

Sustainability = Profitability

An Ontario company finds that green design is much more than mere P.R.

BY ALLAN JANSSEN

SHORTLY AFTER OPERATIONS BEGAN at a Steelcare facility (part of the CareGo Group of companies) in Hamilton, Ont., the gas company called to say the meter must be broken. They said the building, known internally as 'Plant 19,' had to be using more energy than their records indicated. It was yet another validation of the building's unique design – one which reduces energy consumption, increases water efficiency, strictly controls air quality, and maintains optimum temperature and humidity levels.

Bob Edwards, general manager of GreenAge Design (part of the CareGo group of companies), was happy to explain that there was nothing wrong with the meter. Plant 19's low energy consumption was a factor of the green initiatives that have become part of the company's stock and trade.

"From a design point of view, our goal in using

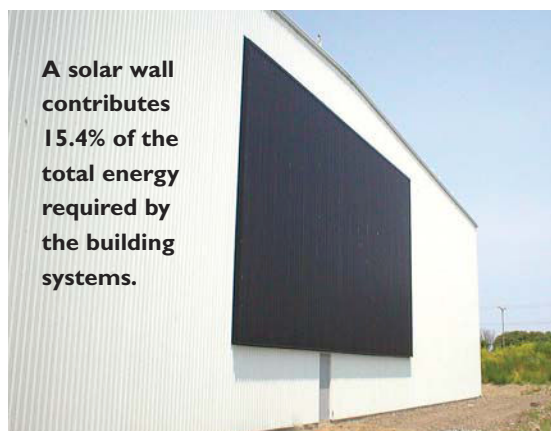
green technologies is to drive down operating costs," he says. "That's what we do."

The company's roots are in the steel industry but it has become known for its industry-leading approach to sustainability in the supply chain. From the beginning, it was acknowledged that 'green' had to be more than simply politically correct. It had to be economically viable.

Regulating temperature and humidity was critical because the steel they dealt with was a work in progress and it could not be touched by oxidation or rust. The modifications they made to their initial storage facility involved brand new technology.

"Back in 2000, this was state-of-the-art in terms of temperature and humidity control, with 24 sensors monitoring the facility at all times," says Edwards. "Steel must be kept at 20 degrees Celsius above the dew point, which means you have to heat the building. Living in Canada, that's expensive, especially when you have big doors opening and closing all the time. We knew that if we could do that in a cost-effective manner, we'd have a competitive advantage. So 'green' came very quickly into our discussions."

"If we had built this building in the usual way, energy costs would have been absolutely mindboggling," says Walter Krancevic, CareGo's vice president of sales and marketing. "Bob and his group were able to create a system that managed heat in zones to more precisely control this 20-degree requirement. Without controls, parts of the building would have been heated to 30 degrees above the dew point, which wastes lots of money."



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A CO2 system samples indoor air and determines when carbon dioxide levels are high, indicating there are more people in the room. It then automatically supplies more fresh outdoor air through the ventilation system. When CO2 levels are low, less outdoor air is used, allowing for optimal mix of air to the space and reducing heating and cooling costs.



As the company grew, it routinely developed and employed more green initiatives.

The success – both commercial and critical – were hard to ignore. In 2006, Plant 19, the company’s fully automated storage building in East Hamilton, was the first industrial facility in Canada to receive gold certification from the LEED (Leadership in Energy and Environmental Design) Green Building Rating System.

Energy efficient lighting was used indoors with motion-detection switches to automatically turn off when they weren’t needed. Outside, identification signage was illuminated using LED lighting.

Insulation throughout was upgraded to R30 in roofs, and R20 in walls. Heat recovery ventilators were installed. A solar wall was incorporated into the design of the building, and it now contributes 15.4% of the total energy required by the building systems.

Wastewater management included waterless urinals and a rain-harvest cistern for non-potable usage. The efforts have reduced the plant’s reliance on city water by 56%.

The green elements extend to the site itself, with erosion and sedimentation control features, and a storm-water man-

agement plan that moderates the flow of run-off water into Hamilton Harbour.

The innovations go on and on. The operational energy savings in the first five years alone were calculated at \$529,000. In fact, Plant 19 is 56% more energy efficient than the national building model –

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a standard that most industrial buildings don’t come near.

“We could have built our facilities the normal way,” says Krancevic. “We still would have gotten the business. But we wanted our customers to be with us long-term. The way we figured we could do

that was by building a facility that nobody else could beat.”

And as the company learns new ways to save money, it shares the financial benefits with customers.

“This gain-sharing builds long-term loyalty,” says Edwards. “Our customers are bound to us because they know they’re getting a return on the relationship. We invest in R&D and continue to pull value out of the supply chain, and that reduces the cost to our customers.”

He admits that he sometimes has to fight hard to get acceptance for new technologies that add cost to a building project or business operation.

“We have to overcome objections to alternative technologies, but we do that by working out the return on investment.”

For example, there was some objection to a heat recovery ventilation system for one of their facilities.

“Many people thought it was an unnecessary expense but I patiently insisted that this was a very real innovation in reducing operating cost and we did get it installed and it has proven to be quite an asset,” says Edwards. “The same thing goes for a solar thermal ventilation system at Plant 19. It was proven technol-

ogy, but it had not been used in an industrial setting before, so again there was resistance. But the payback of the capital cost premium for all the green innovations – which was 3% of the total project cost – was only 14 months. So I guess the proof is in the pudding.”

“We don’t spend a lot of time talking to our customers about the feel-good stuff, the kind of P.R. stuff,” says Krancevic. “We talk about real savings. If you do this, this is what you’ll get. And we stand by that.”

Demetrius Tsafaridis, president of CareGo Holdings Inc., says green is the business model of the future.

“We face the same costs everyone faces in the industry,” he says. “Where we have an advantage over other supply chain companies is we can go in and change the operating cost within the flow. We have people who can look at height, lighting, heating, door management... all of these things, and immediately drive costs out. And if we’re involved in the design of the building from scratch, the impact is even greater.”

He says the gain-sharing program they’ve developed, where operating sav-



From left, CareGo’s Bob Edwards, Demetrius Tsafaridis, and Walter Krancevic.

ings are passed on to the customer is often viewed as a new way of doing things, but it really isn’t.

“The customer-supplier trust has to be redeveloped,” he says. “It’s been broken over the last few years. This whole process of beating down your supplier, open bids, e-bidding... you lose relationships, you lose face-to-face contact, you lose trust.”

He says building a brand new warehouse is not always necessary. A lot of savings can be captured just by improving existing processes and behavior.

Edwards, who runs the sustainability arm of the company, has visions of maxi-

mizing the potential he sees all around him. In fact, lately he’s been talking about erecting bicycle rims on the roof to see what kind of wind power can be generated.

“There are lots of things still to be done. The list of technology out there that has potential to generate energy is really long,” he says.

For him, a zero-energy building is the holy grail of sustainability.

“I’ve been given a two-year challenge to come up with a model,” he smiles. “That will be my challenge. And I’m sure it can be done.”

He’ll just keep plugging away at it, not because of lofty principles, but because it makes practical sense, both financially and ecologically.

“Quite a few companies in the logistics field have a green corporate policy and are concerned about their green profile,” he says. “You can say we can do this for the LEED accreditation, for the prestige, for the green image, let’s market it, let’s advertise it, let’s promote ourselves using it... but in the final analysis, the whole point is you’re going to save money on this. You’re going to save a lot of money.” ■

New pallet solves transport issue

CareGo recently hit the news with an innovation that combines two of its key areas of expertise: heavy commodities and transportation efficiencies.

Its engineers developed a modified pallet that fits in standard containers, allowing them to be used to transport heavy steel coils or any commodity of large concentrated mass, like imported granite and stone.

Until now, steel companies moving 20,000-pound coils, were extremely restricted in their transportation options.

They could use boxcars, which have limited schedules and long travel times (15 days to get from Hamilton, Ont., to Winnipeg). Or they could use flatbed trucks, an extremely expensive option. Or they could use intermodal carriers – but never loaded to capacity since the coils could not be completely restrained.

“Our challenge was to try to overcome the physical obstacles of material handling and satisfy the requirements of the railway for distributing a concentrated load over a surface area,” says Bob Edwards, general manager of CareGo’s GreenAge Design engineering division. “Our experience with steel handling was merged with intermodal aspect of our business to create a new service.”

The weight-distribution pallet was born. Designed specifically for use in intermodal containers, it distributes the weight more evenly in the container and restrains products in such a way that rail companies no longer had to fear that an entire rail car could tip if they shift.

“Now we’re packing heavier coils and better meeting the container capacity. We’re going to full capacity or reasonably full capacity, and we’re loading heavier commodities,” says Edwards. “Intermodal trains leave every day and travel faster. A four-day service is a huge improvement over boxcar that dramatically aids in inventory management.”

Not only that, but the diversion of product from road to lower GHG-emitting rail assists the company in its goal to be more environmentally responsible.

Further efficiencies are created by addressing a significant trade deficit in terms of east-to-west movement within Canada.

“We’re using containers that would otherwise have gone back empty on the westbound run,” he says.

The company saves money in life cycle costs as well. The pallets, which remain the property of CareGo, are returned to the company to be used again.