

“People do not have to be pushed into sustainability, rather they just need convenient access to reliable utilities information that allows them to improve efficiency”

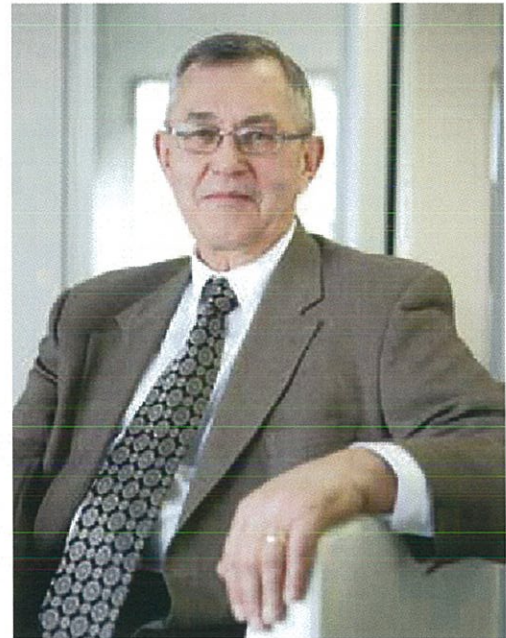
Rick Williams,
president, CARMA Industries

The world we live in is organized to help each of us control our costs. Everywhere we look, the information we need to make efficient decisions that affect the sustainability of our environment is readily available. Transportation costs are impacted largely by vehicle fuel efficiency ratings, and gas pump prices. Vehicle efficiency information serves as an example of the information that is continually available to each of us to responsibly impact environmental sustainability.

Monthly utility billing and collection serves to reduce utilities consumption. The entire local utility industry has relied on end-user judgment to upgrade to energy efficient appliances. Utility providers are making individual consumer information readily available through easy to access web portals. Information is now readily available to allow consumers to view the impact of a new refrigerator or compact fluorescent lights they purchased. Sustainability information is evolving and improving.

Commercial, multi-residential and educational buildings that have purchased sophisticated automated control technology need to have utilities monitoring and validation information made readily available. Property, facility and operations managers do not have the time to analyze reams of utilities data. By contrast, they need tools to inform them when above normal usage has been experienced. The tools need to be available to all stakeholders and updated in real-time.

In 2006, GWL Realty Advisors Inc. installed CARMA Tenant Submetering Systems in four commercial office properties in Markham, Ont. The manager of



sustainability at GWL challenged CARMA to confirm how a Tenant Electricity Submetering System could pay for itself within three years or less. Carma received approval to schedule utilities midnight audit in two of the commercial office properties. The actual savings documented during the utilities midnight audits amounted to 17 per cent of total annual electricity consumption. The resulting savings confirmed a payback on the tenant submetering system of less than one year. Since that time, CARMA has completed utilities midnight audits in 12 million square feet of commercial office properties.

Average annual electricity savings of 10 per cent to 11 per cent of total annual electricity consumption have been documented within full tenant space midnight audits. Average annual electricity

savings of 5 per cent to 6 per cent of total annual electricity consumption have been documented for lighting audits within tenant space alone. In all cases the utilities midnight audit coupled with the installation of a CARMA submetering system supports a payback within two to three years, on average.

The real sustainability value is derived through the midnight audit process coupled with the ongoing alert/alarm notification provided through the CARMA submetering system.

“When we constructed our new facility in Lindsay, Ont., three years ago, we were confronted with the same new development compromises that all developers face,” said Rick Williams, president of CARMA Industries.

“The understanding that we needed information about our utilities use was automatic for us, and led to the installation of check meters and submeters for all office lighting, rooftop units, factory equipment and outdoor lighting.”

The information was accessible through an easy to use web portal that allowed complex heating and cooling deficiencies to be identified and corrected within the new construction warranty period.

“A portion of CARMA’s new facility was set aside as an area we call Building Sciences. Two years after occupying the building, we rely heavily on our Building Sciences Group to make sure submetering data, produced by 35,000 customer submeters, is complete and accurate, before the data can be transferred into useable utilities information,” Williams said.

Incomplete data becomes inaccurate information with results that cannot be trusted. For full stakeholder buy-in, the information has to be a reliable guide in managing and improving upon property sustainability goals.

The creation of CARMA’s Building Sciences Group was driven by customer requests. Although massive quantities of utilities data are often collected, the data needs to be turned into useful information. Beyond making the information easy to access, customers asked, could the information become self-diagnostic? With all of the ongoing responsibilities born by building operators, managers and

school custodians, utilities sustainability has to become integral to daily activities, and available with automated exception reporting.

The Building Sciences Group features a software development team that continually adds functionality to the utilities information portal. The alert/ alarm software application offers automated alerts when excess utilities consumption occurs, documents the event and records the corrective action taken as part of the building’s electronic history record. Information can be organized, including units of utilities, equivalent kilowatt hours and carbon equivalents for building staff, regional managers and corporate directors. It all begins with accurate data and reliable information for on-site building operations staff.

CARMA has worked with many environmentally concerned organizations that stand out among their peers. Many major property owners and managers, school boards and government/facility management specialists are at differing stages of implementing utilities information collection and reporting systems across Canada.

“Major tenants in commercial properties like Telus and The Toronto-Dominion Bank are un-acknowledged leaders in our view,” said Williams.

CARMA’s attention to utilities submeters accuracy and customer driven software development has been recognized by property owners across Canada. Recent projects include the Vancouver Convention Centre and Canada Place in Vancouver, The Bow and Eighth Avenue Place in Calgary, Scarborough Town Centre and 18 York Street in Toronto, as well as 180 Kent Street and 395 Terminal Avenue in Ottawa.

Recently, a national owner of high profile commercial office and retail shopping centres has selected CARMA to launch an enterprise energy monitoring system across Canada.

“People do not have to be pushed into sustainability, rather they just need convenient access to reliable utilities information that allows them to improve efficiency,” said Williams. “The foundation is a corporate will to address sustainability and integrate utilities information into building operators’ daily activities.”

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