

# TEACHING THE



## WHEN STUDENTS AT OKANAGAN

College's new Centre of Excellence in Penticton plug their laptops in, they only have to look outside and up to see their energy source.

The solar energy system at Okanagan College's newest building is the largest system developed in Western Canada. SkyFire Energy was the project developer for the 260 kW solar energy system, which is using 1,106 Conergy P solar modules, on the rooftop of the college's newest building on its Penticton campus.

Generating about 292,500 kWh per year, the solar energy system will help the building — the Centre of Excellence in Sustainable Building Technologies and Renewable Energy Conservation — meet the goal of being energy neutral over the course of an annual operating cycle.

With school back in session and students on campus, the college has a three-fold benefit from the system. One, the solar energy system will help the college reach the goal of meeting the Living Building Challenge of net-zero energy and water consumption. In the Okanagan's sunny summer months, the solar energy system will, at times, exceed the building's needs and the energy will be fed into the grid. In the winter, the college will draw from the grid to

# STANDARD

## LARGEST SOLAR ELECTRIC SYSTEM IN WESTERN CANADA COMPLETED

meet campus energy needs. Decreased operating costs in terms of energy consumption are another benefit, but the college will also benefit from educational benefits for students.

The solar photovoltaic system serves multiple purposes. In addition to supplying the building with most, or possibly all, of its annual electricity requirements, the system is also being used as a hands-on teaching tool for the college's trades and technology classes.

**Okanagan College's Director of Facilities Steve Robinson** explains the reason for going solar: "Even as we were planning and building the Centre of Excellence, students and staff were excited by the energy-saving efforts and technologies being employed. Sustainability ranks high among our goals at the college, and the solar energy system on this building is a key component of our efforts.

The Okanagan College is a publicly funded post-secondary institution that offers degree, diploma, certificate and continuing studies courses to more than 20,000 people annually. With more than 1,000 employees, it is an organization that has made sustainability one of its key objectives. It is a leader in sustainability in Western Canada.

The Centre of Excellence in Sustainable Building Technologies and Renewable Energy Conservation has been built and will be operated to achieve the Living Building Challenge, which is among the world's most-demanding guidelines for sustainable construction. Its ambitious targets require net-zero energy and water consumption, as well as several other prerequisites.

The solar system incorporates over 1,100–235 watt solar modules as well as new leading edge inverter technology that utilizes maximum power point tracking (MPPT) at a string level.

"We are very excited to have been involved in this ground breaking installation that now sets the standards for solar power systems in Western Canada" says **David Kelly, an owner of SkyFire Energy**.

The facility itself contains many classes and shops but also goes one step further by integrating the systems and technologies that are being taught. It supports a program mix that has a focus on sustainable building technologies and processes, as well as research and development of alternative and renewable sources of energy.

Prompting the investment decision was the knowledge that the college was demonstrating leadership in incorporating sustainability into the building and curriculum. In fact the Okanagan College Students Union decided to contribute to the college's fundraising efforts around the building in appreciation of the innovation.

**Cory Nelmes, a first-year student and OCSU Financial Co-ordinator**, noted "when you sit down and realize that the



power for the projectors and computers is coming from the sun, and that at times the building will produce more energy than it will use, you appreciate how we can use technology and innovation to address problems."

Apprentice and entry-level electricians being trained by the college will also be able to learn how the system functions, monitor energy production, and see how the system integrates into the rest of the building's infrastructure and with the municipal power grid.

The decision to deploy solar energy at the campus was an easy one for Okanagan College. The climate and rooftop were ideally suited for solar energy.

"A showcase project such as this one provides an excellent reference point for the industry and raises the bar for photovoltaic installations in Canada," said Kelly. "We at SkyFire Energy are excited to have been involved in another school-based educational system as it will allow the current generation of students to learn the benefits of solar first hand. This installation and Okanagan College training will help to grow the solar industry in British Columbia and Western Canada."

"Installations of this size and profile built in Western Canada really showcase the diversity of the Canadian photovoltaic market," said **Jared Donald, President of Conergy Canada**. "The solar potential in Western Canada is exceptional. It will take industry leaders, like SkyFire and the Okanagan College, to ensure that this market grows to meet that potential. We applaud Okanagan College for its environmental leadership and innovative education programs." ●