



## VOICES *By D. Hunt Ramsbottom*

### **SYNTHETIC DIESEL: THE FUEL OF THE FUTURE**

\$300 billion. That's the amount of money we spend each year on foreign oil since we consume nearly three times as much crude as we produce. It's no wonder that energy security is among our nation's top priorities.

Transportation fuels are our largest use of crude. We are continuously making advancements in vehicle fuel efficiency to reduce the use of petroleum fuels. We are also embracing new and advanced fuels, but still 94 percent of the energy used in transportation is derived from petroleum. There have been many challenges with alternative fuels, but Rentech, Inc. has developed a viable solution that can greatly reduce our dependency on foreign oil. Rentech has a domestic, clean-burning synthetic fuel that can be deployed today using existing engines and infrastructures.

Rentech's proprietary technologies can use a wide variety of abundant domestic materials such as natural gas and waste biomass to produce environmentally friendly diesel fuel. RenDiesel® is biodegradable, exceeds all global sulfur requirements, and has virtually no aromatics. When compared to traditional petroleum-derived low sulfur diesel, tailpipe emissions from RenDiesel generate lower amounts of hydrocarbons, carbon monoxide, particulate matter, nitrogen oxides, sulfur oxides, and carbon dioxide. Also, when compared to traditional diesel fuels, RenDiesel has higher hydrogen content, heating value, and cetane index, making it very energy efficient.

RenDiesel provides a viable solution that can be deployed today to minimize the transportation sector's environmental impact. The renewable RenDiesel to be produced at Rentech's Rialto, California renewable energy facility is expected to reduce greenhouse gas emissions on a lifecycle basis by as much as 97% over conventional diesel fuel and by a comparable amount over electric vehicles. A vehicle using RenDiesel is also expected to be as much as two times more fuel efficient than one running on ethanol. RenDiesel contains approximately 60 percent more energy per gallon than ethanol and diesel engines typically achieve 20-40 percent more miles per gallon than gasoline engines. RenDiesel also produces fewer volatile organic compound emissions than ethanol or traditional diesel.

The lower emissions and low lifecycle carbon footprint of RenDiesel are compelling. Moreover, RenDiesel can be used in *today's* engines and pipelines, requiring no end-user capital investment or vehicle modification to use the fuels.

Recently, two Audi A3 TDIs – *Green Car Journal's* 2010 Green Car of the Year® – performed flawlessly on 100% RenDiesel during a four-day, 1,000 mile journey spanning the state of California. It's no wonder that eight major airlines including American Airlines, Southwest Airlines, United Airlines, and UPS Airlines contracted to purchase renewable RenDiesel from Rentech's Rialto Renewable Energy Center almost three years before the facility is expected to come on-line. The airlines will be using RenDiesel to power their ground service equipment at LAX to help improve local air quality.

Rentech is developing projects worldwide to produce certified renewable diesel and jet fuel. The company's California facility will take yard waste diverted from landfills to produce the cleanest diesel in the state, which will help the transportation sector meet the Low Carbon Fuels Standard as well as stringent local emissions restrictions without any additional cost to the fuel user. This facility alone will create over 1,000 direct and indirect jobs during the construction and operations phases.

Synthetic diesel is the fuel for the future. What better way to improve local air quality than with a direct diesel substitute produced domestically?

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— *D. Hunt Ramsbottom is Chief Executive Officer, President, and Director of Rentech Inc., a company that's developing and licensing clean energy technologies for ultra-clean synthetic fuels, chemicals, and power production.*