

# Innovative green projects in Pennsylvania

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## The green roof

According to the US Environmental Protection Agency, researchers have estimated that three to five inches of soil, spread to form a green roof, will absorb 75% of rain events that are half an inch or less.

Fondriest Environmental, a long time Vaisala Integrator, recently selected the Vaisala Weather Transmitter WXT520 to monitor environmental conditions for one such green roof project. For this particular project, Fondriest supplied Vaisala sensor integration to CCI, a leader in green roof technology.

## What is a green roof?

The green roof was built on top of the CCI demonstration center in Pittsburgh, PA. A green roof is a simple solution that provides a wealth of environmental benefits. It

consists of a building that is covered with vegetation, soil, or a growing medium that is planted over a waterproofing membrane. The popularity of green roofs continues to grow as organizations realize the benefits of implementation. These benefits are ecological (eco-friendly), economic (cost-saving), aesthetic (visual appeal) and psychological (enhanced quality of life).

The CCI roof consists of a 4-inch layer of fully vegetated green roof with a public walkway consisting of recycled pavers, a solar panel between the skylights for a domestic hot water, solar-powered system, a rain barrel to capture storm water runoff from the third floor roof for irrigation use, and real-time weather monitoring equipment with computer kiosks for the public to view the data.

This green roof was part of 28 innovative green projects throughout

Pennsylvania funded by a State Department of Environmental Protection grant. The total project took about 15 months of planning and designing to complete.

The Fondriest monitoring system consisted of a Vaisala WXT520 multi-parameter weather sensor, along with soil moisture and water level sensors. Improving on the popular WXT510 weather sensor, the WXT520 simultaneously measures wind speed and direction, liquid precipitation, air temperature, relative humidity and barometric pressure. The weather data, along with soil moisture and water level data, is collected and transmitted via NexSens data loggers to the nearby computer kiosk.

## Replacing four sensors with just one

“The green roof consultant for the CCI project wanted high-accuracy, low-maintenance weather instruments. When I explained that the WXT520 could measure the full suite of weather parameters – all on a single instrument with no moving parts – she was immediately intrigued. The Vaisala multi-parameter weather sensor does the work that previously required four individual sensors,” says Paul Nieberding, an Application Engineer at Fondriest.

## Further information:

[www.vaisala.com/wxt520](http://www.vaisala.com/wxt520)