
ENERGY SAVING IDEAS

Technology May Curb U.S. Oil Use

(NAPSA)—New technologies may help drive down oil and gasoline costs in the U.S. Research is currently being done on hybrid motors that make vehicles burn gas more efficiently, as well as on new types of materials that make oil-heated houses less expensive to heat. However some of the most promising research focuses on improving petroleum itself.

The U.S. may someday be able to use a type of crystal grown on the International Space Station (ISS) to extract more gasoline per barrel of oil than it ever has before. That could reduce the country's dependence on foreign oil and save Americans money at the pump. In fact, it's estimated increasing the amount of gasoline derived from a barrel of oil by just one percent could save America \$400 million annually.

The earth-grown variety of the crystals, called zeolites, is already used to produce virtually all the gasoline in the world. However, when grown on Earth, the crystals are extremely small—approximately two to eight microns in size, or about the size of microscopic bacteria. The microgravity of space lets scientists grow crystals 200 to 1,000 times larger—and with zeolites, the bigger the better.

“Larger, more perfectly formed space-grown crystals tell us more about the way the crystal is made and how it works,” says former Space Shuttle crewmember Dr. Albert Sacco Jr. Scientists can use



Crystals grown on the International Space Station may help reduce America's dependence on foreign oil.

that knowledge to “get more” from zeolites than they could in the past.

For example, NASA expects space-grown crystals will eventually lead to cleaner fuel in addition to cheaper gas.

The organization is currently looking at ways to use zeolites to turn hydrogen into usable fuel for cars. Companies have invented engines that burn hydrogen, but so far, there is no way to safely store and transport the element. Hydrogen is the most abundant element in the universe and it burns completely pollution-free.

“The International Space Station is the most sophisticated lab ever built,” says Sacco. “The discoveries we make in space will have some important down to earth benefits.”

For more information visit www.spaceflight.nasa.gov.