

One of Canada's top 10 cleantech companies – Menova Energy shines as a solar success story

Ottawa contract mechanical engineering firm turns expertise to solar collectors and creates a winner poised for rapid growth as municipal and industrial-commercial buildings seek clean power alternatives

Fast facts

Corporate profile

Founded in 1995, Menova Engineering Inc. serves clients such as Nortel, Liquid Computing, Hovey, Black & Decker, Honeywell and Ontario Power Generation.

Why Ottawa

Located in Ottawa, Menova Energy, spread out into the nearby countryside, is housed in one of those simple steel-clad buildings, and the Menova team wouldn't have it any other way.

Versus the hours-long commutes of Silicon Valley, the traffic chaos of Mumbai or the sky-high real estate prices of London or Boston, Ottawa tech employees enjoy 20 minute commutes and live in safe, friendly communities where an average family home can still be had for less than CDN\$300,000.

Business advantage

A Power-Spar system can supply up to 70% of a building's energy requirements. Surplus heat can be transferred to thermal storage tanks for use during off-sun periods or used in innovative solar air-conditioning units. State of the art triple junction photovoltaic (PV) cells produce greater amounts of electricity and the modular absorbers permit the PV cells to be easily replaced as the cell efficiencies improve. Imagine – an upgradable photovoltaic solution!

In the den of his rural home just south of Ottawa, Dave Gerwing decided to turn a mechanical engineering degree and expertise in manufacturing design, stress analysis, heat transfer and kinematics into a contract engineering firm called Menova Engineering Inc. That was 1995.



Canada's Creative Economy Capital

By 1998, Dave was a CEO leading a 15-person engineering and business team, servicing clients such as Nortel, Liquid Computing, Hovey, Black & Decker, Honeywell and Ontario Power Generation. In that same year, an infamous power surge knocked out power across northeastern Canada and the U.S. Dave realized that a future of constantly rising energy rates meant that there was a potentially huge opportunity for alternative energy products.

The Menova Engineering team – many of whom came out of Ontario universities and Federal government labs – decided to devote their considerable R&D talents to designing and building their own solar product. In 2004, Menova Energy was formed to commercialize the Power-Spar solar collector.

Having already proven themselves with dozens of Canadian installations, the company is targeting the industrial, commercial and institutional (ICI) sector, focusing on opportunities with potential for highly replicable sales.

Initial response from warehouse and cold storage companies, schools and universities, and 'big-box' retail locations has been very positive. Menova Energy's products are currently being sold by agents and distributors in the "hottest" solar markets - including the US, Spain, Greece, the Middle East and South Africa.

Menova Energy's self-monitoring Power-Spar collectors use patented technology to reflect and concentrate solar rays onto highly efficient modular absorbers that allow outputs to be tailored to customer requirements (electricity, heat or light).

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A multitude of lakes and rivers dot the Ottawa Valley, allowing boaters, divers and fishing enthusiasts endless summer recreational opportunities. In winter, Menova employees take advantage of both cross-country and alpine skiing just minutes from the office.

Canada's Federal programs and agencies are also easily accessible to Menova and other companies in the growing cleantech community. In 2007, Sustainable Development Technology Canada (SDTC), an arm's length environmental foundation, celebrated a cleantech investment portfolio that had surpassed \$1 billion in funding. In the same year SDTC also announced it had provided R&D funding to Menova Energy.



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Concentrating the sun's energy – and tracking in two axes to capture maximum energy – creates power densities that are twice those of traditional solar products.

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All Power-Spar components are activated and monitored using an advanced controller that knows the collector's placement and adjusts for the maximum solar energy against the position of the sun. The monitoring system logs information every five minutes and will automatically report any operational issues to a 24/7 on-call technician.

Future growth plans

The future is bright for Menova Energy, now with more than two dozen employees. As well as providing electric and thermal energy, Power-Spar collectors can be used to create renewable fuels such as ethanol or bio-diesel with a photo bioreactor – the world's first solar technology that can provide heat, electricity and fuel! The company has attracted several potential equity partners, and last year was recognized as one of Canada's Next 10 Emerging Cleantech leaders of Tomorrow by Corporate Knights magazine.

Contact information

Menova Energy Inc.

+1-613-599-6232

www.power-spar.com

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