INNOVATIVE RENEWABLE ENERGY TECHNOLOGY

Innovative Logistics Solutions, Inc. (ILS) is pleased to offer an innovative technology into the rapidly growing industries of Renewable/Sustainable Energy and Alternative Fuels. This opportunity is based on an exclusive Patent Mandate agreement between ILS and Pyromex A.G., a Swiss company, to introduce their Ultra-High Thermal Chemical Decomposition technology into the North America market.

The unique capability of this technology maximizes the performance, flexibility and financial return of a Renewable/Sustainable Energy or Alternative Fuel facility. Using a patented Ultra High Temperature Thermal Chemical process the system thermally decomposes the in-feed material into a clean, high quality, high energy synthetic gas. Unlike typical gasification and pyrolysis systems, this technology does not have an oxidization phase therefore the energy contained in the synthetic gas represents over 95% of the energy contained in the in-feed material.

Another unique feature of this technology relates to the energy efficient induction heating used to generate the ultra-high temperature, typically 2200 to 2800 F. At these temperatures virtually all of the organic material is decomposed into synthetic gas leaving a small amount of inorganic “clean sand” solid residue that contains no ash, char or tars.

The processes which works equally well on virtually all biomass or organic, toxic and non-toxic waste streams results in a clean, high energy gas that is not diluted though oxidation and is typically stored like natural gas and used in a variety of applications as defined below:

Liquefied Fuel Generation

Based on the quality and high energy content of the synthetic gas generated in the Pyromex process the gas can be cost effectively and easily converted from synthetic gas into commercial liquid fuels such as ethanol or biodiesel. Using a Pyromex patented wave compression technology the synthetic gas can be liquified into high quality ethanol or biodiesel. This process differs from the classical Fisher-Trope process due to the energy efficiency and low pressure used in the process which simplifies the generation of liquid fuels and reduces capital and operational cost.

Electrical Generation

The synthetic gas generated through the Pyromex process consists of an energy rich, clean gas similar to natural gas, which can be stored for later use. Due to the high energy content of this gas it is well suited to operate both internal combustion and gas turbine generators. In addition, in most cases where the in-feed material consists of waste material the resultant electrical generation is considered renewable energy generated with zero fuel cost. In fact in many cases the waste elimination cycle of the process also creates either cost savings or a revenue stream.
Hydrogen Generation

Due to the ultra high temperature of the Pyromex process the resultant gas composition is typically high in hydrogen. Since the gas exits the process at high temperatures, typically 2200 to 2500 F a simple gas shift or steam reforming process can boost the hydrogen content of the gas to over 90%. Using existing technology this hydrogen can be separated and used or sold as commercial grade hydrogen. This hydrogen is also well suited for use in transportation vehicles or fuel cells.

Heat/Steam Generation

The off-heat from the Pyromex process combined with using the synthetic gas in boilers produce an excellent source of heat for generation of heat and steam that can be used in commercial or industrial applications. In many cases the waste material from a manufacturing process can be used to generate the heat or steam required in that process, thus minimizing the use of external energy for manufacturing. This represents only one simple example of the use of heat and steam from a Pyromex implementation. In addition the steam can be effectively used to operate a steam turbine to generate electricity.

ILS principals believe that with the ever increasing global demand for energy and depletion of supplies of natural resources such as fossil fuels, there is now significant and growing commercial interest in alternative Renewable/Sustainable Energy and Alternative Fuels solutions. This opportunity is further enhanced by using waste material as a fuel source, eliminating both fuel costs and the restrictive regulations and environmental concerns related to the disposal of waste material. ILS is convinced that the time has arrived to develop the Waste-to-Energy marketplace with cost effecting innovative solutions.

For further information regarding the technology or possible investment please contact Bob Rychlik at bob@ils-partners.com or Rick Diederich at rick@ils-partners.com or call the offices at 760-568-9369 to receive additional information or to learn more about the company, the opportunity or an the investment.

Respectfully,

Richard Diederich
President & CEO
Innovative Logistics Solutions, Inc.