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Do you know an individual or a sector organization that has worked extra hard to promote voluntary GHG emissions reductions? Please fill out the on-line nomination form at www.vcr-mvr.ca/leadershipawards.cfm

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Progress Reports Prove Utility Savings

Regular progress reports on greenhouse gas reductions prove VCR registrants profit from energy efficiency investments, but irregular reporting may be a sign of lost earnings.

Three quarters of VCR Inc.'s 874 registrants submit periodic progress reports, describing steps taken to attain goals declared in their initial action plans. Of these registrants, more than a third have demonstrated an elevated commitment to reporting by earning champion-level status, rewarded with a gold, silver or bronze designation.

Despite the glass being three-quarters full, leaving ample room for optimism, VCR is making an effort to encourage all registrants to report on an annual or biannual basis. Registry analyst Brian Rawson, who is involved in this effort, stresses the absence of a progress report doesn't necessarily mean an organization isn't following through with its action plan.

"Currently we encourage reporting by contacting registrants and doing a soft sell," says Rawson. "We tell them we'd like to see them putting their best practices online and sharing them with others in the country and around the world. If they take the time to do that, we'll take the time to put it on our web site."

Something more than the opportunity to share learning experiences may be lost, however, for the individual organizations not regularly reporting. Derrick Finn is president of Toronto-based Finn Projects, an energy management consulting firm that, in addition to having commercial, industrial and institutional clients, conducts workshops on behalf of Natural

Resources Canada. He believes irregular VCR reporting is an indication of irregular energy monitoring.

Finn Projects' clients are primarily motivated by the ambition to save money on utility bills through energy conservation measures, and they are always encouraged to report the associated GHG reduction to VCR. The benefits of reporting, says Finn, are the establishment of an emissions baseline and the documentation of potential GHG reduction credits, which may have value in a future trading system. Correspondingly, most VCR action plans are written in connection with an

investment in an energy conservation system. In all cases, the return on this investment is dependent on the effectiveness of the newly installed system.

"If you put in a new boiler, unless you monitor it to make sure things don't go wrong you can very quickly lose all those savings."

-Derrick Finn

"If you put in a new boiler, unless you monitor it to make sure things don't go wrong, you can very quickly lose all those savings. Monitoring is the key," says Finn.

Once an organization implements ongoing energy monitoring and management, he says, the information required for a VCR report is very easily accessed, and both internal and external progress reports should be written at least once a year. He also says numerous case studies prove tracking and management of energy, even before an investment in technological upgrades, leads to an average five per cent reduction in utility costs.

"We've seen anything from five to 15 percent," says Finn. "That's just putting in a monitoring and tracking system. You

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VanCity Lowers Emissions, Raises the Bar

With a business approach based on social responsibility, VanCity Savings Credit Union is looking for greenhouse gas reductions in unexpected places.

Financial institutions registered with VCR are just four in number, and perhaps this is because their GHG emissions are not as intense as other commercial sectors. From their ranks, however, Vancouver-based VanCity is addressing the issue of climate change with striking vigour.

Since 1946 the company has grown into Canada's largest credit union, with more than \$7 billion in assets and 276,000 members. During the 1990s, productivity grew by 50 per cent, measured by an increased number of credit union members and branch offices. In the same period, however, VanCity decreased emissions intensity 20 per cent below its 1992 baseline. Jeremy Trigg, VanCity's director of facility management, says the value of reducing GHG emissions can be measured by the success of the company.

"Who we are and the statement we're trying to make in the marketplace drive us to look beyond the obvious cost efficiencies into things that might be more obscure, or longer term projects. We're willing to do that because these things fit with our values, and when people deal with us that's a critical part of their decision in where to do their banking."

VanCity wrote its first action plan to reduce emissions in 1998; it outlines measures leading to reductions dating back to the early 90s. In its first year of energy conservation, 1992, and aided by a BC Hydro incentive program, it reduced its energy consumption by a whopping 40 per cent. Brian O'Donnell is president of Prism Engineering, an energy management consulting firm that has been working with VanCity since 1991. He recalls it was efficiency retrofits to

VanCity's head office that reaped those early rewards. Subsequent to that, on buildings it now either owns or rents, he says most of the 39 branches throughout Greater Vancouver, the Fraser Valley and Victoria have had energy management work done on them. Overall, says O'Donnell, 25 per cent cost avoidance savings have been realized.

"Who we are and the statement we're trying to make in the marketplace drive us to look beyond the obvious..."

-Jeremy Trigg

"Over time it has evolved that you think of energy management as new technology," says O'Donnell. "But following that you start looking at other ways of making improvements, and they are more operational and communication based, like employee awareness. You start giving people the tools they need and the support they need to be able to do these things. That's something VanCity has done. That's not something I can take credit for."

Beyond its ongoing energy monitoring and management, VanCity is venturing into unexplored regions of GHG reduction. Also originating from work begun in the early 90s, the company is looking at the emissions of its employees as they travel to and from work. To encourage public transportation, VanCity built its head office on top of a light rail transit station and participates in a

VanCity built its energy efficient Vancouver head office over a light-rail transit station to encourage workers' use of alternative transportation. The company is now measuring the greenhouse gas emissions of employees riding to work in single occupancy vehicles.

BC Transit program that offers employees annual passes at reduced rates. It gives carpoolers priority and reduced rates on parking and has facilities to accommodate bike riders. Last year VanCity surveyed employees on their preferred methods of travel and found 44 per cent use alternative transportation.

"A significant part of our CO₂ emissions is generated by how our employees get to and from work," says Lorelee Delbrouck, VanCity's corporate social responsibility projects manager. "And we've measured the CO₂ that results from employees driving to work alone."

Delbrouck says VanCity will subject its analysis of employee transportation to third-party verification, report the findings publicly and continue to encourage workers to choose alternatives.

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**We have set the date for the 2003 Annual Leadership Awards Ceremony –
Tuesday, March 25, 2003 at the Canadian Museum of Civilization in Hull, Québec!**

wouldn't think it would be a challenge to convince people to do this, but it can be. The problem is so many companies are so busy they need to have somebody driving this. Unless it's part of somebody's job description it will become a lower priority and not be attended to with the care it should be."

John McKay is manager of resource conservation for School District 43 in Coquitlam, the third largest district in British Columbia. He says it's rare for a Canadian school district to assign responsibility for "energy accounting in addition to dollar accounting," but his director justified it on the basis it would save more than it cost. He was hired in 1998 when the district launched a \$1 million investment in energy conservation measures aided by a \$188,000 grant from Natural Resources Canada's Office of Energy Efficiency. The grant required the district to file a GHG reduction action plan with VCR, and now McKay says "progress reports are part of tracking and monitoring."

"I have a template letter and I just plug in the new numbers," he says. "The only obstacle is having the tracking and monitoring system in place that will track the bills and consumption and so on. If you don't have something like that, doing this is really onerous."

McKay's district recently went back to the federal government for more funding, and NRCAN has agreed to pay half the cost of District 43 providing energy management services to five other districts in the BC Lower Mainland; BC Hydro will pay the other half. Next, McKay says, he plans to aggregate emission reduction credits between the six districts. In his district's 2001 progress report, Coquitlam showed a 13 per cent annual reduction in GHG emissions intensity from a baseline period of 1995/96, and McKay is already shopping his reduction credits around.

"We've accomplished thousands of tonnes of GHG reductions," he says. "The real trick has been in being able to define it, to implement the changes and then track them."



Groundwork following a \$1 million investment in energy conservation measures involved more than installing ground source heat pumps, pictured above, in two Coquitlam, BC schools. The district also set up an energy monitoring and management system that includes documenting GHG reductions through VCR progress reports. It hopes to sell its reduction in a future emissions trading scheme.

With few avenues for GHG reduction left to explore, the credit union is beginning to think about the emissions of its members. But, says Delbrouck, "where you start to step out there is when you begin to ask how do you make your products and services support this agenda for positive change." VanCity expects to have the answer to that question sometime next year. Although still being planned, that's when a loan program may be offered to members investing in cleaner transportation options.

The foundation of all VanCity's efforts, and the reason for its success, says O'Donnell, is having key people champion its social and environmental agenda. "Even with being able to tap into a company like ours that specializes in this sort of thing, unless you have an internal believer it's just like a parade. Everybody gets all excited when it goes through town, and then when it's over people go back to their normal life. But that isn't happening at VanCity."

Other financial institutions registered with VCR Inc. are Canada Trust, Royal Bank of Canada and CIBC Development Corp., a subsidiary of CIBC.

Welcome to Our Newest Registrants

A warm welcome is extended to the following companies and organizations that have recently joined VCR Inc.'s Challenge Registry :

1213763 Ontario Inc.
3170497 Canada Inc.
Alpha Corporate Centre
ARISE Technologies
Armada Properties Limited
ATHENA Sustainable Materials Institute
Beaux Properties International Inc.
Bentall Real Estate Services
BIOX Corporation
Brunswick Hotel
Buanderie centrale de Montréal inc.
Burrowing Owl Investment Corp.
Cameus Holdings Inc.
Carriage House Inn
Central Québec School Board
Centre hospitalier de St. Mary
Centre hospitalier régional de Rimouski
Centre Hospitalier Universitaire de Québec
CHSLD Biermans-Triest
CHSLD juif de Montréal
CHSLD Lucille-Tesdale
Coast Hotels and Resorts
Commission scolaire de la Région-de-Sherbrooke

Commission scolaire de Laval
Commission scolaire des Affluents
Complexe hospitalier de la Sagamie
Crystal Lakes School Division No. 120
Dufferin-Caledon Health Care Corporation
Fraser Health Authority
Grand River Hospital
Grey Gables, Home for the Aged
GWL Realty Advisors Inc. Multi Residential Group #1
Homestead Land Holdings Limited
Hôpital Charles LeMoine
Hôpital du Haut-Richelieu
Innovation Place
Institut de Réadaptation de Montréal
Kamsack School Division No. 35
Landmark Properties Inc.
Leamington District Memorial Hospital
Malahat Energy Corporation
Merit Ford Alpine Limited Partnership
North Island College
Powertech Utility Diagnostics Ltd.
Regina Roman Catholic Separate School Division No. 81
School District No. 33 (Chilliwack)

School District No. 34 (Abbotsford)
School District No. 64 (Gulf Islands)
SCP Group
Second Placement Inc.
Société des Technologies de l'Aluminium STAS inc.
St. Joseph's Auxiliary Hospital
St. Mary's General Hospital
St. Paul Education Regional Division No. 1
St. Thomas-Elgin General Hospital
The Owners: Condominium Plan No. 8310913
Timmins and District Hospital
Toronto Catholic District School Board
Toronto Community Housing Corporation
TrueNorth Energy
Turbocor Inc.
Vancouver General Hospital
Vancouver Island Health Authority
Vergnet Canada Ltd.
Westport Innovations Inc.
York Condominium Corporation No. 288
York Condominium Corporation No. 382
Yorkdale School Division No. 36
ZENON Environmental Inc.

EnCana Project Attracts Worldwide Attention



At the end of a 325-kilometre pipeline, crossing the border from North Dakota, CO₂ arrives at this inlet skid in the EnCana plant yard in Saskatchewan. Injecting the CO₂ into its Weyburn oilfield, EnCana is boosting petroleum production while reducing greenhouse gas emissions.

EnCana Corporation is significantly reducing greenhouse gas emissions by injecting CO₂ into a Saskatchewan oilfield, a process that also pumps up profits at the wellhead through enhanced oil recovery. The project is subject to international scrutiny and may be a stepping-stone to Canada's energy future.

The project, says EnCana business analyst Kendall Dilling, is viewed by some as a potential technological boon for the petroleum industry. "Just through energy efficiency, operational improvements and technology upgrades, there's nothing that even begins to rival these levels of greenhouse gas reductions."

When CO₂ injection began in the fall of 2000, PanCanadian Resources was the majority owner and operator of the Weyburn oilfield. This year a merger between PanCanadian and Alberta Energy Company resulted in the formation of EnCana, and Weyburn became part of the new company. In its first full year of operation, the carbon sequestration project reduced PanCanadian's CO₂ emissions by 1.2 million tonnes, about a quarter of the GHG emissions from all of the company's Canadian operations.

"That's huge," says Dilling. "There's nowhere else we can spend our money where we would get nearly that environmental bang for the buck."

The reason geologic sequestration of carbon at Weyburn is such an efficient means of GHG reduction is it's also prolonging the economic life of the oilfield. Production at Weyburn began in 1954 but started a natural process of decline in the mid-60s. Through CO₂ enhanced oil recovery (CO₂-EOR)

EnCana expects to add 25 years to the life of the field, yielding an additional 120 million barrels of oil. And the project nets a one-third reduction in CO₂ emissions when compared to oil produced conventionally.

"From a GHG reduction perspective," says Dilling, "if we could find another Weyburn we'd do it in a heartbeat."

Finding another Weyburn, however, won't be easy. Worldwide, CO₂-EOR is being used extensively where CO₂ is discovered underground in proximity to depleted reserves, but where the process involves extraction and re-injection there is no net reduction of GHG emissions. EnCana, on the other hand, buys CO₂ from a plant in Beulah, North Dakota, where it's a by-product of making synthetic natural gas from coal. The plant owner, Dakota Gasification Company, previously vented the gas to the atmosphere, but has now built and operates a 325-kilometre pipeline that carries CO₂ to the oilfield. The problem with replicating the environmental success of Weyburn, says Dilling, is finding a suitable and affordable source of carbon.

Even with the fortuitous proximity of Dakota Gasification to Weyburn, the project's economics are dependent on the support of the Saskatchewan government through royalty and tax relief. The province is facilitating Weyburn's success not only to encourage an immediate reduction of GHGs but because it wants to study the work taking place there, an ambition shared by an international consortium of researchers. Organized by a sub-group of the International Energy Agency, based in the UK, a four-year research project at Weyburn, ending mid-2005, is studying geo-sequestration and storage of CO₂. Government sponsorship of the research, in addition to Saskatchewan, has come from the province of Alberta, Natural Resources Canada and the US Department of Energy. There's also a long list of corporate sponsors, including industry organizations from Britain, Italy, France, Denmark and Japan.

"If you ask people in the oil and gas industry if the CO₂ will stay put, they'll say yes because these geological reservoirs successfully contained oil and gas," says Roland Moberg, general manager of the Petroleum Technology Research Centre. The Regina-based, non-profit research and development corporation is leading the Weyburn research project. "Looking at the long-term risk of leakage, I think the risk is very low, but we need to demonstrate that in a scientific sense."

The focus on Weyburn research, with contributions totaling close to \$40 million, is significant because the prospect of geologic sequestration has deep implications for the whole energy industry. Oil and gas reservoirs may be a first step to understanding other types of geologic sequestration, and the idea of secure storage fits nicely with other research. The hope of clean coal power

"There's nowhere else we can spend our money where we would get nearly that environmental bang for the buck."

-Kendall Dilling

generation appears dependent on refining a gasification process that will, as in North Dakota, remove CO₂ from the fuel before combustion. Other research is attempting to discover an economic means of stripping or scrubbing carbon from the flue stacks of industries now reliant on fossil fuels. The hope is CO₂, which would otherwise be fugitive, may be sold or simply sequestered.

In the meantime, assuming sequestration proves to be a dependable method of GHG reduction, Dilling says an expansion of Dakota Gasification's pipeline infrastructure is possible at some point in the next 10 years. EnCana is buying only half of the US company's available CO₂ supply; Dakota Gasification continues to vent what it does not sell, and there are properties adjacent to Weyburn, not all owned by EnCana, that may benefit.