



**CLEANFIELD, UOIT AND OCE  
PARTICIPATES IN RESEARCH COLLABORATION  
FOR THE DEVELOPMENT OF A NOVEL RENEWABLE ENERGY DRIVEN HEAT ENGINE**

**TORONTO, ONTARIO – July 20, 2010** – Cleanfield Alternative Energy Inc. ("Cleanfield", TSX-V: AIR), has entered into a research collaboration agreement with the University of Ontario Institute of Technology ("UOIT") and the Ontario Centres of Excellence ("OCE") to develop a novel renewable energy based power generation system running a new trilateral cycle, which will be commercialized by Cleanfield. The research project will involve: developing conceptual designs, analyzing thermodynamic performance aspects and costs, building and testing a prototype system, optimizing and improving for real-scale applications for power production purposes, and commercialization by Cleanfield.

The research team focuses on a compact, multi-purpose sustainable power generating system, consisting of a renewable energy based heat source and an advanced trilateral cycle using a combination of NH<sub>3</sub>-H<sub>2</sub>O working fluids. The system will be much more efficient (up to 30%) than the conventional organic Rankine cycles which have overall efficiencies of 8%-10%, respectively. The efficiency of the novel engine will be further increased up to 90% through some multi-generation options and including some new designs of the system components. This system will be quite applicable for residential, commercial, institutional and industrial applications.

Cleanfield CTO Mihail Stern remarked, "The research collaboration between Cleanfield and UOIT research team will open a great pool of opportunities in developing new technologies as well as new products. The successful result of this research will constitute the core of a diversified line of products that will be delighted to add them to our "green" portfolio."

Dr. Ibrahim Dincer, UOIT Professor of Mechanical Engineering and project leader of the research collaboration, commented, "We are in an era where we face global challenges and do need more efficient, more cost effective, more environmentally-benign and more sustainable energy solutions. The partnership we are in will make these happen, develop a novel technology to overcome power production crisis, and help Canada reduce greenhouse gases in particular and the world in general."

"OCE has been involved in a collaborative partnership with Cleanfield for five years, facilitating the research and development of its core technologies," said Dan McGillivray, Managing Director of OCE's Centre of Excellence for Energy. "Supporting the Ontario Innovation Agenda, we are pleased to be working with this dynamic company and a top academic research institute like UOIT to develop new and innovative technologies that are poised to make an impact on the growing clean energy global market."

**Background information:** Large-scale use of environmentally benign solar power and heat generation units can help reduce greenhouse gas emissions and fossil fuel consumption. There is increasing interest in combined solar thermal power generating systems due to their higher efficiency, lower cost, easier control and other advantages over photovoltaic-cell systems. With the rising cost of utility hydro and the decline of jobs in certain manufacturing sectors, governments are supporting the development of innovative solar power and heat systems that can increase the energy independence of buildings and create new, long-lasting jobs.

**About UOIT:** The University of Ontario Institute of Technology (UOIT) is Canada's newest university. Established in 2003, UOIT has quickly grown and established a reputation as a research intensive institution that fosters innovation. UOIT's faculty and staff is among the world's brightest minds.

**About OCE:** Ontario Centres of Excellence (OCE) Inc. drives the commercialization of cutting-edge research across key market sectors to build the economy of tomorrow and secure Ontario's global competitiveness. In doing this, OCE fosters the training and development of the next generation of innovators and entrepreneurs and is a key partner with Ontario's industry, universities, colleges, research hospitals, investors and governments. OCE's Centres work in communications and information

technology, earth and environmental technologies, energy, materials and manufacturing and photonics. OCE is funded by the government of Ontario and is a key partner in delivering Ontario's Innovation Agenda. OCE through its Centre for Commercialization of Research (CCR), an initiative supported by the federal government, also acts as a catalyst which allows innovative businesses to grow and achieve sustainable, commercial success and global competitiveness. ([www.oce-ontario.org](http://www.oce-ontario.org))

**About Cleanfield:** Cleanfield is committed to developing renewable energy products for the urban environment. The company produces an industry-leading 3.5 kW VAWT, which can be installed in various ways, produces green renewable energy quietly and cost effectively and which is sold worldwide

The TSX Venture Exchange does not accept responsibility for the adequacy or accuracy of this release.

**FOR FURTHER INFORMATION:** Go to [www.cleanfieldenergy.com](http://www.cleanfieldenergy.com), or contact Tony Verrelli, CEO, Cleanfield (905) 304-5223, [info@cleanfieldenergy.com](mailto:info@cleanfieldenergy.com).