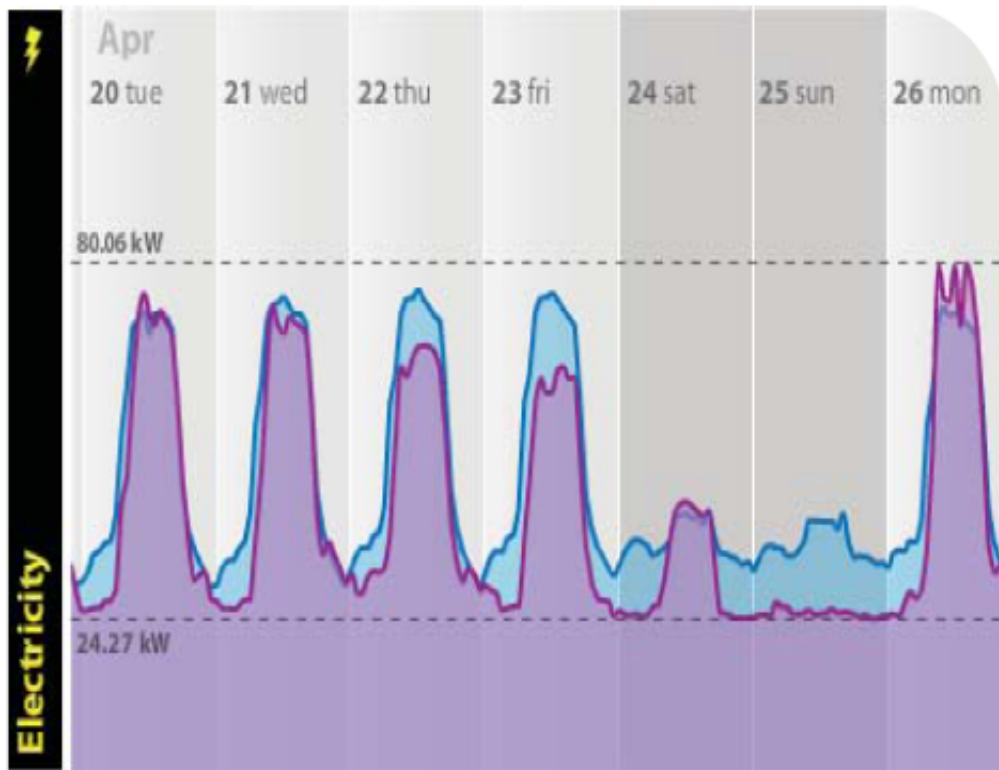


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## Pulse Energy

### Energy Management Provider Taps Cellular for Rapidly Deployable Solution in Problem Areas

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Pulse Energy was founded in 2006 to dramatically improve the energy efficiency of existing buildings. The company's integrated hardware/software product collects, analyzes and communicates real-time energy intelligence for building operators and management, providing savings of 5-25% from improved operating efficiency. Pulse's energy management software has been recognized by the UC Berkeley Center for the Built Environment as one of the top three products in the energy visualization market and was used to monitor energy usage of venues during the Vancouver 2010 Winter Olympics.

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## **BUSINESS CHALLENGE**

Based in Vancouver, BC, Pulse Energy's efficiency monitoring solution is used in environments such as corporations, post-secondary facilities, universities and government buildings. In addition, the company works with many First Nations communities, often located off the grid, to develop demand response measurements resulting in savings on annual energy costs.

Pulse Energy is often required to deploy in locations where there is no access to either their customer's local area network or a direct line to the internet. The process of installing a wired connection to the internet can be tedious and to overcome some of the challenges presented by wired connectivity. Pulse Energy began using data loggers with built-in cellular modems. However, the consistency for a reliable connection greatly varied.

With the reliable connection provided by the Sierra Wireless wireless gateways we seldom have to send Pulse Energy technicians to customer sites to troubleshoot connectivity issues, explained Graham Cunliffe, a systems engineer at Pulse Energy.

## **SIERRA WIRELESS AIRLINK® SOLUTION**

Pulse Energy began searching for a reliable wireless solution and was introduced to the Sierra Wireless AirLink® gateways by one of their existing customers who had deployed the Pulse Energy solution as part of their own continuous optimization program for commercial buildings. Pulse Energy tested the devices internally, and after deploying to a number of pilot sites, determined that the AirLink intelligent gateways provided the best wireless solution for their needs.

The devices are very easy to work with and require a minimal amount of time to both configure and deploy, said Cunliffe. It is very important for us to have a hardware solution that we can deploy with minimal effort.

We use the AirLink gateways to connect to the Internet in locations where wired connectivity is not an option, continued Cunliffe. The AirLink gateway is integrated with the data logger solution connected to facility meters in order to provide monitoring and connectivity for real-time data transfer back to Pulse Energy.

Pulse Energy tapped Sierra Wireless partner Apex Wireless to acquire its AirLink solution, as well as to provide technical support. Cunliffe praised Quentin Mellon and the Apex Wireless team as being amazing to work with. Pulse Energy also utilizes AirLink management software to configure the gateways and to test ongoing connectivity strength.

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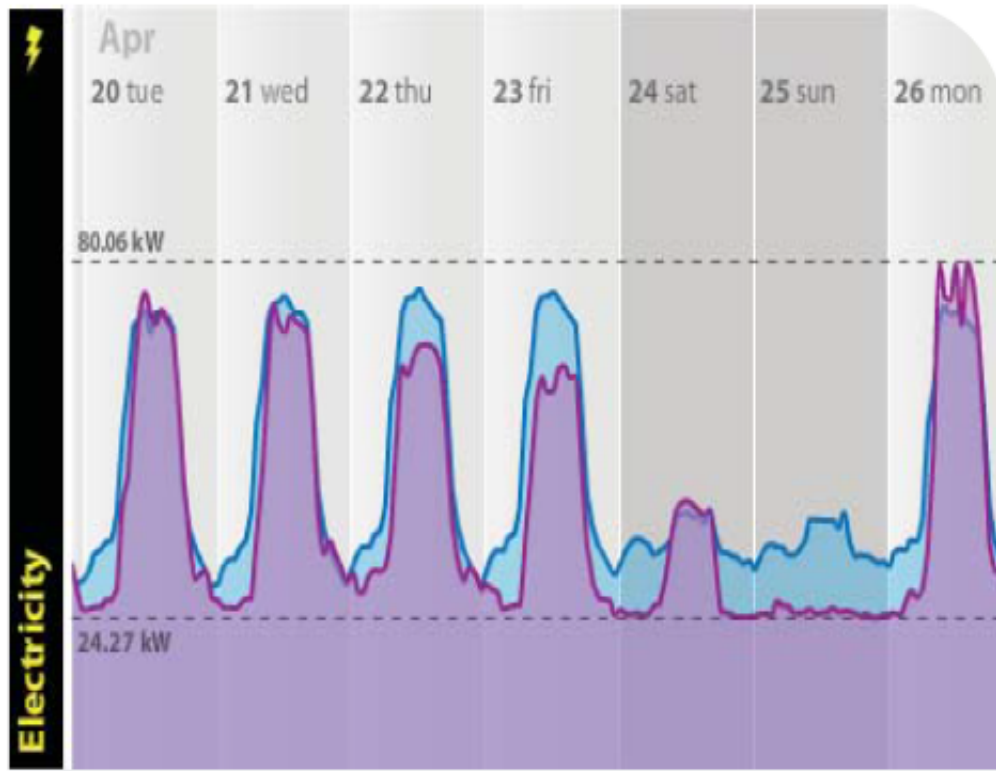
Pulse Energy began working with the Vancouver office of Cadillac Fairview Corp. Ltd., a commercial property manager with 11 buildings in the Vancouver area. With the Pulse Energy solution, Cadillac Fairview has been able to retrocommission the buildings in its portfolio in order to identify and implement low-cost operational and maintenance changes to reduce energy use and produce cost savings.

“The Pulse front-end provides three modes of presentation, so we can roll out the program to all of our key stakeholders – building operators, executives and tenants,” explained Alison Kirk-Owen, energy management specialist at Cadillac Fairview.

By using AirLink gateways, Pulse is able to provide real-time energy data for an entire building, allowing building managers to monitor consumption, executives to analyze patterns and develop trending and tenants to view usage and adopt habits that support energy conservation.

“We are currently developing a dashboard for tenants that present energy consumption data in a visually appealing way,” explained Kirk-Owen. “Cadillac Fairview encourages conservation behavior changes, and we want to show tenants the impact they can make.”

Cadillac Fairview’s Vancouver-based office has been involved in a continuous commissioning program for about nine months and is currently transitioning from its benchmarking to implementation phase where, according to Kirk-Owen, “we will implement the measures required to start seeing valuable energy and monetary savings.” She also noted that Cadillac Fairview’s western operations has presented the Pulse Energy / Sierra Wireless solution to a larger company audience and has proposed considering adoption of the energy management solution as a standard across the larger entity’s entire portfolio.



## RESULTS

Pulse Energy has currently deployed AirLink gateways at roughly 20 sites and plans to continue installing the devices at an increasing rate.

“Using the AirLink gateways decreases our deployment time and the amount of on-site hardware support we have to provide,” concluded Cunliffe.

Pulse Energy recently released a free, lightweight version of its monitoring software, as well as a new information dashboard that, according to Ashley Kerrin the marketing communications group at Pulse Energy, “has been getting great reviews.” “When building tenants are aware of their energy performance, and the impact they make, they’re inclined to make small energy saving changes. In turn, companies can measure the resulting cost savings.”

“We have a large client base that has started to crave energy information,” continued Kerr. “Because our software allows organizations to view the data across their entire portfolio, benchmarking is becoming popular, to lower overall operation costs.”

Seen as a value added differentiator, benchmarking is one of the features pushing Pulse Energy to expand to new markets. The cellular solution enabled by the AirLink gateways will certainly be a part of this geographic expansion, as it will allow Pulse to easily deploy in new markets, where Airlink devices are already being deployed.

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“The AirLink gateways not only solved a huge problem we were having by cutting through red tape and greatly reducing implementation time, but the reliability of their wireless connectivity has made us think about new ways to deliver our energy visualization services,” said David Helliwell, president & co-founder of Pulse Energy.

The Sierra Wireless gateways have provided Pulse Energy with the following benefits:

- **Time savings:** Easy setup and configuration provided by AirLink device management software, as well as the quick deployment inherent in wireless solutions, allows for minimal solution deployment time.
- **Reliable connectivity:** On and always-aware connectivity required for critical fixed and mobile data applications.
- **Ease-of-use:** Quick and easy configuration and automatic system connection that facilitates seamless installation integration and deployment.
- **Remote monitoring:** Gateways include high-level functionality such as remote configuration and device maintenance, packet-level diagnostics and dependable network session persistence.
- **Portability:** Utilization of wireless cellular connectivity fulfills potential need to move and re-use.

## **APPLICATION: ENERGY MANAGEMENT**

### **CUSTOMER CRITICAL CHALLENGE:**

- Remote data transmission for energy efficiency monitoring, benchmarking and analysis
- Required strong, persistent wireless connectivity in both indoor and outdoor locations

### **SOLUTION:**

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- AirLink® gateways provide reliable cellular communications with reduced deployment time and on-site support requirements

## **BENEFITS:**

- Uninterrupted connectivity for continuous access to energy usage data
- Reduced time and travel for onsite device troubleshooting
- Quick and easy setup and deployment
- Portability for re-use in new customer facilities