

## **WestSource Solutions Using Summer Heat to Preserve and Warm Winter Roads**

Winter weather in Saskatchewan can be harsh and can create hazardous driving conditions. One innovative Saskatchewan company, WestSource Solutions Inc., hopes to improve the poor driving conditions of the cold season by bringing the heat of the summer to the roads in the winter.

WestSource Solutions, whose mission is to develop technologies for environmental sustainability, is researching self-sustaining snow and ice control for bridges, roadways, and intersections. Through the research project, the company aims to store solar thermal energy that collects in roadways during the summer. The stored energy will then be used to melt the snow and ice that accumulates on the same roadways during the winter. A “green” technology, it will not require the use of fossil fuels.

Kim Korchinski, a director and officer of WestSource Solutions, explains that self-sustaining snow and ice control is a technology that not only creates safe driving conditions, but also protects the roadways. The sustainable infrastructure technology will preserve roadways from the damage that occurs due to harsh winter weather.

“Self-sustaining snow and ice control will help to increase the life span of roadways by reducing the amount of frost thaw cycles. As well, the thermal heat will reduce the need to add chemicals to melt the snow and ice, which reduces the life of a roadway,” explains Korchinski, who will graduate with a degree in engineering from the University of Regina this spring.

The first stages of WestSource Solution’s project have been successful and include the construction of a 10 meter tower at Innovation Place in Regina. “We successfully designed and built a testing facility that can quickly and accurately determine the ability of a roadway surface to collect thermal energy,” says Korchinski.

Currently, the project is in the stage of data collection, which will continue throughout the summer. Next winter, the data will be put into action with the testing of the technology.

WestSource Solutions plans to use the research from the project as a foundation to design a high performing and economical snow and ice control system. In the future, the technology may be used to replace water storage tanks and boiler systems.

To accomplish the project, WestSource Solutions has received support from several partners, including SpringBoard West Innovations and Communities of Tomorrow (CT). CT provided funding for the project as well as other services to the advancing company. “CT gave us guidance about how we should approach the funding process and also provided us with mentoring, when needed,” says Korchinski.

In addition to working on the project as a partner of WestSource Solutions, Korchinski has been able to carry out the research as part of his fourth year design project for his engineering degree. He has been involved in the design and construction of the project, as well as the initial analysis.