's GS-42: the Environmental Standard for Cleaning Services.

Hydro continued its commitment to superior indoor air quality by purchasing all systems furniture that is **Greenguard Indoor Air Quality Certified**. The Greenguard Indoor Air Quality Certification Program gives assurance that products designed for use in office environments and other indoor spaces meet strict chemical emissions limits, which contribute to the creation of healthier interiors.

Hydro is committed to communicating the importance of green building and sharing the lessons they have learned with their staff, clients and members of the community. The **Environmental Education Program** implemented includes weekly tours and a high-quality brochure on the building that is available to members of the public and is commonly distributed at the end of the tours. Digital screens in public areas feature a DVD highlighting the building's energy efficient design and sustainable sub-systems (DVD is also available to public). Finally, the website has a significant amount of information about the building's green features and Hydro staff continue to do presentations about the building to a variety of classrooms and interest groups.



## Indoor Environmental Quality

Manitoba Hydro Place is a **non-smoking building** and has been designed with optimal ventilation that includes a **100% fresh air ventilation system**, to provide excellent indoor air quality for employees and visitors. All carpet, adhesives, sealants, paints, and coatings used in the building were specifically chosen to have **a low level of Volatile Organic Compounds (VOC)**. VOC's can cause irritating effects or health issues for the installers as well as the building occupants. All composite wood used including plywood, MDF, and particleboard contains **no added urea-formaldehyde**.

An **Indoor Air Quality Management Plan** was in effect during construction including measures such as covering openings in ductwork, keeping a clean worksite, and scheduling, to protect the indoor air quality of the building during construction. As part of the plan, **Air Quality Testing** was completed prior to occupancy to ensure acceptable levels of potential air pollutants.

The building was designed so that **75%** of regularly occupied spaces receive natural daylight and **90%** of regularly occupied spaces have access to views directly to the outdoors.

