THE ATRIUM: SETTING A NEW STANDARD FOR ENERGY EFFICIENCY, AND A NEW LOOK FOR VICTORIA

The Atrium is a bit of a departure for the usually conservative Victoria, B.C. With softly curved walls, a soaring central atrium and not a turret in sight, the seven-storey office tower completed in August 2010 is unapologetically modern, definitely urban and very hip.

"It's spectacular, actually," says Fran Hobbis, Manager of Corporate Services for British Columbia Ferry Services Inc., the building's anchor tenant occupying nearly half of the building's 17,400 square metres of Class A office and retail space, "and our employees absolutely love it. It's open, it's bright, there's natural light flooding through everywhere and it just feels like a healthy place to work."

Designed by Victoria-based D'Ambrosio archecture + ubanism and developed and owned by Jawl Investment Corp., the building was intended from the beginning to be a model for green building strategies and leading-edge technologies, particularly for energy efficiency. Working closely with BC Hydro's New Construction Program, the Atrium design team began with an extensive energy modeling study that compared what the Atrium would be like with or without energy-efficient design.

The result—with energy-efficiency measures installed—was an estimated energy savings of about 2.4 million-kilowatt hours a year. Put another way, the modeling proved that the building would use 60 per cent less energy than a comparable office tower built to current building code requirements.

"That makes the Atrium one of the most energy-efficient buildings in North America," says Karen Jawl, Energy Manager and Manager of Operations for Jawl Properties Ltd., which manages the building, "and that's a really important consideration for our tenants. We wanted to attract quality tenants and quality tenants today really do care about energy efficiency. It gave us something very positive to talk about with all of our prospects. The result was an amazingly high level of engagement and excitement about the building before it was built, and fantastic response now that people are actually in it and using it everyday."

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ATRIUM HIGHLIGHTS

Energy-saving measures completed as part of the Atrium with the help of the New Construction Program include:

- R20 wall insulation and R30 roof insulation
- high-quality, double-pane windows with solar glazing
- air source heat pumps for heating and cooling with electric boiler backup
- T5 / LED lighting with photocell and motion control (0.80 W/ft2)
- low-volume displacement VAV air handling with reverse-flow heat recovery
- variable volume fan and pumping systems
- premium-efficiency motors
- advanced DDC control with demand controlled ventilation, peak demand load management and weather prediction routines, as well as real-time energy monitoring.

GREAT ENERGY EFFICIENCY, IMPROVED OCCUPANT COMFORT AND GOOD LOOKS COMBINED

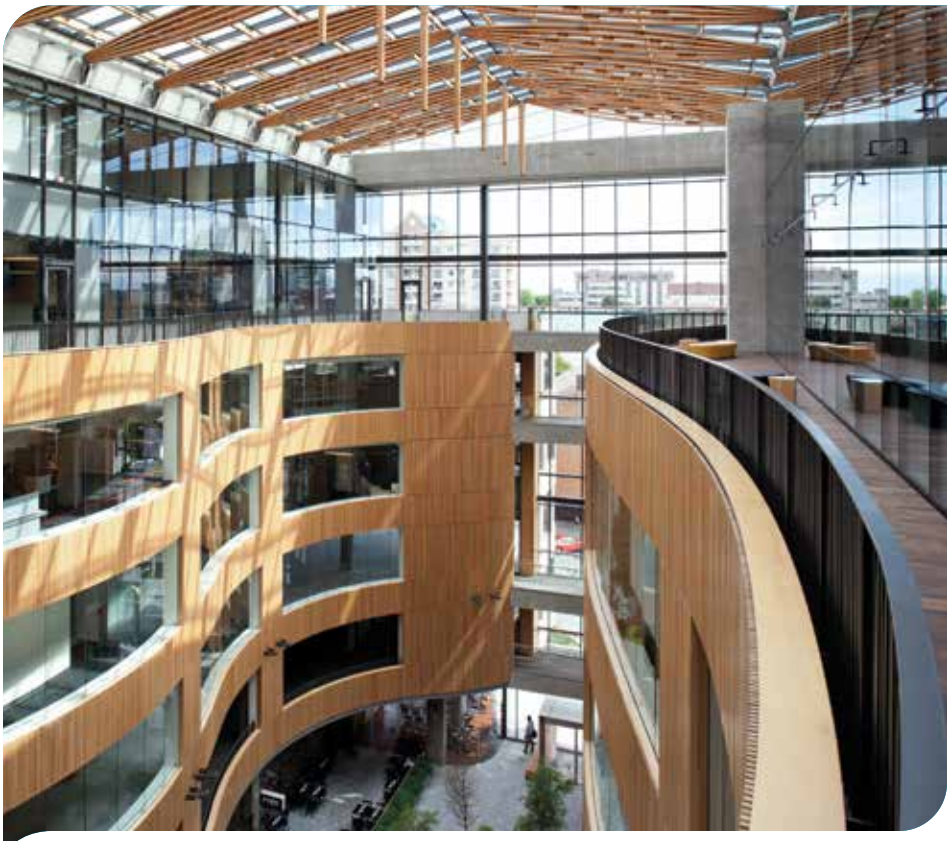
With the energy modeling results in hand, a team from BC Hydro's New Construction Program worked with the Atrium's designers to ensure the leading-edge technology selected not only guaranteed top energy efficiency, but also actually improved occupant comfort and delivered on the architect's vision for a beautiful space.

For example, advanced integrated control systems use real-time intelligence to ensure that lighting, heating, cooling and air delivery operate only when required; all systems automatically turn off or dim down if there is no-one in the space or when there is enough natural light. Small, precise control zones, plus the real-time adjustments, ensure no lag time for workers in receiving light or air and contributing, says Karen Jawl, "to far fewer occupant complaints than in any of our other buildings."

Another state-of-the-art measure very popular with tenants (and the designers) is a displacement ventilation system that distributes fresh air at floor level at a low velocity and moderate temperature. This fresh air rises and is extracted at the ceiling, then drawn into the central atrium, which serves as the return air plenum—reducing the building's ductwork by half, ensuring consistently high indoor air quality, and dramatically reducing heating and cooling loads by about 70 per cent.

Because it's all electric, the Atrium also offers a 90 per cent savings in GHG emissions, and has a carbon footprint of only 3.4 kg of CO_2 per square metre—a particularly important consideration for provincial agencies required to be carbon neutral.

"This building supports our core values for environmental sustainability," says B.C. Ferries' Fran Hobbis, "but even more than that, we just love it and the amenities we've never had before, like windows that open and daylight and bike storage and changing rooms with showers. We expect reduced absenteeism because people are happy to come to work here. We've even heard a rumour that people want to work for BC Ferries because they get to work in the Atrium!"



THREE MORE ATRIUM FACTS

- Projected BEPI (Building Energy Performance Index): less than 10 kWh per square foot.
- Annual carbon production: less than 50 tonnes per year.
- Energy operating costs: just $0.75 per square foot.

THE ATRIUM TEAM

- Owner: Jawl Properties Ltd.
- Architect: D'Ambrosio architecture + urbanism
- Electrical Engineer: Applied Engineering Solutions Ltd.
- Energy Modeler/Mechanical Engineer: GENIVAR formerly Hirschfield Williams Timmins Ltd.
- High Performance Building Consultant: SES Consulting

TO FIND OUT MORE

BC Hydro's New Construction Program provides financial incentives, resources and technical support to help developers of new commercial and multi-residential building projects build-in energy efficiency where it can make the most difference: from the ground up.

To find out more, visit **bchydro.com/construction** or call **1 866 522 4713**.