

# King's Solar Tomorrow offers cutting edge technology

By Mark Pavilons

It's the way of the future and the future is now.

The technology is proven, and a King resident is on the cutting edge of solar thermal green energy.

John Swift has spent the last six years, and his own resources, developing his company, Solar Tomorrow and its products. The key is that Swift has one of the best technologies in the world and he's looking for Canadian projects to showcase his methods and add value to the community. In the end, Solar Tomorrow's technology will benefit us all and lessen our reliance on fossil fuels.

But therein lies the unique hurdle in green technology – our reliance on gas and oil and the powerful multinational conglomerates – somewhat stymie our progress. The fact is, Canada and Ontario are way behind their counterparts in the United States and Europe when it comes to alternative energy practices.

Solar thermal energy, Swift contends, should be mandatory in any building design. In fact, European countries like Germany are requiring new commercial construction to incorporate solar electrical or solar thermal technology. German solar power set a world solar record for electricity produced from solar PV systems recently. That country boasts roughly 1.4 million PV systems.

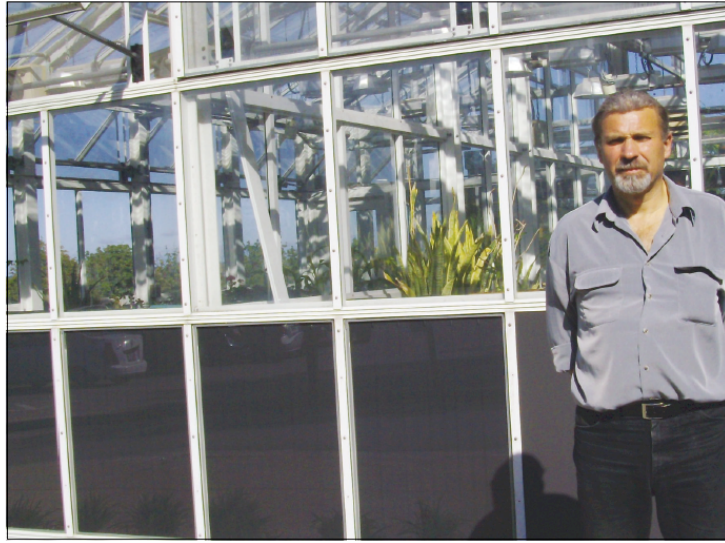
Solar Tomorrow's SRCC (Solar Rating & Certification Corporation) certification for its proprietary flat-plate glazed solar thermal collectors is the first of its kind in North America.

And it's so simple, it's almost a no-brainer. Solar Tomorrow's wall integrated or roof-mounted collectors achieve an efficiency of 80% (87% according to European standard EN 12975), thanks to an innovative design that improves heat transfer and flow characteristics.

Swift has come up with integrated solar panels within standard-sized glass spandrel panels – the kind used on almost every high rise, office tower or hotel. These collectors can be retrofitted into existing curtain wall structures without structural changes to the building and provide additional thermal and acoustic insulation. Replace standard window walls with his unique products and you can expect efficient heating, cooling and hot water sustainability almost immediately.

A mix of water and food grade glycol is pumped through the special glass panels and it's surprisingly easy to marry with existing heating/cooling systems, or install from scratch.

His products do not stick out in the landscape, but rather Solar Tomorrow's panels are attractive, light-weight, use common materials and blend in to any building's exterior or interior aesthetics.



John Swift, of Solar Tomorrow, shows off the ground-level solar thermal panels at the research greenhouse (above) and the rooftop panels at Chatham University in Pittsburgh (below).

Photos courtesy of Solar Tomorrow

"You can go to any office building, commercial or industrial unit in Toronto and swap the windows," he said. "This design is what we need to provide in this market."

While rooftop PV units are becoming increasingly popular, Swift points to the massive glass and brick facades of most buildings as the obvious surface for solar thermal collectors. Further, studies show the majority of any building's energy needs are not electrical, but related to heating and cooling.

Swift and Solar Tomorrow have enjoyed repeated success south of the border.

Solar Tomorrow partnered with Chatham University in Pittsburgh, Pennsylvania to install building-integrated solar thermal collectors on Chatham's research greenhouse and roof-mounted collectors on the two highest-occupancy residence halls.

Solar Tomorrow's installation at Chatham's Shadyside campus in Pittsburgh is listed by the U.S. Department of Energy as the largest solar thermal project in Pennsylvania.

In October 2010, Solar Tomorrow completed the installation of solar collectors on Chatham's research greenhouse. The greenhouse solar thermal system was built primarily as a demonstration project, as well as to supplement space heating for the greenhouse and to collect performance data.

The collectors resemble a curtain-wall structure widely used in contemporary construction. As such, the collectors demon-

strate their possible use for two distinct purposes: collecting thermal energy and providing building facade cladding.

The collectors are installed at the ground level to showcase the installation and system elements to students and visitors. Plaques describe the basics of the technology and provide information about the project, and a computer display next to the collectors shows live system data.

The school has been lauded for its innovation and receives regular visitors who want to get a first-hand glimpse into this technology. Chatham University is very pleased with the solar thermal projects and achieved results. Solar Tomorrow has just fabricated another shipment of collectors for another building at the campus.

Through these projects, Swift has collected some three years worth of data, literally second by second. This research is invaluable.

Swift also received support from Robert Boehm, Ph.D., P.E., professor of mechanical engineering and director of energy research center, University of Nevada, where Solar Tomorrow's innovative collectors were first tested in 2009.

While Swift is pleased with the response

in the U.S., he wonders why his home province isn't as eager:

"Why aren't we using this free energy here?" he asks.

The desire and momentum may be there to pursue green energy, but the fact is Ontario is lagging behind.

Swift said he's often asked about the return on investment (ROI) on solar thermal. He's quick to ask about the ROI on luxury automobiles or even marble countertops for our kitchens.

The government is still subsidizing gas and oil production, and while the political will is there to pursue green, he wishes the government would put its money where its mouth is.

He needs a project to showcase and prove his technology. He's not looking for grants or handouts. He wants projects to create value and grow his company.

He's already offered his expertise and products to King Township. It would be ideal for future municipal office at the former Holy Name school site on King Road just west of King City. If this system were incorporated in this building's eventual redesign, it would serve as a landmark, a centerpiece of green technology that would be the envy of every municipality in the GTA.

The applications are seemingly endless – community centres, arenas, schools, condo buildings, commercial complexes, agricultural building and houses and even powering industrial processes.

Swift points to a massive, government-support project – the Drake Landing Solar Community (DLSC) in Okotoks, Alberta. It has successfully integrated Canadian energy efficient technologies with a renewable, unlimited solar energy. The first of its kind in North America, DLSC is heated by a district system designed to store abundant solar energy underground during the summer months and distribute the energy to each home for space heating needs during winter months. The system is unprecedented in North America, fulfilling 90% of each home's space heating requirements from solar energy and resulting in less dependency on limited fossil fuels.

A similar operation can be built anywhere in Canada using much more efficient collectors manufactured by Solar Tomorrow, Swift points out.

King Township has a passion for sustainability and being a "green" role model.

Solar Tomorrow is ready to help.

For more, visit [www.solartomorrow.com](http://www.solartomorrow.com), or contact Swift at 905-833-7032 or [john\\_swift@solartomorrow.com](mailto:john_swift@solartomorrow.com).

