

THE CLEANTECH 10

| COMPANY, LOCATION, INDUSTRY | COMMENTS | # YRS | WHY WE LIKE THIS STOCK |
|---|--|----------|---|
| 1. Westport Innovations Vancouver, BC, Green Cars TSX:WPT | A company known for its high-performance engines, Westport Innovations enables vehicles to operate on alternative fuels and transitions fleets from oil-based to natural gas. | 3 | Westport's technologies reduce nitrogen oxides, particulate matter, and GHG emissions while preserving the power, torque, and fuel efficiency of diesel engines. GHG reduction commitments worldwide suggest a massive uptick in demand is on the horizon. |
| 2. RuggedCom Woodbridge, ON, Communications TSX:RCM | RuggedCom designs and manufactures communication network products and services, including network routers, wireless devices, media converters, and serial servers, to operate in harsh environments. | 3 | RuggedCom is well positioned to capitalize on the growing demand for IP-based communications networks suitable for non-office environments and the integration of communications networks with electric smart grids. |
| 3. WaterFurnace Renewable Energy Fort Wayne, IN Heating/Cooling TSX:WFI | Working with commercial, institutional, and residential building owners, WaterFurnace Renewable Energy builds and promotes environmentally-friendly heating and cooling systems using geothermal heat pumps which can deliver five units of energy for every one unit of electrical energy used. | 3 | WaterFurnace's headquarters demonstrate how geothermal technology can be successfully applied. Using a pond loop and 41 geothermal units, the company is able to meet all heating and cooling requirements for the facility. |
| 4. Magma Energy Corp. Vancouver, BC Geothermal TSX:MXV | Magma Energy, started in 2008, is focused on exploration, development, and operation of geothermal energy projects globally. It already boasts one of the largest geothermal portfolios in the world, with geothermal exploration and development projects in Argentina, Chile, Peru, and western USA. | 1 | Magma's projects include one operational geothermal plant, four advanced stage projects, and 21 geothermal development properties held directly or under lease applications. These geothermal projects have excellent potential for further energy development. |
| 5. 5N Plus Montreal, QC Metals TSX:VNP | 5N Plus purifies metals for use in a variety of applications including solar energy, medical imaging, infrared detectors, and thermoelectric devices. The company also operates recycling services to recover materials and minimize impact among its customers and suppliers. | 2 | 5N Plus recently partnered with Amerigon Inc., a leading developer of thermoelectric products, to create more efficient thermoelectric materials for use in heating, cooling, and power generation applications for industrial, consumer, medical, electronics, and automotive markets. |

Cleantech Legal Beagles

MCCARTHY TÉTRAULT: Andrew D. Grasby, David A.N. Lever, Anne-Marie Sheahan, Cheryl L. Slusarchuk

GOWLING LAFLEUR HENDERSON: David Pamenter

OGILVY RENAULT: Stephen J. Kelly, Richard S. Sutin, Andrew A. Taylor

MILLER THOMSON: Aaron Atcheson, Anthony de Fazekas

BORDEN LADNER GERVAIS (incorporated into Biotech and Pharmaceutical practice): Jeffrey S. Graham, Jason Howg, Katherine R. Britt, Tim McCunn, Bonnie Freedman, Andrew Loh, Ian A. Webb, Richard J. Morelli

BLAKE, CASSELS & GRAYDON: Sharon Wong, Richard Corley, et al

MACLEOD DIXON: Elizabeth DeMarco, Harry J. Ludwig

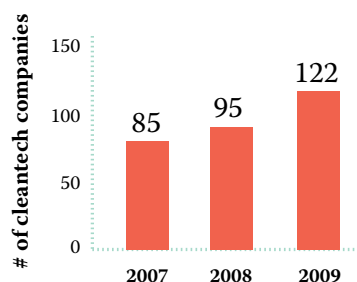
BENNETT JONES (incorporated into Climate Change and Emissions Trading group): Gray E. Taylor

DAVIS & COMPANY (incorporated into Climate Change Law practice): Brian Hiebert, Daniel R. Jarvis, Andrew Lord, Stephan Scott Trudeau, Jennifer Cleall, Robert A. Seidel, P. Anthony McArthur

Cleantech: knowledge-based products or services that improve operational performance, productivity, or efficiency while reducing costs, inputs, energy consumption, waste, or pollution.

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|--|---|----------|--|
| 6. Canadian Hydro Developers Inc. Calgary, AB Hydro TSX:KHD | Canadian Hydro Developers Inc. owns and operates 21 hydroelectric, wind power, and biomass facilities in four provinces, with a net generation capacity of 694 megawatts of green power. Canadian Hydro is now Canada's premier independent developer of EcoLogo™ certified low-impact renewable energy. | 3 | The company is currently the subject of a hostile takeover bid from TransAlta. As of press time, Canadian Hydro has tentatively agreed to an improved takeover offer of \$5.25 per share (over \$4.55). Scotia Capital's Ben Isaacson suggests that TransAlta "could internally view KHD worth up to \$9.00/share, with upside coming from reduced financing risk, KHD tax shield value, and potential carbon offset value." |
| 7. Carmanah Technologies Corp. Victoria, BC Solar Lighting TSX:CMH | Carmanah pioneered the first stand-alone solar power marine lantern and continues to develop solar LED lighting and solar power systems for industrial applications worldwide in the aviation, traffic, telecom, construction, marine, and mining industries. | 3 | Carmanah recently unveiled the EverGEN 1710 solar-powered area light as a stand-alone lighting alternative for off-grid parking lots and other municipal, commercial, or industrial areas, scheduled for availability in early 2010. The EverGEN 1500 series has proved efficient and effective, helping a wide range of companies reduce their costs and invest in renewable energy. |
| 8. NEO Material Technologies Toronto, ON Metals TSX:NEM | NEO Material Technologies develops and produces magnetic powders, rare earth and zirconium based metals, and other high-value niche metals to be used in magnets, motors, and sensors. Applications for these metals include catalytic converters, computers, television display panels, optical lenses, mobile phones, and electronic chips. | 1 | NEO recently acquired Recapture Metals Ltd., which reclaims and recycles high-quality niche metals to be used in the wireless, LED, flat panel, solar, and catalyst industries. |
| 9. Stantec Edmonton, AB Consulting TSX:STN | Stantec provides professional consulting services in areas including planning, engineering, project management, surveying, and architecture. | 1 | Stantec is one of North America's leading sustainable design firms, with more than 300 LEED accredited professionals and a portfolio of hundreds of projects in the building, environment, industrial, transportation, and urban land sectors. |
| 10. Hemisphere GPS Calgary, AB GPS TSX:HEM | Hemisphere GPS offers precision GPS receivers and antennas, positioning and navigation systems for applications in pest control, row crop spraying, forestry and firefighting, as well as hydrographic surveying, navigation, mapping, and marine dredging. | 1 | Hemisphere GPS enables more accurate application of pesticides, leading to significantly higher yields per acre, and more precise trip distance estimations to minimize transport emissions. Several product launches are planned for the agricultural sector. |

Growth in TSX Cleantech listings



Green Percentage of Total Economic Stimulus Funding, 2009

| | | | |
|----------------------|-----|-----------------|-----|
| 1. Republic of Korea | 79% | 8. South Africa | 11% |
| 2. China | 34% | 9. Mexico | 10% |
| 3. Australia | 21% | 10. Canada | 8% |
| 4. France | 18% | 11. Spain | 6% |
| 5. United Kingdom | 17% | 12. Japan | 6% |
| 6. Germany | 13% | 13. Italy | 1% |
| 7. USA | 12% | | |

Source: HSBC Global Research

Silicon Valley North on the Horizon

by MELISSA SHIN

Why is Canada home to the world's biggest clean technology marketplace?

At September's G20 conference in Pittsburgh, Chinese President Hu Jintao promised that his country would reach 15 per cent renewable power in ten years. The same week his tax authorities chimed in with a detailed report on introducing a domestic carbon tax, starting in 2012—thus addressing a major competitiveness concern of US senators currently holding up the US climate change bill. Indian environment minister, Jairam Ramesh, says that India will increase its renewable energy output to 20 per cent by 2020.

Lord Nicholas Stern commented that these overtures opened up slivers of light at the end of the tunnel in reining in runaway climate change. The magic number he says is four—the world must improve its GDP per unit of carbon by a factor of four. To do this, we will need a lot more companies that can get us more miles and megawatts for less carbon. To this end, governments around the world have announced half a trillion US dollars of green stimulus spending in the past year (see sidebar, p.17). South Korea leads the pack with green stimulus investment of \$1,288 USD per capita, higher than the U.S. at \$365 per capita, and Canada at a meagre \$77 per capita, according to figures presented at the G20, derived from HSBC Global Research.

Canada, almost by accident, has stumbled onto the world stage as Silicon Valley North for the cleantech prowess of our capital markets. This has little to do with any kind of national political leadership, and more to do with Canadian entrepreneurs and the Bay Street ecosystem of lawyers, analysts, and investors who are accustomed to revving up little players in the energy or mining sectors, which happen to share many of the characteristics of nascent

cleantech companies.

So while the Canadian government plays catch up with Bay Street and most of the rest of the world, ordinary Canadians can invest here at home in the world's cleanest technologies.

The Toronto Stock Exchange is now home to the most renewable power and clean technology companies in the world, by its count 122 companies with a combined market capitalization of \$9.9 billion as of August 31, 2009. Over 1.5 billion cleantech shares were traded in the first half of 2009, which is over 2 per cent of the total shares traded on the TSX. In comparison, the New York Stock Exchange lists 29 cleantech companies, the NYSE Amex eight, and the NYSE Arca two more as of March 31. The London Stock Exchange gives the TSX a run for its money, as LSE spokesman Alastair Fairbrother counts 35 green companies on the senior exchange and roughly 100 more on the LSE's Alternative Investment Market.

The TSX and TSX Venture Exchange (TSXV) are attracting international listings such as China Wind Power International Corp (TSX-V:CNW) and Irish firm LGC Skyrota Wind Energy Corp. (TSX-V:LGS). "International companies are recognizing the value proposition that this marketplace has for cleantech companies," says Robert Peterman, Senior Manager, Global Clean Technology at the TSX.

Why Canada? Ungad Chadda, senior vice-president of the TSX, says our traditional expertise in nurturing and listing energy and mining companies has created the perfect infrastructure for doing the same for clean technologies like solar, wind, geothermal, biofuels, and water purification. This infrastructure includes engineering and geological expertise amongst securities and commission regulators, resource-specialized brokers and investment banks, and environment or technology practices within law firms (see Cleantech Legal Beagles sidebar). "When you put all those ingredients in the petrie dish, you have a world-leading place to have cleantech grow from," Chadda says.

Peterman adds that Canadian investment and brokerage firms are keen to cover

cleantech stocks, even those with relatively small market capitalizations. "The average cleantech issuer between a \$50 million and \$149 million market cap has five analysts on its stock," he says. With more firms monitoring each stock, retail investors have more access to information and buy/sell/hold ratings. Cleantech stocks also have a chance to prove their mettle on a junior exchange before graduating to the TSX—about a third of the TSX cleantech issuers came up through the TSX Venture.

All of this is good news for the average Canadian.

"You're going to be able to invest in the cleantech sector at an earlier stage of development than you may be able to elsewhere in the world," says Chadda. "And you can do it in a regulated fashion. We can really give people a ground floor investing opportunity into a very hot and promising space."

While Chadda recognizes that other regimes like Europe have been moving on cleantech for a long time, he says Canada can still be a leader. "I think we have [to play] a bit of catch up in some areas, but we've got all the ingredients to really make it a home turf strength," he says.

Says Peterman, "We think this is something that can power the Canadian economy someday."

The question is not so much why is Canada home to the world's biggest clean technology marketplace, but rather, will we believe in ourselves and have the confidence to grow these companies into world-beaters?

Melissa Shin is Managing Editor of Corporate Knights Magazine.

THE CLEANTECH NEXT 10

| COMPANY, LOCATION, INDUSTRY | COMMENTS |
|---|--|
| Cyrium Technologies Ottawa, ON Solar | Cyrium Technologies is developing a breakthrough photovoltaic solar cell technology using semiconductor nanotechnology. With efficiencies of 40 per cent or higher, its solar cells remain efficient at varying solar intensities, setting a new standard for solar cells. |
| Enerkem Montreal, QC Biomass | Enerkem has developed a unique clean gasification and catalysis technology that converts a mix of waste, including feedstock, sorted municipal solid waste, forest biomass, and agricultural residues, into biofuels and green chemicals. This technology reduces greenhouse gas emissions, strengthening energy independence and creating an economically viable alternative to burning or landfilling waste. |
| EnerWorks Dorchester, ON Solar Thermal | EnerWorks is North America's leading solar thermal technology provider, developing and manufacturing renewable energy appliances for residential and commercial markets. Its solar water heating appliances provide users with clean energy at a reduced cost. Products under development include integrated solar thermal/photovoltaic appliances, solar monitoring and metering, solar-assisted heat pumps, solar space and pool heating, and solar cooling. |
| Fifth Light Technology Oakville, ON Lighting | Fifth Light offers advanced lighting solutions that conserve energy, improve lighting quality, and simplify facility management, while generating an attractive return on investment. Its lighting solutions provide operating control over each light fixture on an individual basis and have been deployed in corporate campuses, hospitals, data centres, commercial offices, and schools. |
| General Fusion Burnaby, BC Fusion Energy | General Fusion is a developer of magnetized target fusion energy generation, a process where hydrogen isotopes, found in abundance in seawater, are fused together to form helium. The company is currently working on a new cost-effective compression system to facilitate the process and has just announced \$22 million in funding from a range of investors. |
| Ostara Nutrient Recovery Technologies Vancouver, BC Wastewater Treatment | Ostara's technology platform recovers polluting nutrients, such as phosphorus and ammonia, from sewage sludge liquids and recycles them into environmentally friendly slow-release fertilizers. The only Canadian company to make the Guardian's Global Cleantech 100, Ostara helps wastewater treatment plants reduce costs and increase capacity while diverting pollutants that would otherwise be released into the environment. |
| SiXtron Advanced Materials Dorval, QC Solar Cell Coatings | SiXtron has developed a highly innovative process for producing silicon carbide (SiC)-based anti-reflective coating solutions for the solar cell industry. SiXtron's process increases photovoltaic cell efficiency and lifespan, and reduces the quantity of raw materials and dangerous chemicals used in the manufacturing process. |
| Skymeter Toronto, ON GPS Data Analysis | A worldwide industry leader, Skymeter uses financial-grade GPS data to provide the technology and services to migrate roads and parking from taxpayer-subsidized to pay-per-use, cutting congestion, financing infrastructure, and reducing air pollution and greenhouse gas emissions. The company's FGPS technology has been proven by Cisco Korea and California's Department of Transportation. |
| StormFisher Biogas Toronto, ON Biogas | StormFisher Biogas builds, owns, and operates biogas plants across North America, working with agriculture, food processing, and electrical and gas utilities to convert organic by-products into clean, renewable energy. The company is shifting to a distributed generation model, producing power at or near the place it is being used. |
| Vive Nano Toronto, ON Nanoparticles | Using core-collapse technology, Vive Nano produces nanoparticle-based materials for the catalyst and crop protection industries. Its nanoparticle catalysts give customers the ability to carry out reactions with decreased energy, while its agricultural nanoparticles increase crop yields with lower environmental impacts. |

Cleantech research by JULIA GABRINI

CLEANTECH 10 METHODOLOGY

We sought out technology-driven growth companies that have big impacts on resource efficiency and the environment—not simply those re-branding themselves as ‘green.’ A set of 18 screening criteria were applied to all TSX companies that Cleantech Indices, LLC use for their broad Cleantech Index. While the TSX has a large number of Cleantech stocks, they tend to be younger and smaller, so the screening criteria was applied with some leniency to allow for a rounded out top-ten list. A heavy emphasis was placed on purity (percentage of revenues or income from Cleantech business, and whether or not it’s really ‘clean’) and quality (strategy, management, financial strength, sector leadership). Other key criteria included growth, earnings, liquidity, capitalization, technology/intellectual property, and overall impact.

The Cleantech Group’s Cleantech Index™ (Ticker: ^CTIUS) underlies the PowerShares Cleantech Index Exchange Traded Fund (NYSE:PZD) and the KSM Cleantech ETF in Israel (Ticker: KSCUS.15). CTIUS is first and only equity index that tracks the world’s leading cleantech companies across a broad range of industry sectors. For more info go to: www.cleantechindex.com.



CLEANTECH NEXT 10 METHODOLOGY

The Next 10 are selected by an advisory panel of Canada’s foremost authorities on cleantech:

Tyler Hamilton,
Energy Reporter, The Toronto Star

Andrew Heintzman,
Co-Founder, Investeco

Denis Leclerc,
President and CEO, Québec Cleantech Cluster

Nicholas Parker,
Executive Chairman, Cleantech Group LLC

Tom Rand,
Director, VCI Green Funds and Practice Lead, Cleantech and Physical Sciences at the MaRS Discovery District

Vicky J. Sharpe,
President and CEO, Sustainable Development Technology Canada

For bios go to:
www.corporateknights.ca/cleantech

Six of the Next 10 Cleantech are from Ontario. Why? The majority of our Advisory Board is based in Ontario; however, Vicky Sharpe and Nick Parker in particular have mandates that extend far beyond Ontario’s borders, and Denis Leclerc is firmly enmeshed in Quebec. It may be that Ontario has made a stronger attempt to date to identify and encourage cleantech companies than other Canadian provinces. Although it still early days, the Ontario Ministry of Research and Innovation, The Mars Centre, OCE Energy, Greening Greater Toronto, and OCETA, and now the Green Energy and Green Economy Act, all do a decent job of raising the province’s cleantech profile.

There's more Cleantech online!

Interviews with the Cleantech 10 CEOs

A list of the Next 10 Cleantech Nominees

Comparisons of our Cleantech 10 with Deloitte's Green 15

www.corporateknights.ca/cleantech

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