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SUSTAINABILITY AND THE SEMINAR SERIES

THE ATMOSPHERIC VORTEX ENGINE

Date: Tuesday, December 4th, 2007
Time: 3:00 p.m.
Location: Lambton College - 1457 London Road, Sarnia, Ontario, N7S 6K4
Room: N103
Cost: Free

AGENDA

Introductions

Maike Luiken, Ph.D., Chair, IEEE London Section,
Dean, Applied Research, Business Development & Innovation,
Sustainability Development

Keynote: THE ATMOSPHERIC VORTEX ENGINE

Keynote Speaker: Louis Michaud (Owner - AVEtec Energy Corporation)

Questions and Answers and General Discussion





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THE ATMOSPHERIC VORTEX ENGINE

An atmospheric vortex engine (AVE) uses an artificially created anchored tornado-like vortex to capture the mechanical energy produced when heat is carried upward by convection in the atmosphere. The vortex is created by admitting warm or humid air tangentially at the base of a circular wall. The heat source can be waste industrial heat, warm sea water or simply warm humid air. This mechanical energy is produced in peripheral turbines.

The talk describes the vortex engine by explaining its relation the solar chimney and to industrial cooling towers. The technology is akin to the process engineering technologies that Sarnia is good at including: power plants, cooling towers, turbines and chimneys.

A vortex engine could be an add-on to a thermal power plant. A vortex engine could increase the efficiency of thermal power plants by reducing its cold source temperature. The atmospheric vortex engine would alleviate global warming by reducing the quantity of fuel required to meet our energy needs. The process could remediate global warming by lifting heat above greenhouse gases so that the heat can more easily be radiated back to space.

BIOGRAPHY

Louis Michaud graduated as an electrical engineer from Nova Scotia Technical College in 1962. He has been a process control engineer in the aluminum, paper, nuclear and petrochemical industries. He worked for the last 25 years at Imperial Oil in Sarnia where he was a senior process control engineer. Mr. Michaud is interested in all aspects of process engineering and was known at IOL for coming up with operator friendly process displays and with innovative solutions to instrumentation problems.

Louis became aware of the possibility of obtaining energy through atmospheric convection early in his engineering career. He realized that more energy is produced by the expansion of a heated gas than is required to compress the same gas after it has been cooled and that this process must surely be responsible for the energy of tornadoes.

The vortex engine has been a private undertaking, a hobby Louis worked at for many years. He had studied meteorology as a naval officer. After further self study and problem analysis, he published nine articles in peer reviewed meteorological and energy journals. A few years ago he set out to design the Atmospheric Vortex Engine. He then filed patent applications which have been granted. He has formed a company called AVEtec Energy Corporation.

The atmospheric vortex engine has received quite a bit of attention in the press and is starting to get recognition as a possible source of sustainable energy. The Ontario Center of Excellence funded a research project at Western last year. Michaud had built a physical model which was modeled on computer at UWO. AVEtec was recently selected to submit an application for a new Ontario Centre of Excellence Transformative Energy Innovation program. The project would include UWO and Lambton College. A 10 m diameter would be built and tested in Lambton County with support from Lambton College.

