Alternative Environmental Technologies and Tire Recycling: Combating Climate Change

This is part of a series of articles highlighting specific ways that AET's various patented technologies can be used to combat climate change

Old Tire Landfill

U.S.A., March 15, 2022 /EINPresswire.com/ -- Alternative Environmental Technologies Holdings Corp. ("AET") combats climate change using technologies which minimize the environmental impact of fuels. Two of these technologies can be used to help recycle old tires by converting them into fuel. That fuel can be consumed in a manner that results in the dramatic reduction of the ecological footprint of the old tires otherwise destined for the landfill.

Old tires represent a tremendous solid waste disposal issue. While tires can be physically recycled into rubber and polymer based products (such as running tracks, etc.), these only attack a small volume of the tires consumed and discarded, typically in a landfill, each year. Used tires likewise can form a breeding ground for mosquitoes and the like when stored or tossed. To date, tires cannot be chemically recycled – they can only be converted into usable consumables through a process called pyrolysis.

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> *AET Team*

Pyrolysis uses high heat, 600 to 1400°F, in the absence of oxygen to decompose the rubber in the tires into a biodiesel fuel. Additionally, while a usable consumable fuel is created, due to the rubber compound of the tires, the process does require the treatment of certain tire constituents or resulting compounds, including pollutants like hydrogen sulfide. The exhaust gas of the process carries greenhouse gas and other pollutants like CO, CO2, H2S, and hydrocarbons such as CH4, C2H4, C3H6, C4H8, etc. and their unsaturated derivatives which must be condensed or otherwise removed. The resultant pyrolysis oil is very

much like a diesel fuel product but with high sulfur content.

AET's technology can help to lower the environmental impact of the pyrolysis process using EcoMix™ emulsions to increase the efficiency at which oil-fired furnaces operate in heating the rubber and using Sulfex™ desulfurization to neutralize compounds that result from the pyrolysis process.

EcoMix™ refers to AET's emulsion technologies. Emulsion technologies allow water to be mixed with fuel, creating benefits that lower emissions and increase efficiency. While water and fuel normally don't mix, AET has technology protected by multiple patents that make this possible. By mixing the fuel with water, AET's technology creates a cleaner burning fuel by allowing tiny droplets of water to be contained in each drop of fuel. This lowers emissions as follows:

- Water in the fuel bursts into steam in the furnace and shatters the fuel content into microscopic droplets prior to combustion (secondary atomization).
- The smaller droplets combust faster and more completely saving money and reducing emissions
- And the boiler gets a steam bath to allay maintenance costs.

Sulfex™ refers to AET's oxidative desulfurization processes. AET's desulfurization technology, which is likewise protected by multiple patents, works on the emissions side of pyrolysis to effectively remove sulfur constituents. Unlike hydrotreating, the process currently used globally to reduce sulfur and which releases massive amounts of CO_2 using conventionally produced hydrogen, generate toxic hydrogen sulfide and using less safe operating conditions at extremely high temperatures and pressures, Sulfex™, AET's process, removes the sulfur that is present in the tires by an oxidative sequence utilizing much lower temperatures and pressures than commonly used hydrotreaters – again, providing a cleaner, environmentally friendly solution to a typically dirty transaction. The sulfur that is removed can be recycled or otherwise prepared for reuse.

About Alternative Environmental Technologies

Alternative Environmental Technologies ("AET") is an environmental technology company dedicated to comprehensive cost-effective solutions to environmental problems centering on the processing and usage of hydrocarbons. With numerous worldwide patents and patent applications, AET has developed products that provide economical ways to address the increasingly stringent environmental and emission regulations globally.
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