Hybrid technology moves from road to water

March 2 2012, By Drew Grossman

Hybrid engines aren't just for cars anymore. Hybrid engine systems are slowly catching on with environmentally conscious sailors, replacing less-fuel efficient diesel motors on sailboats.

The setup - a diesel generator paired with an electric motor - allows sailors to stay out on the water longer, bypassing the need to return to the dock each night to recharge. And it burns less fuel than a diesel motor by itself, pumping out a fraction of the pollution.

"Yes, you're still using diesel, but you're using it efficiently," said Sally Reuther, who co-owns Annapolis Hybrid Marine, a 3-year-old company that sells hybrid engine systems.

Like hybrid boat engine systems, hybrid cars caught on slowly when they were first introduced in the United States. In 2000, hybrid cars represented .06 percent of all vehicles sold in the United States, according to the federal government. Last year, they accounted for 2.11 percent of all vehicles sold in the country.

Currently, the number of hybrid boat engine systems sold in this country is so small that the National Marine Manufacturers Association does not collect data on hybrids. But boating industry experts said they expect to see many more sold in coming years.

"Everybody is thinking in terms of making this technology work," said Susan Zellers of the Marine Trade Association of Maryland. "We all have to get there eventually."

As with other green technologies, Zellers said that she thinks boaters are interested in hybrids but are hesitant to switch because of the cost. Hybrid engine systems cost between 10 percent and 15 percent more than a traditional setup, industry experts said, though they save owners money on gas and maintenance.

A 36-foot sailboat with a traditional diesel engine can go 350 miles on 50 gallons of fuel, according to Elco Motor Yachts, a New York company that makes electric boat engines. The same boat with a hybrid system can go more than three times as far - 1,100 miles - with the same amount of fuel, according to the company.

Hybrid manufacturers also said they needed to do more to educate boat owners accustomed to buying traditional diesel engines.

"At first, the response was very skeptical from people who would look at the technology at the boat show," said David DiQuinzio, who co-owns Annapolis Hybrid Marine. "But in the space of a year-and-a-half we have seen a shift where instead of, 'Oh, this will never work' or, 'Maybe five or 10 years from now this will be for real,' more and more people are beginning to see this works now."

Most hybrid cars use an electric motor at low speeds and a gasoline-powered engine at higher speeds. A hybrid boat does not have two motors, instead using a diesel generator to charge batteries that power an electric motor.

Unlike with a traditional diesel boat engine, the electric motor warms up instantly.

"It's all electronic, it's all computerized. You turn the key and it's ready to go. Instant torque," Reuther said.

There is no vibration, no noise and no smoke from the motor.

Sailboat owners are the primary target for hybrid engine systems. The systems are an especially good alternative for sailors who do not want to return their boat to dock each night to charge.

In some hybrid systems, the diesel generator also powers all of the on-board electronics like the lights, kitchen appliances and electronic navigation tools.

More information: