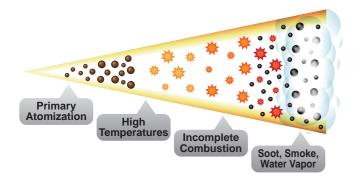
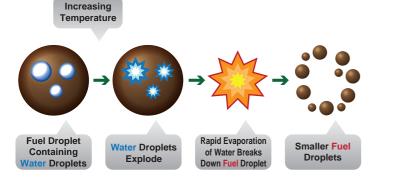
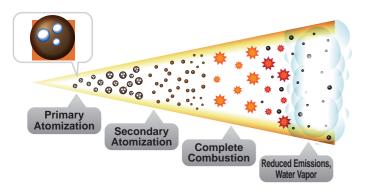
#### raditional Fuel Combustion



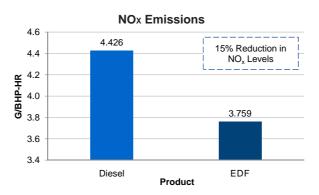
Analysis of Single Emulsion Droplet Combustion

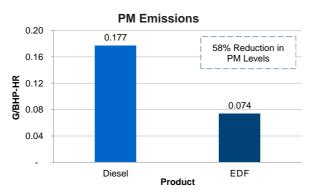


## Emulsified Fuel Combustion

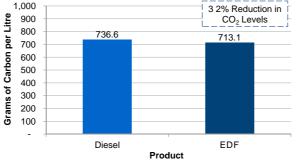


# Emulsified Fuels are a unique multi-pollutant control strategy for engines and boilers









## ALTERNATIVE PETROLEUM TECHNOLOGIES

Helping to save the planet - one drop at a time



To provide economical solutions to environmental challenges

#### Our products:

Proprietary emulsions of water and the full spectrum of liquid fuel products

#### Our strategy:

A total solution that integrates our state-of-the-art blending equipment with our proprietary additives and combustion expertise

#### Our customers:

Diesel fleet operators, industrial boiler operators, power generators



### **Company Overview**



#### Alternative Petroleum Technologies (APT)

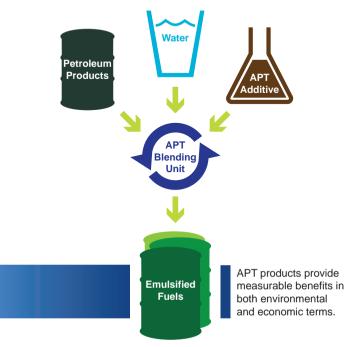
is a publicly held environmental company that features a proprietary emulsion technology for a broad range of petroleum products. Emulsified fuels are stable mixtures of water and petroleum products that can be less expensive and cleaner to combust than the traditional fuels they replace. APT holds license rights to the only emulsification technology of its kind that has been verified by the California Air Resources Board and registered with the Environmental Protection Agency in the United States of America. APT uses third parties to construct and manufacture its proprietary blending units and additive and holds over 100 patents and patents applications worldwide. APT offers a range of environmental technologies that include emulsions of conventional petroleum products such as diesel and fuel oils and emulsions of unconventional petroleum products such as residual and waste oils. APT is also developing other environmental related technologies that allow APT's scientists to leverage their expertise.

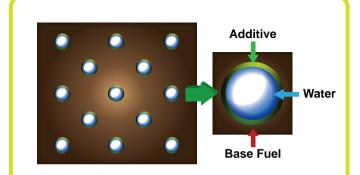
### Alternative Petroleum Technologies

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|----------|---|
| Phone:   | +1 (775) 322 - 4605                                   |
| Email:   | info@altpetrol.com                                    |
| Website: | www.altpetrol.com                                     |

### **Emulsified Fuels**

Emulsified fuels are composed of water, petroleum, and additives that bind the water and petroleum together.





Oil-phase emulsified fuels are composed of microscopic droplets of water stably suspended in oil such as diesel fuel and fuel oil.

## APT delivers a variety of emulsified fuel products:

- Emulsions of #2 Diesel Oil (EDF)
- Emulsions of #6 Fuel Oil (FOE)
- Emulsions of Biofuels (EBF)
- Emulsions of Refining Residuals (ROE)

**APT** has access to the master license that covers the only two EDF products that have been verified by the California Air Resources Board and registered with the United States Environmental Protection Agency for commercial sale. FOE fuels have been used in industrial boilers since 2001. ROE fuels can be a direct substitute for applications burning Orimulsion<sup>™</sup>. Emulsified biofuels target the CO<sub>2</sub> reductions sought by the Kyoto Protocol **WITHOUT** the emission penalties of regular biofuels.



## **Emulsified Fuel Combustion**

The combustion of emulsified fuels are fundamentally different from that of traditional fuels. The water content of emulsions convert to steam during combustion, "atomize" the oil into smaller droplets, and result in a quicker and more complete combustion. This improved process reduces soot residue and particulate matter, while the presence of water lowers the combustion temperature and reduces thermal NO<sub>x</sub>. Additionally, the improved air/fuel mixing reduces NO<sub>x</sub> formation from excess air as well as fuel consumption. Together the combustion changes lead to a cleaner boiler or engine.