

# Think green

Seizing green-based opportunities for growth



LEADING GROWTH FIRM SERIES

REPORT 17



**“We understand that, in  
today’s world, to grow  
your economy you must  
green your economy.”**

**Dalton McGuinty  
Premier of Ontario**

# Think green

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# Green

## is the new colour of business

**Thinking green enables you to  
re-imagine your business, inspire employees  
and create new products for a more demanding world**

Green thinking is penetrating deep into every aspect of business today. Change is in the wind as business owners wrestle with once-foreign concepts such as energy footprints, carbon offsets, renewable energy sources, composting, emission reduction and cradle-to-cradle accountability for the products they produce and the waste they create. ♪ It is a complex world of changing habits, regulations and expectations. For some, green thinking constitutes an unwelcome distraction, an intrusion into the normal course of business, but they couldn't be more wrong. Increasingly, "business as usual" means green business. Companies that embrace sustainable practices are finding that green business is not just a better way of doing business, it is a gateway to new opportunities that could help them survive in today's tougher markets.

“People need to get past the myth that green is a financial drag,” says Brett Wills, a Toronto-based environmental consultant with High Performance Solutions Inc., a Kitchener, Ontario, company that coaches organizations in lean and green performance. “We need to understand the new paradigm: going green saves you money. It makes you money. It’s just good business.”

Green is also about preparing for the future, says Robert Colman, editor of *Green Business*, an online magazine published by CLB Media Inc. in Aurora, Ontario. While there are many uncertainties ahead, he believes high energy prices are not going away. “Companies have to be realistic that the prices of commodities in general are going to go up, and they’re going to go up quite quickly,” he says. “China is not going to stop using oil and neither is India. There is going to be a resource crunch. Prices may be low now, but they are not going to stay that way.” From this point of view, green business is about reducing your energy use now to save money today and give you a sustainable advantage, or at least a cushion, for when prices soar again.

In the longer term, green is also about meeting a paradigm shift that is already under way: a growing “carbon consciousness” that frowns on waste and unbridled energy consumption and rewards companies that actively manage their energy “footprint.” That includes all the energy inputs and outputs needed to get your products to market. Today, businesses are also expected to take more responsibility for how their products are used and, eventually, disposed of. It is a cradle-to-grave philosophy that will compel companies to take green leadership positions in their industries or risk losing their reputations and market shares to those who do.

For a glimpse of the future, consider the Carbon Disclosure Project (CDP), a non-profit U.K. initiative that is bringing multinational companies into the fight against global warming. To date, the CDP has convinced 385 major institutional investors (from Toronto-based AGF Management Ltd. to Zurich Cantonal Bank) to co-sign information requests to the world’s biggest companies, asking them to disclose their greenhouse gas (GHG) emissions as well as their strategies for reducing emissions, minimizing environmental risks and capitalizing on related opportunities. Today, 383 of the world’s 500 leading companies are reporting to the CDP. The CDP believes that increasing “carbon disclosure” will help companies measure their environmental impact more effectively and that what gets measured will get managed.

As concerns grow about energy use, the attention of the multinationals will focus more on suppliers, distributors and clients, which means small and medium-sized businesses will have to join the disclosure brigade as well. “We’re at a turning point,” says Colman. “Companies want to know what their direct carbon footprint is. If you supply a big company, you had better be able to tell them what your footprint is.”

Clearly, green business isn’t just for environmentalists any more. The good news is that there are real incentives for businesses to go green. It is all about reducing your waste and energy use, two commodities that pose significant, and increasing, costs. When a company goes green, it reduces those costs. In turn, it creates measuring and monitoring systems that will help it become smarter and more efficient.

Consider just a few made-in-Ontario examples of turning green into gold:

- OCM Manufacturing Inc., a contract electronics manufacturer in Ottawa, has saved hundreds of thousands of dollars a year (plus many, many trees) and increased internal efficiencies by developing an online corporate archive that has made its office almost paperless (see page 22).
- Patient News Publishing Inc., a dental and cosmetic newsletter marketer in Haliburton, Ontario, started out trying to reduce its everyday waste and is now restructuring its entire operations around green principles; in doing so, it has become a catalyst for change among neighbouring businesses (see page 16).
- Toronto-based Spec Furniture Inc., having already achieved significant savings and operational flexibility by reducing its energy use and sourcing greener materials, is now marketing lines of green products to a new generation of environmentally conscious clients across North America. “Green business makes sense from a lot of standpoints: moral, ethical, sales, even the environment you’re providing for your employees,” says Donald Taylor, co-founder/partner of Spec and its vice president of finance and administration. “We have gone from having an environmental component as a segment of the business plan to it being integrated into everything: the facility, the design, even product development” (see page 12).

### A transforming economy

Clearly, green business is not about obligation, regulation or fixing old problems: it is a licence to re-imagine your business, inspire employees and customers and create new products for a more demanding world. It is an opportunity to invent new product categories and business processes to meet the needs of a transforming international economy. It is a shift tailor-made for the unique strengths of Ontario businesses, with a creative, educated workforce; proven expertise in manufacturing, technology, finance and natural resources; and innovative, entrepreneurial business leaders.

While companies that don’t embrace green practices risk being shut out of supply chains and the global economy, it is heartening to know that there are also positive benefits to supporting a green economy. Businesses willing to pay more for green products can realize positive benefits, such as employee and customer engagement and improved corporate reputation. That is the discovery of Toronto-based Bullfrog Power, a renewable energy pioneer founded in 2005. Bullfrog Power (see “Champions of green,” page 8) has advanced the development of wind power in Ontario and Alberta by offering a brand-new choice to households and businesses: 100 per cent clean, emissions-free electricity. Bullfrog’s growing community of residential and business customers includes author Margaret Atwood and business giants such as Wal-Mart and RBC Financial. Bullfrog’s growing base of voluntary green power supporters has advanced the development of new renewable power facilities in Ontario and Alberta.

Unfortunately, all of this opportunity has its roots in a serious



problem: a climate crisis created by more than a century of environmental neglect. The unrestricted burning of hydrocarbons to run cars, trucks, homes and factories has led to excess amounts of carbon dioxide and other GHGs in the atmosphere. These gases trap heat, leading to global warming. It is now widely accepted that climate change poses a serious risk to people and the economy. As average surface temperatures rise by anywhere from one degree to six degrees Celsius over the next century, we could see melting glaciers, dying coral reefs, rising seas, more life-threatening hurricanes, longer heat waves, freezing rains and altered ecosystems that could affect our health, food sources and traditional trade patterns.

### Ontario's bold targets

The government of Ontario has already taken progressive steps to help ensure the province's green economic future. For example, *Go Green*, Ontario's 2007 action plan on climate change, set strong targets for reducing Ontario's GHG emissions to six per cent below 1990 levels by 2014 (a reduction of 61 megatonnes, based on today's trends) and an 80 per cent reduction by the year 2050.

The Green Energy Act (GEA), introduced in the Ontario Legislature on February 23, 2009, is a bold series of coordinated actions, further building on earlier initiatives, by making it easier to bring renewable energy projects to life, and fostering a culture of conservation. The GEA, if passed, is expected to create a wealth of new opportunities and a projected 50,000 jobs in the next three years, and would make Ontario the North American green energy leader. The plan is an ambitious transformation that will affect every person and business in Ontario.

The breadth of these initiatives could bring about massive social change and innumerable business opportunities in everything from agriculture and chemicals to transportation and consumer products. Changing times always create new wants, new tools and new markets for visionary and agile entrepreneurs. Massive new fortunes and unexpected prosperity emerged from the advent of transcontinental railways, electricity, air travel and the personal computer, and the green revolution is expected to be no different.

One huge opportunity is "cleantech," the new industry that is emerging around the three Rs of reduce, reuse, recycle. Spanning everything from innovative means of recycling computer parts

## Avoid the perils of 'greenwashing'

If your company is considering promoting itself as environmentally friendly, proceed with caution. The days are gone when an organization could declare itself "green" just for turning down the air conditioning.

Any marketer that doesn't carefully document its environmental claims could be accused of "greenwashing," or claiming more environmental benefits than can be proven. In 2007, even Toyota's groundbreaking Prius brand ran into trouble, having its ads rejected by Britain's Advertising Standards Authority (ASA) for claiming that the hybrid car emitted "up to" one tonne less carbon dioxide per year than equivalent rivals. Documentation supplied to the ASA by Toyota could not substantiate the claim.

So far, it has been easy to claim green benefits because standards have been fluid, but consumers are becoming more savvy and standards are tightening. In 2008, the federal Competition Bureau and the Canadian Standards Association released a 72-page report called *Environmental Claims: A Guide for Industry and Advertisers* to help marketers avoid problems. The report offers three general guidelines:

- Vague claims implying general environmental improvement are insufficient and should be avoided.
- Environmental claims should be clear, specific, accurate and not misleading.
- Environmental claims should be verified and substantiated prior to being made.

Companies that want to certify their green claims can contact industry-specific bodies such as the Forest Stewardship Council and Energy Star or a growing number of general certification agencies, such as Green Seal and the EcoLogo Program, which was launched by Environment Canada 20 years ago and is now North America's largest environmental certification program.

Colin Isaacs, an environmental marketing consultant with CIAL Group in Fisherville, Ontario, believes few companies purposefully

set out to hoodwink the public. Now, with higher standards, more certification processes and a growing number of environmental marketing companies sprouting up to help marketers get outside, Isaacs believes greenwashing is "definitely decreasing" and is, in fact, on its way out. "Marketers know they have to get this right," he says.

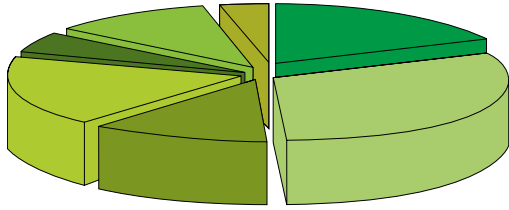
Isaacs recommends marketers contact their industry organizations or the Ontario Environment Industry Association to learn more about the standards in their sectors and obtain referrals to appropriate environmental marketing agencies. To certify their product claims, he says, companies can expect to spend between a few hundred dollars (for a simple analysis, such as for a product made from recycled paper from an accredited paper mill) to a few thousand (for a household cleaning product composed of five or six ingredients) or even \$125,000 and up (for a highly complex product, such as an automobile).

Ottawa-based TerraChoice Environmental Marketing, which manages the EcoLogo Program, offers marketers these tips to help them avoid accusations of greenwashing:

- Understand the environmental impact of your product at every stage of its life cycle.
- Document your claims and provide full disclosure of your company's other green initiatives.
- Pursue continual improvement of your environmental footprint. Encourage customers to join you on that journey.
- Avoid using vague terms such as "environmentally friendly" without precise explanations.
- Don't claim any environmental benefit that is shared by all or most of your competitors.
- Don't try to make customers feel "green" about a choice that is basically harmful.
- Always tell the truth. ☺



### Canada's Environmental Export Market by Sector



- 17.9% Waste Management, Remediation
- 31.2% Water Supply, Treatment, Conservation
- 12.5% Air Pollution Control
- 18.5% Energy
- 5.1% Noise, Vibration Abatement
- 11.5% Analytical Equipment
- 3.3% R&D, Consulting, Education

Source: Statistics Canada, *Environment Accounts and Statistics Division, 2004, the most recent data available*

and developing alternative energies to cladding skyscrapers in new energy-absorbing materials, cleantech is the new high tech. John Ruffolo, national technology leader at Deloitte, first noticed the new trend in 2006. After more than a decade of producing its Fast 50 lists of Canada's fastest-growing technology companies (most of which were involved in software, information technology [IT] and telecommunications), Deloitte suddenly began getting more and more applications from environmental companies. With their focus on energy and materials, Ruffolo felt that they didn't quite fit into the Fast 50 list, so he launched a new one: the Technology Green 15. By 2008, he says, Deloitte was receiving more applications from "green" companies than from conventional IT firms, and the cleantech companies were growing faster.

Ruffolo sees several reasons for this new trend:

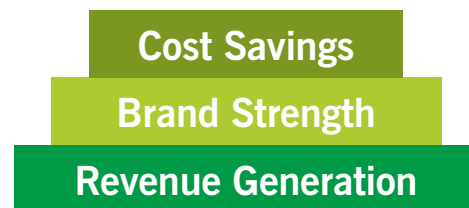
- As markets for software and telecommunications mature, venture capitalists are pouring more funds into cleantech (he says it is all they are talking about these days in Silicon Valley). When the equity markets come back, he predicts, "it will be cleantech companies that lead the charge."
- Many environment-related technologies, such as batteries, solar panels and the smart meters that will make electricity grids more efficient, are just approaching the stage where they will change the economics of entire industries. "Once these technologies become affordable, the growth rates will be explosive," says Ruffolo.
- Best of all, there is no shortage of management talent to lead Ontario companies to success. In a trend Ruffolo is seeing over and over again, many environmental firms (e.g., Bullfrog Power; SkyPower Corp., a renewable-energy innovator; and Zerofootprint Inc., a carbon-management firm) are being founded and led by Ontario entrepreneurs who have already run successful IT companies. Having sold their previous businesses, often as part of ongoing industry consolidation, many of these entrepreneurs now want to do something more meaningful, says Ruffolo. "First they sell out, then they want to change the world."

Most of these companies, he adds, are not newcomers with untested technologies. Many have been working with their products or mar-

kets for years. Only recently, however, with high energy prices and shrinking tolerance for non-sustainable practices, have these companies found new purpose. In Barrie, for instance, the recycling company Barrie Metals Inc. has grown to 250 employees through its new emphasis on e-waste: recycling end-of-use computer equipment, televisions and other electronic leftovers. Its Global Electric Electronic Processing Inc. (GEEP) division, which made Deloitte's Technology Green 15 list in 2007, diverts huge amounts of toxic electronic waste from landfills and develops new material-extraction technology to conduct what it calls "total-loop recycling." GEEP salvages usable parts for resale, separates and recycles metals and chemicals and even converts waste plastic into diesel fuel. Today, the company has sales of \$170 million, up from \$400,000 in 1984, when it was first acquired by Alfred Hambsch, the company's president.

Ruffolo views GEEP's success as a model for Ontario. He sees tremendous potential for building on Ontario's proven expertise in software, manufacturing, construction and water purification. As the economy struggles through the current restructuring, he believes green business can pick up the slack from more mature industries, such as telecommunications, automotive or even water purification. While old-line companies in these industries may close, notes Ruffolo, their trained and experienced staff tend to stay put, providing the human talent to build green success stories. "We're going through a massive economic transition in Ontario," says Ruffolo. "But this is one of the segments where I think we can be a world leader."

### Top Three Drivers in Corporate Environmental and Clean Technology Initiatives



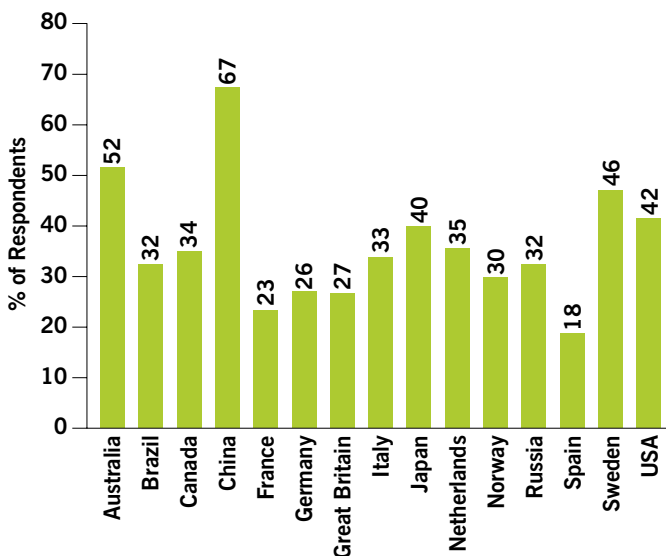
Source: *Quarterly Sustainability Tracking Study, conducted by Panel Intelligence, LLC, November 2008*

Even in a growth industry, however, success doesn't come easily. In a 2007 survey, Deloitte asked Canadian investment professionals to identify the key challenges facing cleantech companies today. The top problem, cited by 40 per cent of respondents, was raising early-stage capital, especially for research and development (R&D). Another 25 per cent identified "commercialization risk" as the big hurdle: successfully turning a product or technology into a marketplace winner. The solution to this problem, according to Ruffolo, is to focus on return on investment, not for your own business, but for your clients. Other key challenges included project financing, achieving profitability and finding talented employees.

Businesses that bet on green opportunities won't find themselves out on a limb; consumers are climbing right up alongside them. A 2007 GlobeScan survey found that 70 per cent of Canadians believe that individuals can take action to protect the environment, the

## Corporate Environmental Behaviour and its Impact on Brand Value

Percentage of respondents agreeing to the statement “I would be more likely to purchase products or services from a company with a good reputation for environmental responsibility”



Source: International survey conducted by Ipsos MORI on behalf of Tandberg, 2007

highest percentage among the 20 countries polled. In addition, 79 per cent of Canadians said companies should be held responsible for protecting the environment, and 33 per cent claimed to have shunned a product or service because they felt it had a negative environmental impact.

The current economic slowdown might be dampening many forms of business investment, but green companies may enjoy some immunity from the downturn. In a recent survey by Massachusetts-based Panel Intelligence, LLC, 80 per cent of corporate sustainability executives across North America said they intend to maintain or increase green-related spending in 2009. Their key initiatives for the coming year included energy efficiency and waste management. Companies selling green solutions may take heart: 55 per cent of companies said they don't use strict financial criteria (such as return on investment and payback period) when assessing sustainability initiatives. Still, the companies did say they have three basic objectives in pursuing green projects: saving costs, augmenting their brand strength and generating revenue.

Although the opportunities are vast for innovative solutions, any organization can help change the world by adopting greener internal practices. You can find tremendous cost savings simply by reviewing your business processes to root out wasteful behaviours. In the United States, the Environmental Protection Agency and the Department of Commerce work with the Green Suppliers Network (GSN), an association of large and small companies, to promote sustainability and Lean manufacturing, both of which are concerned with eliminating waste. Steelcase was one of the first companies to work with the GSN and engage its suppliers in technical reviews that help each of these partners – and ultimately Steelcase – to increase productivity and eliminate anything that doesn't add value in the eyes of the consumer. Steelcase also works

## The Growing Interest in Green Education

Enrolment in the Environment and Business program at the University of Waterloo

2002 41

2008 102

Enrolment in first-year university environmental studies programs in Ontario

2002 735

2008 1,132

Sources: University of Waterloo; Ontario Universities' Application Centre (OUAC)

with its dealers to address the use of products at the end of their life and to provide environmentally friendly options for reuse or recycling.

Colman says you will find “low-hanging fruit” everywhere. Consider leak management, for instance: “It's amazing how many leaks companies find in their compressed-air systems,” he says. “Those leaks cost money and resources. Because it's air, some employees don't think of it as a resource that has to be managed with as much care as electricity or gas.” Other easy fixes include installing smart thermostats; turning off computers when not in use; reviewing your gas, electric and water bills with your suppliers; or redesigning delivery schedules to maximize efficiency. Colman recalls a business owner who went into his plant on the weekend and found a number of machines on and running, with nobody there. “It is the basic maintenance protocols and practices that need to be addressed first,” he says. (See “Identifying the seven green wastes,” page 7.)

## Advanced techniques

Beyond that, green initiatives can get more complex, but that is also where the potential lies. Consider some of the advanced techniques used by Spec Furniture:

- Reassessed its product line to eliminate volatile organic chemicals and other toxic materials.
- Realigned its physical plant and production processes to increase energy efficiency and reduce waste.
- Explored more sustainable approaches to packaging, transportation and IT policies.
- Determined how to communicate these changes in order to get maximum co-operation from suppliers and other supply-chain partners and increased support from customers and clients.

Green business means changes, but it mainly means smarter operations. If you are weighing the cost of a new electrical system, for instance, you may find yourself having to choose between an ordinary transformer and a new “smart” transformer, which may cost more but will smooth out your electrical current so your system runs more efficiently and saves you money in the long run. According to the entrepreneurs participating in our green round table (see page 8), most companies look only at “first cost” rather than life-cycle cost and often make the wrong decision.

If going green helps more businesses think long term and find more ways to create value, this will be a revolution to celebrate. ♻️



# Identifying the seven green wastes: How to begin the green journey

How do you get started greening your company? Brett Wills, an environmental consultant with High Performance Solutions Inc., suggests you start by looking for the green wastes in your organization. The author of the upcoming *Green Intentions: Creating a Green Value Stream to Compete and Win* (Productivity Press), Wills identifies seven sources of waste and how you can realize savings from each of them.

## 1 Energy

Brett Wills, a former plant manager with Toronto-based transformer producer Powersmiths International Corp., says most companies use much more energy than they need. Reducing your energy needs will provide huge benefits to the province and your utility bills.

"Start with an energy audit," says Wills. Work with your electrical or gas utility to study power consumption and look for ways to save. Examining your air-compressor line for leaks, for instance, could save \$10,000 a year, while installing high-efficiency lighting, with timers, can cut lighting bills by up to 20 per cent. Some companies are reluctant to replace still-functioning old motors with high-efficiency ones, but Wills suggests you look into it: "Instead of waiting for them to die, you will get a payback in a couple of years."

Try to shift power use from midday, when you may be paying 10 cents per kilowatt hour, to the middle of the night, when the charge could go down to two cents. "Shifting workers from days to nights might be tough, but maybe you can shift some energy consumption to the night using timers," says Wills.

## 2 Water

While water is plentiful and low-cost in Ontario, Wills thinks water shortages could become bigger than the oil crisis. "Water costs will go up," he warns, adding that you should prepare now by installing low-flow faucets and toilets. "You can save two litres of water a minute with a \$3 nozzle."

## 3 Materials

Redesign your products to use materials that are more benign and recyclable. "We have a global design flaw," says Wills. "The things we make are designed to go to the landfill when we are finished with them. We need to design them to come back to us and be re-born into a new product." For instance, he says, computer manufacturers should take back old computers and use the materials to make new computers, just as some carpet makers use old rugs to make new ones.

Explore how your firm can use recycled materials or make its own products recyclable. "This is a huge opportunity in terms of developing new materials and technologies," says Wills. With many big companies adopting green purchasing policies, firms that green their materials may gain a market edge.

## 4 Garbage

As the cost of dumping garbage gets steeper, shareholders will bless the day your company started cutting back its trash output. Recycling, redesigned packaging and reusing scrap materials will all save on haulage fees.

Wills also recommends putting a vermicomposter in your plant or office to dispose of food scraps. You will never see or smell the little critters as they tunnel through the soil, turning leftovers into fertilizer. Wills says the office composter gets people actively engaged in recycling: "It really starts to create a green culture."

## 5 Transportation

To cut back on the cost of postage, shipping and moving people, check what activities can be cancelled or reduced. Can you replace a monthly business trip to Vancouver with a bimonthly trip supplemented by telephone calls? Can you use video tools instead? Can you consolidate shipments, e-mail invoices instead of mailing them or courier documents by truck rather than overnight by air?


Wills believes companies should buy locally whenever possible. Foreign suppliers may not be as efficient as you think, he says: "Have you taken into account all the costs associated with importing, such as higher inventories, carrying costs and damage and spoilage risks?"

## 6 Emissions

Manufacturers, employees and governments are all becoming more concerned about chemical emissions. If your business uses toxic chemicals, epoxies and solvents, investigate friendlier alternatives, such as water-based lacquers. If you can't cut them out entirely, says Wills, reduce the amounts you use.

## 7 Biodiversity

Wills believes sustainability ought to extend to the company's physical impact on the earth. When a building is constructed on a greenfield site, he says, a formerly balanced ecosystem is replaced by a "monoculture" without a healthy balance of plants and animals. He urges business owners to build "up" instead of "out" to minimize their footprint. He also suggests recycling old real estate by building on brownfield sites. Choose locations close to public transportation or encourage carpooling, biking to work or telecommuting to provide alternatives to the classic commute.

Going green is not just about ticking off a checklist; it is about finding solutions that match your company and its culture. "Give your people permission to follow their passion," says Wills. "It is the person on the floor who will come up with the best ideas, but it doesn't happen overnight." 

# Champions of green

The leaders of six green award-winning Ontario companies open up about motivation, strategy and return on investment

The Ministry of Small Business and Consumer Services recently organized a roundtable discussion at which award-winning Ontario “greenpreneurs” were invited to share their success stories and discuss the challenges they face. Will customers pay more for green solutions? What opportunities await the next generation of eco-innovators? Here are the highlights of the meeting as our panel discusses the good, the bad and the green.

**Moderator:** You are all environmental innovators and award winners in Ontario. Tell us the coolest thing about your company.

**Ellen McGregor** (CEO of Fielding Chemical Technologies, Inc., Mississauga; recycles spent chemicals for the automotive, chemical, printing and pharmaceutical sectors): We give new life to spent solvents and refrigerants. We collect industrial waste and provide cradle-to-cradle chemical care.

**Sandeep Lal** (President of Metro Label Group Inc., Toronto; specializes in printing pressure-sensitive labels): We supply labels for a variety of packaging needs, from retail packaging to durable goods. We were one of the pioneers in building a LEED-certified building for industrial use in the City of Toronto. [LEED stands for Leadership in Energy and Environmental Design, a green-building rating system developed by the U.S. Green Building Council.]

**John Hollick** (President and CEO of Conservall Engineering, Inc. and inventor of SolarWall, Toronto; provides air-heating technology now in 30 countries): Our main focus is on heating commercial and industrial buildings by solar power. In 1982, we came up with the concept of using the metal cladding on the south wall of a factory to heat the fresh air that goes into the building. Later, we got the idea of perforating the metal to pull the heated air from the surface of the metal into the air-handling system. It worked out better than anyone had imagined.

**John Coburn** (CEO of EnviroTower Inc., Toronto; produces water-treatment and remote-performance monitoring systems that save commercial, institutional and industrial building clients water, energy and chemicals): EnviroTower is bringing clean cooling efficiency into the water-treatment cycle in cooling towers, commercial buildings and light industrial markets. We have about 140 installations throughout North America.

**Tom Heintzman** (Co-founder and President of Bullfrog Power Inc., Toronto; promotes wind and solar power as a renewable electricity retailer): We give people a choice of what type of power to buy. They pay a premium for renewable electricity, and we use that to pay the generators a premium [over conventional electricity rates]. Suddenly, renewable power projects that were not financially viable become viable, and a whole new industry is created.



**Philip Ling**, Partner, Vice President of Technology, Powersmiths International Corp. The company's transformer technology won a 2005 Rebuild America Premier Allied Partner award in Washington, D.C.

**Philip Ling** (Partner, Vice President of Technology of Powersmiths International Corp., Brampton; produces high-efficiency electrical transformers and Web-based systems to promote energy conservation): We started out in the transformer business, but we have grown into metering and measurement validation. Our latest push is into education for sustainability systems. We use the client's building itself as a teaching tool.

**Moderator:** How do you turn a building into a teaching tool?

**Ling:** Many of the green initiatives in LEED buildings are hidden behind the walls, so people have no idea something different is going on. You lose the ability to transfer knowledge about what you are doing unless you can pull the information out and show it in a way that a wide audience can relate to.

**Moderator:** Tell us about your commitment to green and how your business is creating benefits for others.

**McGregor:** We recycle material that others burn and create new products from it and return it to the marketplace. We reuse material that generators create, clean it up and put it right back into the hands of the generator. So we reduce the need to manufacture virgin chemicals. Nothing we create ever hits landfill, incineration or the fuel market until we have unlocked all the value of the organic composition we have taken in.

**Lal:** Our business uses a lot of materials that are not considered environmentally friendly, whether it be inks or paper products with adhesives. So when we looked at how to differentiate our company, we felt we could best send that message by creating a green infrastructure. We basically built a building where all the office-area lighting is motion-controlled. The fabrics are all natural fibres rather than synthetic. The wood finishes on the furniture were made from wheat stalks rather than tree pulp. We also installed heat-recovery systems because all the printing presses generate heat.



**Sandeep Lal**, President, Metro Label Group Inc. Its LEED-certified production facility, the first in Canada, won the Converter Award for Sustainability/Environmental Responsibility at the Labelexpo Americas in Chicago for its "global leadership."

**Moderator:** Sandeep [Lal], how much of your effort was inspired by the desire to save money and how much by a desire to reduce your carbon footprint?

**Lal:** The goal was to look at every available technology that would make us a greener building. Anything with a payback of less than five years was put in, no questions asked. Everything with a payback of five to seven years was given serious consideration. Anything with a seven- to nine-year payback got more consideration.

**Moderator:** John [Hollick], didn't SolarWall make it to the Olympics?

**Hollick:** Yes. In Beijing, we introduced a new hybrid concept where the same surface area produces both heat and electricity on a service building for the athletes. That is going to be really exciting for us going forward. By collecting the solar heat, we can offer a much faster payback than solar PV [photovoltaic] can by itself.

**Coburn:** EnviroTower's solution is advanced water treatment for cooling towers. We provide a mainly mechanical approach to handling scaling, corrosion and solids while adding minimal chemicals to retain control over bio-contaminants and microbially induced corrosion. Because we can precipitate calcium carbonate and remove the resulting solids, we are able to increase the water cycles and save 20 per cent to 25 per cent of the cooling tower water. This reduction of calcium carbonate also causes the de-scaling of tower fill, the water piping and most importantly the chiller tubes, which leads to electricity savings of 10 per cent to 15 per cent. Finally, we maintain bio-control using 85 to 90 fewer chemicals than traditional treatment. The typical payback in Ontario is 24 months, while in California it is more like 12 months.

**Heintzman:** The notion behind Bullfrog Power was to give people a choice in the power they consume and then create a green market to press for social and economic change. Simply speaking, the more customers who decide to switch, the more renewable power we can build. We now have 8,000 homes and 1,000 businesses that have switched to Bullfrog Power. But we are still far less than one per cent of the total volume of electricity in Ontario, so there is enormous opportunity for growth.



**Tom Heintzman**, Co-founder and President, Bullfrog Power Inc. Bullfrog's renewable energy initiatives won the Ontario Energy Association's Leader of the Year award in 2008.

**McGregor:** Price is generally a challenge for any green industry. I give you kudos, Tom [Heintzman], for developing a marketplace where people choose to pay a premium price over something less expensive. Well done.

**Moderator:** Philip [Ling], what makes the Powersmiths transformers so green?

**Ling:** Every time you transform energy, you have losses. Electrical transformers account for about 10 per cent of total grid losses. Yet the electrical business is driven by "first cost"; most customers don't know what their equipment costs over time to run. People buy the cheapest model they can find, even though the operating costs of transformers are 30 or 40 times the purchase cost. So a big part of our business is education. We sit down with the engineers and say, "This transformer may cost \$3,000 today, but it is a \$50,000 purchase you are making. You have to look at life-cycle cost. We can cut your operating cost by 50 per cent." Typically, we provide a three- to five-year payback.

**Moderator:** Is it getting any easier to sell the life-cycle motive? Are more people starting to think this way?

**Ling:** They are starting to. The higher-education market has more-advanced green-purchasing policies. Some municipalities do as well.

**Lal:** Most of us encounter the same thing when we go see clients. We talk about client needs and value rather than price. Part of the challenge is dealing with multiple decision makers. We may be selling to somebody who is only dealing with the project cost. The person dealing with the operating budget may not have any input into the purchase decision.

**Hollick:** It is a big problem. In new construction, our presentation is usually given to the consulting engineer and architect, but the sale is made to the contractor, and a contractor looks at how much he can save.



**John Hollick**, President and CEO, Conserval Engineering, Inc. Winner of numerous awards, including a World Green Business Award in 2008 for its SolarWall air-heating technology.

**Moderator:** If I am the customer and I want a long-term solution, how do I beat this problem? What questions should I ask?

**Ling:** Part of it is saying, "Let me look at the first cost and life-cycle operating costs." I think life-cycle value is becoming more important to the end user, although contractors don't care. The engineers and architects are often unplugged from the details of the products.

**Heintzman:** The intelligence of the microchip is now getting applied to energy. We are seeing the rise of the smart grid, which will embed intelligence in the entire energy value chain. That will help us make more-informed decisions.

**Hollick:** One point that has helped industry is the LEED process. LEED is geared toward architects and engineers: they get points for saving energy or recycling. Just convince the consultants of the LEED points they would get with your product, and they may include it. SolarWalls earn up to six points now, so that is quite a bit.

**Moderator:** Are any of you seeing signs that growing public consciousness of green issues is helping your company?

**Lal:** As the only LEED-certified building in our industry in the world, it brings you to the client's attention. But most decisions are made on price. You have to find a balance between being a green company and being cost-effective because, at the end of the day, most clients are not willing to pay a premium to go green.

**Moderator:** No premium at all or a bit?

**Lal:** I can only speak to my business. Most of the major consumer-goods companies and retailers have RFIs [requests for information] that have a huge section on environmental management at your company. But if you were to meet the procurement people at these companies, I can tell you their assessment of environmental issues on the packaging-procurement side is barely existent.





Ellen McGregor, CEO, Fielding Chemical Technologies, Inc. Fielding became a member of the Ontario Environmental Leaders Program in 2008 for its cradle-to-cradle recycling strategy.

**Hollick:** I have seen the same thing. I think some big companies are doing the green movement to get PR. I have seen so many examples where I have called them up and told them, “I see you are going to put in solar,” and they said, “Yes, but we need a one-year payback.” It happens all the time.

**Ling:** If the environmental attribute doesn’t have other financial benefits attached to it, it becomes a much harder sale.

**McGregor:** Last year, we had some very senior players from a multinational company in our boardroom, and I said, “You know, Fielding invests hugely in responsible care and how we run our plant. It is a big investment that our competition doesn’t make, so I am asking, ‘How important is it that to you?’” And the answer was: “We think it is great, but we are not going to pay you a penny extra for it.” That is the reality.

**Coburn:** We are seeing water scarcity becoming a serious issue, particularly in the southern U.S. With changing climate patterns and droughts leading to reduced water supply and population growth and urbanization and industrialization leading to increased demand, there is a growing imbalance that is going to lead to significant water rationing and cutbacks. I expect to see allocations reduced by 30 per cent to 50 per cent over the coming few years, and this means that more of these users will need to find and implement water-saving technologies like EnviroTower’s. For example, in a single 40-storey commercial building, EnviroTower can save from four to five million gallons of water every year. It is clear that governments have started the process of demand modification, by way of increasing prices – up 24 per cent this year in Las Vegas and up six per cent every six months in San Diego. The next step will be mandatory water reductions.

**Moderator:** What are some of the non-financial benefits that you have seen in your own companies from being involved in green business?

**Ling:** It has plugged me into sustainability initiatives and people who are passionate about the environment, which is what I am passionate about. It is a lot more interesting than saying, “Here, I have a 2.7-year payback.”



John Coburn, CEO, EnviroTower Inc. In 2008, EnviroTower was named to Deloitte’s Canadian Technology Green 15 list for the second consecutive year.

**Heintzman:** One source of value that I think gets overlooked is the staff. We have very highly educated employees who are working here because they want to work for a green business. On the flip side, many companies buy green power because of their employees. The younger generations want to work for companies that are standing up for sustainability.

**Lal:** For us, being a green company makes it easier to attract people. We have noticed since we built our LEED plant that customers have a warmer, fuzzier feeling about our company. We also get more press, so our company is coming to the attention of more potential clients. Going green is a significant differentiator and it gives us new opportunities.

**McGregor:** It is about creating loyalty. We don’t advertise to get people any more because we are flooded with resumés. Youth are value-driven today, so we are finally getting recognition for something we have been doing for years.

**Moderator:** What do you see looking ahead? Are markets starting to open up for you and your solutions?

**McGregor:** The government has got to legislate for green. That is the number one challenge for us. The ministry of the environment is guided by legislation that was written well before the dawning of environmentalism. We need to revisit tax incentives, the definition of hazardous waste and everything in between.

**Hollick:** Our challenge is to educate the building community, which moves very slowly. Builders, architects and designers have done things the same way for years and years. To get them to change takes education, and it will take time.

**Coburn:** Looking forward, the diminishing of water supplies, population growth, urbanization and industrialization all tell me that this supply-and-demand imbalance is going to drive massive opportunities for process change, conservation and reuse. It is going to require a lot of technology and brain power. But I am an optimist, so I know we can solve this. ♻️



# Furnishing a new market

To the partners who run Toronto-based Spec Furniture, green business makes sense from any angle

On the front lawn at Spec Furniture Inc.'s office and factory in northwest Toronto stand three humble monuments to the future: compost bins bearing the names Ken, Mike and Donald. This public affirmation of the company's green philosophy is a fitting tribute to Spec's three co-founders: Ken Slaney (vice president of sales and customer service), Mike McLean (director of U.S. sales and marketing) and Donald Taylor (co-founder/partner and

protocols in the construction business, especially the LEED (Leadership in Energy and Environmental Design) certification program championed by the U.S.-based Green Building Council; Spec's own experience with Lean manufacturing, which abhors waste; and a growing demand from clients not just for greener furnishings, but for suppliers committed to sustainable solutions.


## Employee training boosted

So Spec is now rooting out energy waste, replacing harmful materials with eco-friendly substitutes, boosting employee training and testing new transportation options. Since the start, Spec has used more benign, less wasteful powder paints rather than hazardous liquid paints. Driven by Bernard, the company supplanted volatile, chemical-based glues with water-based glues; added energy-efficient lighting; replaced 100 per cent oil-based foams in seat cushions with partially soy-based foam; uses more recycled materials; and is sourcing non-toxic alternatives to chemical-laden fabrics.

Many of these decisions are self-evident; some require a leap of faith. For instance, Spec is using a new type of particleboard core that doesn't contain formaldehyde, but it costs 30 per cent more than traditional board. Bernard's production team has committed to making up the difference by scrounging more energy savings from the shop floor, such as adopting more energy-efficient lighting and closely monitoring equipment start-ups and shutdowns. Over the long term, Taylor expects the chemical-free "green board" to give Spec a competitive edge as designers demand more sustainable materials.

Spec's concern for the environment doesn't just come from the top. The company's designers are also insisting on more sustainable products, and employees from across the company serve on an environmental committee as well as on workplace teams. Progress on environmental issues is discussed once a month at a company-wide meeting. And every Friday, over lunch, staff watch green-themed videos. "Education, training and knowledge are a key part of our success," says Bernard.

And now the hard part begins. Spec has adopted a series of green principles that set specific objectives, such as a 20 per cent reduction of its environmental footprint and a 25 per cent cut in energy use by the end of 2010. Furthermore, the company has just hired its first environmental specialist, who will ensure all the company's carbon use in the supply chain, from steel mill to delivery truck, is measured and managed (increasingly, reusable blankets are replacing bulky cardboard boxes for protection in transit). "You can never fix what you don't measure," says Taylor.

"It's a journey that never ends," says Bernard. But he insists that green will eventually pay for itself. "Most businesses have so much waste. If we can cut it in half and transfer the savings, we can compete with anybody." 

## AT A GLANCE

In business since	1991
Annual sales	\$25 million
Number of employees	100
Three-year growth rate	42 per cent

vice president of finance and administration). The three guiding partners have helped Spec survive in the contract furniture market (the company specializes in chairs and tables for offices and waiting rooms) by blending stylish design with Lean, short-run production methods.

## Role model for companies

More to the point, they have introduced ambitious policies for sustainable products and practices that will make Spec a more formidable competitor and maybe even a role model for Ontario companies still coming to grips with green realities.

"I wouldn't call us environmental activists. We're pragmatists," insists Taylor, who, along with Reg Bernard, vice president of operations, runs the company. "Green business makes sense from a lot of standpoints: moral, ethical, sales, even the environment you're providing for your employees."

Spec was started in 1991 when the three colleagues saw a chance to produce a higher grade of made-to-order contract furniture. Working closely with designers and architects of building projects across North America, Spec provides seating and tables in any colour or configuration the clients require. "We've always been a customer-service and marketing company," says Taylor. "We produce a customized product. It's not something you buy off the shelf."

But as Spec grew, Taylor and his partners discovered a new market imperative that has become as crucial as customer service: green thinking. As Spec began producing more of its own products, Taylor found there were two ways to make things: traditional methods requiring toxic substances and hazardous industrial environments and greener ways that focus on issues such as energy use, off-gassing, employee health and safety, and sustainable materials and processes.

The greening of Spec came from many sources: management's personal awareness, specifically their growing concern for the world their children will live in; the growing acceptance of green



Concern for the environment, a wish to provide a healthier workplace for its employees and increasing pressure from eco-minded customers propelled Spec on its green journey, say Donald Taylor, left, and Reg Bernard

# Green . . . and expanding fast

**Icynene's eco-friendly insulation foam, developed to fill a void when UFFI was banned, is today filling spaces around the world**

The Home Builders Association of South Carolina had an embarrassing problem: it promotes energy-efficient construction, yet its 112-year-old office building in downtown Columbia was experiencing severe air leakage and high heating and cooling bills. In summer, indoor temperatures soared past 27 degrees Celsius, even with the air conditioning running full blast. "Our energy bills were making a big hole in our pockets," says Mark Nix, the association's executive director.

AT A GLANCE

In business since	1986
Annual sales	\$80 million
Number of employees	155
Three-year growth rate	54 per cent

The solution was to renovate the historical timbered building and insulate its walls, floors and roof with a spray-in-place foam that expands to 100 times its volume, filling every crack and hole. The goal was to "tighten the building envelope" by reducing air leakage, which can account for 40 per cent of the cooling and heating costs. The result was stunning. In January 2008, the association's heating bill was just \$31, a 95 per cent decline from the January 2006 bill of \$580. In sweltering August, air-conditioning costs fell by 66 per cent to \$438. Score another big win for Icynene Inc. of Mississauga, Ontario, whose unique insulation, also called Icynene, is winning clients and buyers around the world.

## A company worth watching

Icynene's success makes it a company worth watching for many Ontario firms trying to sell green goods and services. After all, marketing innovation is never easy. "It took us 20 years to become an overnight success," says Alan Rankin, Icynene's president and chief executive officer. When he joined the firm in 1997, it had sales of \$6 million and 50 dealers (contractors who install Icynene foam) across Canada and the United States. Today, Icynene has sales of \$80 million, 400 dealers and projects around the world, including a temple in Japan, upscale condominiums in Abu Dhabi and an addition to the Mayo Clinic in Rochester, Minnesota.

The keys to Icynene's success are aggressive marketing, strong relationships with company dealers, savvy public relations (Icynene often appears on *This Old House*, probably the longest-running U.S. renovation show) and lobbying regulators to include Icynene in their building codes. Icynene's sales and marketing muscle includes an eight-person team devoted to finding new dealers and educating them about the product. One of the company's precepts is that dealers should not emphasize the money consumers save by using its product, but the benefits they will enjoy. Instead of telling prospects Icynene will save them \$500 a month, dealers are

urged to say, "You can pay down your mortgage by \$500 a month."

The top-secret Icynene formula was developed in the late 1980s by Gabe Farkas, a chemical engineer who became Icynene's vice president of engineering. He was responding to concerns over the formerly popular UFFI (urea formaldehyde foam insulation), which was banned in Canada in 1980 after being found to leak formaldehyde. Farkas's foam reproduced the best features of UFFI (its ability to be "blown" into tight spaces and then expand to fill corners and cracks), minus the volatile organic compounds. Icynene is also more water-resistant than UFFI (eliminating mould) and more robust: it retains its soft elasticity and doesn't crumble over time as UFFI does. It is also formaldehyde-free and water-blown, meaning it doesn't use a chemical blowing agent to expand.

## Price is a challenge

Icynene's key challenge is shared by many green products: price. Icynene costs 2.5 times more than fibreglass insulation. The company defends that discrepancy with case studies demonstrating the product's convenience as well as its effectiveness. Spraying Icynene foam between walls, floors and ceilings is faster and easier than blowing in cellulose insulation or trying to fit stiff foam battens into tight spaces. Besides locking out moisture and pollutants, Icynene's complete seal helps soundproof a building. The company's no-nonsense slogan is "Healthier, Quieter, More Energy Efficient."

Rising energy prices are also aiding Icynene's cost-benefit ratio. "When I joined Icynene, it was an 11-year payback," says Rankin. "Now it pays for itself in less than three years." As consumers grow more concerned about energy use, Rankin says, they are pressing for green solutions. "Builders used to resist green products with higher costs," he says. "Now they see them as a selling feature."

Icynene isn't resting on its laurels, though. It recently joined a coalition of building products manufacturers to push for more regulatory changes favourable to alternative methods of reducing energy use in buildings. Already active in Central America, Europe, China and Japan, Icynene recently formed a new subsidiary to expand sales in Asia. "International growth is 30 to 40 per cent a year," says Rankin. "Even in the current downturn in North America, we're increasing our market share."

## New green products coming

The company is also unveiling new Icynene-branded products. It just introduced a renewable-based foam that uses resins based on castor oil rather than petrochemicals or soybean oil to create a more consistent product. And a denser foam offering more R-value per inch will appear later this year. "We're establishing a family of Icynene products," says Rankin. "We've been a one-trick pony for too long."





Besides locking out moisture and pollutants, says Alan Rankin, Icynene president and CEO, the complete seal his product affords helps soundproof a building. The company's no-nonsense slogan is "Healthier, Quieter, More Energy Efficient"

# Employees seize the day

**Environmental initiatives at Patient News Publishing have transformed the cottage-country company into an industry model and community leader**

Two days before Christmas 2008, the employees of Patient News Publishing Inc., a dental and cosmetic newsletter-marketing company in Haliburton, Ontario, had anything but business on their minds. After working their morning shift, they gathered in the company kitchen for a potluck lunch, underscoring Patient News Publishing's reputation as a fun, employee-friendly company that has been named one of Canada's best employers four years in a row.

## AT A GLANCE

<b>In business since</b>	<b>1993</b>
<b>Annual sales</b>	<b>\$10 million</b>
<b>Number of employees</b>	<b>70</b>
<b>Three-year growth rate</b>	<b>24 per cent</b>

After lunch, the staff had the rest of the day off. Before they left, every employee, including Alan Roberts, the operations director, took the time to scrape their leftovers into the compost bin and place their paper plates and plastic cutlery in the appropriate blue box. At Patient News Publishing, going green isn't a marketing ploy: it's a way of life. In fact, the success of its green initiatives demonstrates that employees can not only share management's green agenda, they can lead it. It also shows that one caring company can make an entire community greener.

Patient News Publishing's green journey began three years ago, when Wayne Lavery, the founder and chief executive officer, noticed how much garbage the company produced. Did anyone want to get involved, he wondered, in reducing its trash totals? Twenty people, or about a third of the staff, volunteered to start an environmental committee. With such support, Alice Miller, IT director and head of the committee, saw a chance to give Patient News a full green makeover. Since then, the company's Strategic Consumable Recycle and Assessment Program (SCRAP) has scored many accomplishments:

- Every corner of the company has been scrutinized for recycling opportunities.
- Most garbage bins in the office area have been removed and replaced by recycling containers.
- Offset printing plates are now recycled.
- The overprinting of newsletters was monitored closely to reduce paper waste.
- The installation of energy-efficient lights cut lighting costs by 50 per cent.
- Increased bulk purchasing of supplies reduced packaging waste.
- A modified press "chiller" now serves two printing presses, reducing waste water.
- Supply purchases are now arranged so they can be picked up by the company truck on its way back from delivering newsletters to post offices in Toronto and Buffalo. (This eliminated supplier

delivery runs totaling 1,500 kilometres a week.)

- Redesigning the plant floor reduced the use of the company's forklift.
- Process improvements reduced overtime production, thus reducing light, electricity and water consumption.

With these efforts and more, Patient News reduced its garbage output by 60 per cent. By focusing on more efficient shipping techniques, the company could handle 30 per cent more volume without increasing the number of deliveries. The biggest surprise came when it switched to eco-friendly paper certified by the Forest Stewardship Council (FSC), which fights unsustainable forest practices by encouraging responsible forest management. SCRAP had assumed that buying 100 per cent FSC-certified paper would cost the company an additional \$20,000 a year. Instead, Patient News cut a deal that reduced paper costs by \$20,000.

The environmental effort even changed people's behaviours. To honour the company's new green initiatives, Karen Galley, co-owner and Patient News president, swapped her gas-guzzling Chevy Avalanche for a fuel-efficient hybrid and she and Lavery recently approved investments in flat-panel computer screens (which use less energy than tube-based monitors), energy-efficient dishwashers and a Clean-Volt electricity-modulating system that reduces electricity consumption by "cleaning up" incoming power to make machinery and appliances run more efficiently.

So far, the 4,500 dentists in the United States, Canada and the United Kingdom who promote their practices through custom newsletters produced by Patient News haven't shown too much interest in its green revolution. "I don't think many clients are choosing us for our environmental sustainability," says Galley. "They're choosing us for our product quality and service orientation." While she thinks customer interest will grow, she says the greatest benefit is the pride it gives her staff. "When people have pride in the workplace, they're prepared to work harder and provide better service, and that helps build a business naturally."

Green pride has also motivated the SCRAP team to share its learnings. Last year, the committee invited 30 local business people to come and learn from the company's green initiatives. "There is no reason they should have to re-invent the wheel," says Miller. And on January 1, 2009, SCRAP launched a new website, [www.catchinggreen.com](http://www.catchinggreen.com), to export its expertise. Anyone can register on the site and download templates to guide their own green journey. SCRAP is also partnering with students from Trent University who are creating lists of green best practices and products to shorten other businesses' learning curves.

Galley says Patient News is committed to a green future. "This is an unchanging, unwavering corporate contract on our part. We'll continue to investigate ways to make improvements from now until forever. It's just the right thing to do." ♻️





Karen Galley, co-owner and president of Patient News Publishing, says the firm's employees have new-found pride in their workplace and are "prepared to work harder and provide better service, and that helps build a business naturally"

# Creating a new business model

**Mondial Energy is covering rooftops with arrays of solar panels and saving its growing list of customers thousands of dollars in energy costs**

At first glance, the Beach Solar Laundromat on Toronto's Queen Street East looks like any self-serve laundry, from its orderly rows of Maytag washers to the lost-and-found notices on the bulletin board. There are few clues that this is an award-winning business or that it has spun off a groundbreaking thermal-energy company that has become Canada's first solar utility.

## AT A GLANCE

In business since	2004
Annual sales	Not available
Number of investors	60
Three-year growth rate	Not available

Alex Winch, a former hedge-fund manager, is the entrepreneur behind both the Beach Solar Laundromat and its innovative offspring, Mondial Energy Inc., which manages solar arrays on the roofs of apartment buildings, seniors' homes and hospitals. The south-facing solar panels pre-warm the buildings' hot-water supplies, cutting in half the amount of electricity or natural gas required to heat cold city water. The building owners require no capital for their money-saving solar systems because Mondial covers all the upfront costs, recouping its investment by charging a pre-set price, like any utility, for the metered energy used.

### Profitable and innovative

Mondial, which moved in December 2008 from the apartment over the laundromat to a "real" office in downtown Toronto, is still finding its feet. With an installed base of more than 300 solar panels, a request for proposal (RFP) award to place hundreds more atop city-owned buildings and pension funds now angling to invest in the company, Mondial is proving that green business can be both profitable and innovative.

"It's a soup-to-nuts turnkey solution for owners and developers," says Winch. "They can go green and save money with no capital or operating costs."

A student science-fair winner who studied engineering physics at Queen's University before becoming a financial analyst, Winch developed his solar savvy through that combination of technical and business experience. After his "retirement" from Bay Street in 1995 at the age of 31, followed by a few years of active investing, he decided to tackle more tangible projects, something bigger than the solar-heated shower he had built at his in-laws' cottage. When he saw a laundromat for sale in 2002 near his home in Toronto's Beaches district, he bought it as a "project."

Working with Solcan Ltd. of London, Ontario, a long-time manufacturer of solar collectors, Winch turned the dowdy laundromat into a sustainability showpiece. Besides energy-efficient lighting, a must in a business that is open 18 hours a day, he installed

eight rooftop solar panels to heat both the wash water and the radiators in the upstairs apartment. While he was cutting his gas heating costs by 30 per cent, sales increased fivefold as the laundromat became the go-to place for eco-minded consumers. Within 18 months, the Beach Solar Laundromat was winning awards for pollution reduction and prevention.

### Private investors

Once he had proven that solar energy doesn't cost more, Winch was ready to expand. "I had to decide whether I wanted to own more laundromats or more solar panels," he says. Seeing the potential to help other landlords profit from renewable energy, he formed Mondial to put solar collectors on every roof, thanks in part to \$3 million in backing from 60 private investors.


"The hard part was building the first site," admits Winch. "People were so convinced that it was impossible to do what we do." But in November 2006, he unveiled Mondial's first solar-panel array. The network of 60 panels atop a non-profit apartment building for seniors was set to produce 134,000 kilowatt hours (kWh) per year to heat the building's water, offsetting its \$10,000 worth of natural gas consumption.

Making the system transparent, Mondial meters every kilowatt so that clients know they are paying only for the energy they use. "If it's not sunny," notes Winch, "we don't get paid."

The company has since installed heating systems at more seniors' residences and will soon commission a system at Toronto's Hospital for Sick Children. In October 2008, Mondial won approval to provide solar installations for 15 City of Toronto buildings. With their thermal systems requiring little maintenance (the only moving part is the pump that circulates the glycol through the system), Mondial's projects, says Winch, are basically annuities. They offer a low-risk return for as long as the sun shines. No wonder pension funds are lining up to finance the company's endeavours: "While the technology is considerably more economically efficient than solar photovoltaic [PV], building multiple projects requires significant capital," says Winch.

### Multiple contracts

In October, the State of Wisconsin selected Mondial and an unrelated U.S. company to provide solar thermal energy for various government facilities, including office buildings, correctional institutions and the 26 campuses of the University of Wisconsin. Winch hopes this will set a precedent for other states and result in more multiple contracts. In fact, he declines to speculate how big his company might be in five years: "We keep revising our five-year plans upward," he says.

When you take the risk out of solar, the sky really is the limit. 

Alex Winch, a former Bay Street hedge-fund manager, parlayed the technology behind his innovative solar-powered laundromat into Mondial Energy, Canada's first solar utility. "If it's not sunny," he says, "we don't get paid"





# Managing by measuring

**Zerofootprint challenges corporations, governments and individuals to calculate, reduce and offset their impact on the environment**

Zerofootprint Inc. has a lot on the go, but then it has a lot going for it. The three-year-old Toronto company develops software that helps businesses measure and manage their carbon emissions. It also creates customizable online widgets and Web sites that allow students, teachers and whole communities to track their environmental impact and connect with others around shared goals. More ambitious still, it is trying to kick-start into existence

organizations, in climate change. Zerofootprint Software develops carbon-management software and consulting services that enable multinational organizations to measure and manage carbon consumption throughout their organizations and up and down their supply chains. Zerofootprint Carbon, incorporated in June 2008, is building a portfolio of carbon-offsetting projects that enable organizations to mitigate their harmful impacts by investing in sustainable, long-term projects such as forest restoration, tire recycling and landfill gas recovery.

## Leveraging technologies


The heart of all three companies is Zerofootprint's Carbon Engine, software developed by a team of programmers in Canada. Dembo describes it as "one technology leveraged many ways." At one level, for instance, the software lets schoolchildren analyze their families' carbon footprint, then gives them the opportunity to make pledges to recycle and turn off their computers at night.

The enterprise version of the software teaches corporations similar lessons. Dembo believes governments around the world will soon be requiring companies to measure carbon emissions from every corner of their businesses: every building, every vehicle, every business trip. Zerofootprint's enterprise software, which sells for \$25,000 and up, eases this overwhelming task by offering automated data collection from diverse sources, flexible reporting and audit trails, customizable alerts that point out anomalous findings and multiple levels of security. "If you know your footprint, you can change it," says Dembo. "We're making the world smarter."

Dembo believes that once these newly empowered companies start managing their carbon use, climate breakthroughs will come. He looks forward to an era of wired buildings that manage their own energy use and smart grids that "dial down" energy consumption at peak load times.

Zerofootprint's client roster includes such blue-chip names as Air Canada, RBC Financial, Roots, Enbridge and Strathcona Paper. Cities signing up for the company's services include Toronto, Ottawa, Edmonton, Boulder (Colorado) and Seattle (Washington). As for competitors, Dembo likens the carbon-software market to the risk-management market he conquered a decade ago: "There are two or three big software companies trying to get in, but no one owns it yet."

The market potential is huge. The U.S. Department of Energy says 40 per cent of total energy consumption and greenhouse gas emissions come from operating buildings. With its for-profit business less than a year old, Dembo won't reveal revenues, but admits the company is losing money. "Sales will be in the millions within a year," he promises. "And hopefully, we'll be in the black."

After leaving behind two previous careers, can Dembo see himself walking away from Zerofootprint? Not likely. "I can't imagine ever letting go of this," he says. "It's endless." 

## AT A GLANCE

In business since	2005
Annual sales	Not available
Number of employees	25
Three-year growth rate	Not available

an online market for carbon offsets that would allow energy-hungry companies to reduce their overall carbon footprint by funding projects that result in verifiable emissions reductions.

If that looks like a mixed bag of good intentions, Ron Dembo, Zerofootprint's founder and CEO, will quickly set you straight. The strategic goal underlying all these activities is measurement. Zerofootprint is committed to encouraging consumers, businesses and entire cities to measure their actual impact on the environment, from the total cost of air conditioning or commuting to the amount of coal burned when downloading a song from iTunes. Measurement, says Dembo, is the essential first step to solving pollution, global warming and the rest of the world's environmental problems. "You can't manage what you don't measure."

## Like burning a bag of charcoal

"Producing a kilogram of steak consumes 15,000 litres of water," notes Dembo. "Downloading 100 megabytes is like burning a bag of charcoal. We don't know these things because we don't measure them, and because we don't measure them, we go on doing them."

A former Yale University professor and expert on risk management, Dembo founded Toronto-based Algorithmics Inc., whose financial software helps banks manage portfolio risks. After he sold the company in 2005, he promised himself that from then on, "I would only do things I am passionate about."

At a conference two weeks later, he was dismayed to see how casually his fellow executives wasted energy. Analyzing the potential environmental havoc that could result if the industrial world didn't slash carbon-dioxide emissions, Dembo realized that climate change "is the mother of all risks." So he developed his vision of a company that would help people see how they add to the problem every day.

Established in 2005, Zerofootprint now encompasses three related companies: Zerofootprint Not-for-Profit uses Web technologies to engage communities, including schools, governments and other



Former Yale University professor Ron Dembo, who founded and sold the hugely successful Algorithmics Inc., predicts a similarly rosy future for Zerofootprint Inc. "I can't ever imagine letting go of this." The market potential, he says, is "endless"



# The payback of reducing waste

**A high-tech Ottawa manufacturer has increased efficiencies and saved both money and trees by dramatically reducing its use of paper**

Since 2003, Michel Jullian, founder and president of Ottawa-based OCM Manufacturing Inc., has been crusading to create a paperless office. While full victory remains elusive, he sees his initiative as a rare triple win: it has boosted OCM's efficiency, saved serious money and made his company a leader in the green-office evolution.

## AT A GLANCE

In business since	1988
Annual sales	\$8 million
Number of employees	45
Three-year growth rate	20 per cent

OCM, a contract electronics manufacturer (CEM), assembles custom microelectronic systems for manufacturers such as Husky Injection Molding Systems Ltd. and Allen-Vanguard Corporation, which manufactures bomb-disposal suits. OCM's combined office and production facility in Ottawa (it also has an operational arm in China) includes state-of-the-art equipment and processes, but Jullian's favourite tool is the receptionist's optical scanner. It transforms bills, letters and other papers into electronic documents for posting on OCM's online information system, an archive for all staff that eliminates duplication, lost files and hoarding of information.

### Increased sustainability

Jullian isn't sure how many trees the system has saved, but he knows it has made his company more successful and more sustainable. "I'm an environmentalist," he says. "I really believe that the environmental balance sheet is always negative: we take from the future but don't put anything back."

His crusade really began in 2000, when OCM applied for ISO 9000 quality certification. The process involves documenting all internal systems and processes, resulting in stacks of reports. Jullian was aghast at the waste. The last straw came when the ISO registrar requested a few changes that forced OCM to reprint its quality manual – all 50 copies. "Such a waste of effort and energy," recalls Jullian. "I said, 'Let's get rid of the paper.'"

He commissioned a quality assurance staffer, backed by an IT manager, to create a database to put all the ISO documents online. The ISO registrar warned that much bigger companies had run into trouble trying this, but within three months, OCM had a robust archive that allowed all staff to review products, processes and progress online. When anyone makes a change, everyone gets instant access to the data without needing to manage multiple copies. The change impressed the ISO registrar, who could now review all OCM procedures on his laptop.

"The goal was to do a total online system, no ifs, ands or buts,"

says Jullian. He admits a few staff members preferred paper at first, but because the ISO process was all new to the company at the time, there was no "legacy" paper version to cling to. "Looking back," he adds, "it was a good idea to start with a new process that no one had any familiarity with."

### Success bred more reform

The success of the ISO online documentation emboldened Jullian to reform the whole company. He started with human resources then moved on to accounting and purchasing. Now, all job application letters and resumé received are scanned into the system and staff input their own sick days and vacations on a master calendar. That, says Jullian, helped everyone get with the program: "People were motivated when they found out it was the only way to get their vacations."

Still, he says, employers must give their staff the right tools for the paperless office. Because they so often have to update documents from different sources (such as transferring production statistics from desktop to database), most desk-based staff have dual monitors on their desks. Scanners and projection systems have to be high quality and heavy-duty. And you have to train people consistently, says Jullian, so they all understand how the system works and what documents they have access to.


The most important tool is the database that allows everyone to access all company documents. "You need the IT infrastructure to support your paperless endeavour," says Jullian. "Otherwise people will take the path of least resistance and revert to paper."

Even the company's financial statements are shared online, as OCM practices open-book management. Jullian has heard many CEOs express concern about making intimate data so accessible, but says he hasn't had any confidentiality problems.

Today, OCM's operations are 90 per cent paperless: paper documents accompany each product as it moves through assembly and inspection and many invoices and cheques still arrive by mail. For Jullian, the savings are clear: just three dedicated staff handle all HR and accounting functions – tasks that required four people five years ago, when the company was half its current size. And just two people now order and track thousands of parts.

### Unexpected efficiencies

Beyond that, Jullian says there are unexpected efficiencies in being paperless. If customers call to ask about an order, for instance, staff can locate the needed documents without having to find someone who knows where the files are.

Jullian believes green means go. "We have a tremendous amount of information that goes on inside and outside the company," he says. "I don't see any other way we could have grown as we have and still managed all that paper." 



Companies must provide employees with the right tools if they want to reduce paper use, says Michel Jullian, founder and president of OCM Manufacturing. Today, OCM's operations are 90 per cent paperless



# Innovators showcase

## Seven examples of successful small and medium-sized enterprises (SMEs) based in Ontario that have seized green opportunities and prospered

### Unicell Ltd.

Unicell, a Toronto-based truck-body manufacturer, has produced North America's first all-electric delivery truck. Deriving its energy from two on-board batteries, the 250-horsepower Quicksider can go 80 kilometres on a single charge. With an electric motor coupled to each rear wheel, the Quicksider offers additional productivity features, such as the ability to "kneel" at the rear or side, allowing drivers to roll their delivery dollies straight out the door for faster service. Purolator Courier Ltd. hopes to launch a test with five or more vehicles later this year. Roger Martin, Unicell's chairman, admits current prices for batteries and electric motors make the Quicksider expensive, but he believes that as increased research and production bring prices down, fully electric vehicles will soon be able to pay their own way.



### Xero Flor Canada Ltd.

If you think there is nothing new under the sun, take a look at Xero Flor. This Mississauga company sells unique green-roof packages to owners of commercial, industrial and residential buildings. Xero Flor's technology, developed in Germany and adapted for Canadian climates, involves covering rooftops with a shallow layer of mineral substrate that nurtures a self-sustaining ecosystem of low-growth, drought-resistant plants, or with deeper systems using a variety of perennials and grasses. The advantages of a green roof include added insulation as the green roof absorbs much of the sun's heat; storm water retention and filtering; and reduced stress on roof membranes, which leads to fewer water leaks and longer lifespans. And no, you never have to mow the roof.



### Nedco Products

Nedco Products of Newmarket has reinvented one of society's oldest tools: the rain barrel. Produced from recycled food barrels, Nedco's Rain Collector system diverts rainwater from downspouts into one or more 60-gallon drums. A hose for watering the garden can be hooked up to an all-weather plastic spigot, reducing municipal water use and water bills. Custom-designed valves keep the water flowing and divert overflow storm water back to the downspout, while the barrel's sealed top prevents infestation by egg-laying mosquitoes. As the price of municipal water continues to rise, Nedco expects that more homeowners will adopt the harvesting of rain in response to the growing need for water conservation.



### Thru-way Trailers

BladeMaster isn't the latest Hollywood action movie; it is an innovative transportation solution from Thru-way Trailers. The Milton-based manufacturer of custom trailers created the BladeMaster to transport long, cumbersome wind-turbine blades. The trailer itself is 16 metres long and can extend to 39 metres to cradle the biggest blades. What makes it easier, safer and more cost-effective than conventional trailers is the microprocessor-controlled Active Steering Metrics system, which helps the trailer negotiate tight corners. That means contractors can use more direct routes, with fewer stops and fewer support vehicles, saving time and money. Interest has come from across North America; one customer even ordered two units that extend to 43 metres because turbine blades keep getting bigger.



### MDS Nordion

Ottawa-based MDS Nordion is not just a world leader in the advanced sectors of molecular and nuclear medicine. The provider of innovative technologies for medical imaging, target cancer treatments and medical device sterilization is also a leader in protecting the environment. Its winning environmental programs have earned the company several national awards for its "lean" approaches to energy use, including lighting modifications that produced an 18 per cent decrease in electricity consumption and an overhaul of its insulation, heating and air-conditioning systems that cuts natural gas consumption by 15 per cent. In 2006, MDS Nordion's waste-reduction and recycling program diverted 72 per cent of its waste from landfill.



### 6N Silicon Inc.

Founded in 2006, Vaughan-based 6N Silicon has developed an inexpensive and innovative method to produce purified solar-grade silicon that could make the company the solution to the need for abundant, low-cost material for the growing solar-energy industry. Production began last October at its new 2,000 tonne per year production facility, initially creating 84 new jobs, thanks in part to support from Ontario's Next Generation of Jobs Fund. 6N Silicon's production process, devised by founder Scott Nichol, uses less energy, floor space and capital than conventional processes. It could help relieve the shortage of feedstock material to solar cell producers that has been slowing the growth of the photovoltaic sector.



### PowerWatch Inc.

Knowledge is power: less power, that is. When consumers can actually see how much electricity they save by turning off computers or installing compact fluorescent bulbs, they are more likely to become conservation-conscious throughout the house. That is the experience of PowerWatch, an Oakville company that produces real-time energy-monitoring systems for home and commercial use. PowerWatch claims its customers quickly cut their power bills by 10 per cent to 20 per cent, savings that can add up to \$400 a year. The idea for the system came to Janeen Stodulski, an Oakville accountant, during the blackout of August 2003. If everybody used a little less power, she figured, there would be less stress on the system and more security for everyone.



# Stuart L. Hart on the future of green

The author of *Capitalism at the Crossroads: Aligning Business, Earth, and Humanity* says organizations that fully embrace the new ethic of sustainability will not only survive, but thrive

Stuart L. Hart began studying green business long before it was cool. As a business professor at the University of Michigan in the 1980s, he was often encouraged to just teach strategic management and stop trying to connect business to sustainability. But Hart persevered, confident that one day the term “green business” would be as redundant as “colour television.”

Today, as Samuel C. Johnson Chair in Sustainable Global Enterprise and professor of management at Cornell University’s Johnson School of Management and author of *Capitalism at the Crossroads: Aligning Business, Earth, and Humanity*, Hart is acknowledged as a pioneer of the new age of sustainable business. His key insight is that once companies switch their thinking from pollution prevention to sustainability (accepting complete responsibility for their impact on Earth), they will generate major cost savings and find no end of opportunities for growth. Fans of Hart’s work include former U.S. vice president Al Gore, who wrote in the foreword to Hart’s book that “sustainability will be a key driver of global economic change over the next 50 years. And we think companies face an unprecedented opportunity to create shareholder value by helping to chart the way forward, and by contributing to sustainable development.”

To Hart, however, sustainability goes further than simply being green. The Earth doesn’t contain enough energy or resources to allow most of the world’s emerging markets to reach the consumption levels of the G8 nations. “You can’t have four billion more people consuming the way we do,” says Hart. “It will take us over the cliff.” He believes only “disruptive change” will integrate the people at the “bottom of the pyramid” into the 21st century economy.

That means all-new, low-cost forms of housing and appliances, transportation, agriculture and food processing, manufacturing, and other industries, all geared to local need and zero environmental impact. He says this “Great Leap Downward” will create tremendous opportunities for the businesses that start catering to the world’s poorest. He expects even more opportunities will be created as these sustainable solutions “trickle up” into the developed world to provide more alternative products and services for our resource-hungry society.

## Global business at a crossroads

In Toronto recently to lecture on the sustainable enterprise at the University of Toronto’s Rotman School of Management, Hart explained why the green challenge has put global business at a crossroads. He sees business as a solutions provider and driver of change. “Constructively engaging today’s tough challenges will be the key to ensuring that capitalism continues to thrive in the coming century – to everyone’s benefit.”

Hart admits not everyone accepts his thesis. To defend his turf, he points to such companies as Tandus Group, the Georgia-based carpet maker whose operating mantra is “Leave No Trace.” That

includes not just becoming the first carpet maker to take back old carpets and turn them into new ones but also the first to manufacture them with recycling needs in mind. By restructuring its business around environmental stewardship, Tandus has become an employer of choice, a driver of industry innovation and a sales leader, with the highest profits in its industry.



Professor Stuart L. Hart

Fortunately, business is slowly getting over what Hart calls “the trade-off myth,” the long-standing idea that becoming environmentally friendly imposes extra costs on business. Hart credits the rise of the quality movement for helping to change minds. When Japanese companies started proving they could produce better cars less expensively than North American manufacturers, businesses around the world realized that quality wasn’t a cost but a competitive advantage. They learned that quality-based systems unleashed new thinking and innovative processes that save companies money while making them more innovative.

Now businesses are making the same connection in green thinking. In the 1980s, putting scrubbers on smokestacks to reduce pollution was indeed a big cost. But when green thinking shifts from pollution prevention to sustainable design, environmental factors become, in Hart’s words, not obligation but opportunity. By reducing pollution and waste, shrinking their carbon footprint, producing less harmful products and taking responsibility for the life-cycle management of those products, businesses reduce not only their costs, but their risks as well. And they become prouder, more welcome members of their communities.

## Growing markets, higher price points

The payoff comes because, as companies tackle these issues, they find their markets expanding. Their new products, containing fewer toxic materials and/or having smaller energy footprints, attract growing numbers of consumers. With governments and industry bodies creating new environmental standards and requirements for everything from automobile exhausts to building systems, sustainability-minded organizations find opportunities for cleantech products and services, often at higher price points. “Today,” says Hart, “the environment is not just a problem for engineers and lawyers. Now it is something that has business value.”

Hart sees the future of sustainability involving new waves of innovative, independent businesses and small-scale wind, hydro and solar power-generating companies taking over much of the burden previously assumed by monolithic utility companies. The global problems of pollution, waste, resource depletion, energy change, climate change and overpopulation will not be solved easily, but they will create tremendous opportunities for smaller players with new ideas. Even if you don’t think of your business as a cleantech company, “looking at things through a sustainability lens can help you identify what’s going on and where your markets are going,” says Hart. “This is the key business of the 21st century.”



# Green perspectives

“When the wind changes direction, there are those who build walls and those who build windmills.”

CHINESE PROVERB

“Sustainability will be the key driver of global economic change over the next 50 years.”

AL GORE, *former U.S. vice president, environmentalist, Nobel laureate*

“The younger generations want to work for companies that are standing up for sustainability.”

TOM HEINTZMAN, *Co-founder and President, Bullfrog Power Inc.*

“Green business makes sense from a lot of standpoints: moral, ethical, sales, even the environment you’re providing for your employees.”

DONALD TAYLOR, *Co-founder, Spec Furniture Inc.*

“Going green saves you money. It makes you money. It’s just good business.”

BRETT WILLIS, *environmental consultant, High Performance Solutions Inc.*

“Builders used to resist green products with higher costs. Now they see them as a selling feature.”

ALAN RANKIN, *President and CEO, Icynene Inc.*

“Companies want to know what their direct carbon footprint is. If you supply a big company, you had better be able to tell them what your footprint is.”

ROBERT COLMAN, *Editor, Green Business*

“Measurement is the essential first step to solving pollution, global warming and the rest of the world’s environmental problems. You can’t manage what you don’t measure.”

RON DEMBO, *Founder and CEO, Zerofootprint Inc.*

“There must be a better way to make the things we want, a way that doesn’t spoil the sky, or the rain or the land.”

SIR PAUL MCCARTNEY, *Beatle emeritus*

“There are certain things we know will happen in the next 30 to 40 years if we don’t roll it back. So we have to start doing it now. Every marathon starts with a first step.”

ARNOLD SCHWARZENEGGER, *Governor of California*

“There is no business on a dead planet.”

DAVID BROWER, *U.S. conservationist*

# Selected resources

## Ontario Government

**Ontario's Green Energy Act: A Vision for the Future** The Green Energy Act (GEA), introduced in the Ontario Legislature February 23, 2009, is a bold series of coordinated actions that would enhance economic activity and reduce our impact on the climate. If passed, the GEA is expected to create a wealth of new opportunities and a projected 50,000 new jobs over the next three years and would make Ontario the North American green energy leader.

[www.greenenergyact.ca](http://www.greenenergyact.ca)

**Ministry of Small Business and Consumer Services, Business Advisory Services Branch** Business advisors assist with market development strategies; access to sources of capital to support growth and innovation; programs in R & D and new technology; emerging clean tech opportunities; energy management; and link firms to people, information and resources to help enhance competitive advantage and profitability.

[www.ontario.ca/sbcs](http://www.ontario.ca/sbcs)

**Next Generation of Jobs Fund (NGOJF)** Ontario's five-year, \$1.15 billion program supports job creation and retention in strategic areas of great potential for Ontario. Projects considered must provide economic and environmental benefits, demonstrate innovation and create or sustain jobs for Ontarians.

[www.ontariocanada.com](http://www.ontariocanada.com)

**Advanced Manufacturing Investment Strategy (AMIS)** Open to advanced manufacturing innovations across all sectors, AMIS is focused on keeping the highest value-added manufacturing jobs to build Ontario's key strength – a skilled workforce. Priority is given to projects that include research and development initiatives.

[www.ontariocanada.com](http://www.ontariocanada.com)

**Ontario's Environmental Leaders** Ontario's Environmental Leaders program is a unique partnership between the government and companies that realize competitiveness, efficiency and innovation are enhanced by making green choices. Ontario recognizes corporations that demonstrate environmental leadership and rewards them with benefits.

[www.ontario.ca/environmentalleaders](http://www.ontario.ca/environmentalleaders)

**Ontario Environment Business Directory** Companies with a facility in Ontario are invited to register free of charge on the Web site, which is managed by the Ontario Ministry of the Environment (MOE). The site includes a search feature to identify solution providers and strategic partners. MOE distributes promotional material for the Web site to local and international clients.

[www.envirodirectory.on.ca](http://www.envirodirectory.on.ca)

## Research

**The 2009 OCETA SDTC Cleantech Growth & Go-to-Market Report** The first-ever report by Ontario Centre for Excellence in Environmental Technology (OCETA) and the Russell-Mitchell Group, in collaboration with Sustainable Development Technology Canada (SDTC) and the Ontario government, explores Ontario's clean technology industry and markets and shares insights and best practices in clean technology company profiles.

[www.cleantechnologyreport.ca](http://www.cleantechnologyreport.ca)

## Reading

**Capitalism at the Crossroads: Aligning Business, Earth, and Humanity**, Second Edition, by Stuart L. Hart, with a foreword by Al Gore (Wharton School Publishing, 2007-2008).

"*Capitalism at the Crossroads* is a practical manifesto for business in the twenty-first century. Professor Stuart L. Hart provides a succinct framework for managers to harmonize concerns for the planet with wealth creation and unambiguously demonstrates the connection between the two." – C.K. Prahalad, Paul and Ruth McCracken Distinguished University Professor of Strategy, Stephen M. Ross School of Business, University of Michigan

## Measures, Standards and Certifications

**Natural Resources Canada** The Walk-Through Energy Audit provides a qualitative examination of a facility, and identifies basic and immediate opportunities for savings. Depending on the size and complexity of a plant, this audit may take between a few days for simple facilities or processes and several weeks for large facilities operating several processes.

[www.nrcan.gc.ca](http://www.nrcan.gc.ca)

**EcoLogo Program** The EcoLogo Program is an eco-labelling certification program that rewards products and services for their environmental leadership. More than 3,000 products and services have attained certification.

[www.ecologo.org](http://www.ecologo.org)

**Leadership in Energy and Environmental Design (LEED) Green Building Rating System** LEED provides standards for environmentally sustainable construction and encourages and/or accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

[www.cagbc.org/leed/systems/index.htm](http://www.cagbc.org/leed/systems/index.htm)

**World Green Building Council (WorldGBC)** The mission of WorldGBC, a union of national green building councils, based in Woodbridge, Ontario, is to ensure Green Building Councils are successful and have the tools to advance; foster effective communications and collaboration among councils, countries and industry leaders; support effective green building rating systems; and share best practices globally.

[www.worldgbc.org](http://www.worldgbc.org)

**Canada Green Building Council (CaGBC)** This Ottawa-based organization advocates for green buildings and best practices and is responsible for LEED in Canada and the Green Building Performance Initiative, which aims to develop affordable and easy-to-use environment-management tools.

[www.cagbc.org](http://www.cagbc.org)

**Forest Stewardship Council (FSC) Canada** FSC is an international certification and labelling system that oversees development of regional forest management standards and raises awareness of the benefits of using FSC-certified products.

[www.fscscanada.org](http://www.fscscanada.org)

## Green Organizations (Ontario, Canada and Global)

**Ontario Centre for Excellence in Environmental Technology (OCETA)** OCETA is a private, not-for-profit corporation that supports the commercialization and market acceptance of innovative technologies and environmentally sustainable solutions through stakeholder consultation and the provision of business and technical services.

[www.oceta.on.ca](http://www.oceta.on.ca)

**Sustainable Development Technology Canada (SDTC)** SDTC is an arm's-length, not-for-profit corporation created by the government of Canada to support the development and demonstration of clean technologies and solutions that address issues of clean air, greenhouse gases, clean water and clean soil to deliver environmental, economic and health benefits to Canadians.

[www.sdtec.ca](http://www.sdtec.ca)

**World Business Council for Sustainable Development (WBCSD)** A CEO-led global association of approximately 200 companies from 35 countries, WBCSD deals exclusively with business and sustainable development.

[www.wbcsd.org](http://www.wbcsd.org)

**Carbon Disclosure Project (CDP)** A U.K.-based, not-for-profit organization, CDP holds the largest database of corporate climate change information, as well as tracking progress at corporations around the world.

[www.cdproject.net](http://www.cdproject.net)

## Magazines, News and Information

**Green Business** *Green Business* is one of Canada's leading providers of information and marketing services to business professionals in a wide range of industry sectors. Published by CLB Media Inc. in Aurora, Ontario, the magazine is a leading online information source for business executives building sustainable companies.

[www.green-business.ca](http://www.green-business.ca)

**Corporate Knights: The Canadian Magazine for Responsible Business** Corporate Knights provides an online reader's forum for responsible business and publishes special reports such as the Best 50 Corporate Citizens in Canada Annual Survey; the Cleantech 10 and Next 10 emerging cleantech leaders; Carbon 50, an index of the largest greenhouse-gas polluting companies and facilities in Canada; and the Global 100 Most Sustainable Corporations in the World.

[www.corporateknights.ca](http://www.corporateknights.ca)

**thegreenpages.ca** This is an interactive resource for environmental information and the latest news, events and stories from across Canada, divided into environmental information portals by province. Canada-wide: [www.thegreenpages.ca](http://www.thegreenpages.ca) Ontario Environmental Information Portal: [www.thegreenpages.ca/portal/on](http://www.thegreenpages.ca/portal/on)

# Acknowledgements

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## Innovators Showcase Companies

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Vaughan  
[www.6nsilicon.com](http://www.6nsilicon.com)

**MDS Nordion**  
Ottawa  
[www.mdsnordion.com](http://www.mdsnordion.com)

**Nedco Products**  
Newmarket  
[www.nedcoproducts.com](http://www.nedcoproducts.com)

**PowerWatch Inc.**  
Oakville  
[www.powerwatch.com](http://www.powerwatch.com)

**Thru-way Trailers**  
Milton  
[www.thruwaytrailers.com](http://www.thruwaytrailers.com)

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**Xero Flor Canada Ltd.**  
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[www.xerofloor.ca](http://www.xerofloor.ca)

### Ministry of Small Business and Consumer Services Business Advisory Services

Business Advisors in 12 regional offices across Ontario provide consulting and program support services to innovative small and medium businesses with an orientation to grow and develop both domestically and internationally. To contact a Business Advisor in your area, visit: [www.ontario.ca/sbcs](http://www.ontario.ca/sbcs)

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# Leading Growth Firm Series

CEO PERSPECTIVES

The Leading Growth Firm Series researches and promotes the effective management practices of CEOs, presidents and owners of Ontario's innovative, high-performance firms.

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