What is UOIT's relationship with Hydrofuel?

We have been working with the University of Ontario Institute of Technology (UOIT) and have an option to an exclusive license to their patents and patents pending for several ammonia engine, production and utilization technologies developed by professors we have been working with.

UOIT Professors Ibrahim Dincer, Calin Zamfirescu, and their assistant Janette Hogerwaard, and SPRINGER Publishing released a scientific book on the subject called, "Clean Rail Transportation Option" Acts as a comprehensive source of energy and exergy analyses for multi generation systems, namely clean rail transportation systems. This book will assess and compare several options for ammonia co-fueling of diesel locomotives with integrated heat recovery, multigeneration (including on-board hydrogen fuel production from ammonia), and emission reduction subsystems from energy, exergy, and environmental perspectives. Economic considerations will be presented to compare the cost of the proposed systems for different scenarios such as carbon-tax rates, diesel fuel cost and ammonia cost.

We have completed two projects with UOIT to date, the first was the "Comparative study of ammonia-based clean rail transportation systems for Greater Toronto area" funded by the former Harper Conservative government.

The second, was a 24 -page study summary being published in the Journal of Clean Energy is called, "Comparative Life Cycle Assessment of Various Ammonia Production Methods" which is a summary of the complete 235 page study, the Mitacs-UOIT-Hydrofuel Inc. final report, and the two quarterly progress reports. Hydrofuel Inc. funded this research and this work was supported by Mitacs through the Mitacs-Accelerate Program.

We are continuing our work with UOIT including a six month extension of our present project called, â€œComparative assessment of NH3 production and utilization in agriculture, energy and utilities, and transportation systems for Ontarioâ€• and we have extended our options agreement to the UIOT until December 31, 2016, for an exclusive license their hydrogen and ammonia production and utilization technologies, patents, patents pending and IP for further development we are undertaking jointly.

By June, 2016 we will completed phase two, which will prove the economic and technical viability of the new technologies that both UOIT and Hydrofuel have developed for both retrofit conversion of existing diesel engines and generators and the next generation of new engine technologies. In addition, we are doing other work related to the manufacture of hydrogen from coal, oil sands, shale, and natural gas below ground to be used to make ammonia above ground on site and leave all the carbon, sulphur and other contaminants and emissions where they are in situ.