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FOCUS: MIDYEAR ECONOMIC REPORT

Defense: Industry targets its gas-guzzling military vehicles

By [Chad Halcom](#)

And you thought that SUV in your garage ran up a big gas tab.

Defense contractors and energy companies in Southeast Michigan are hoping to tackle several of the military's long-term strategies to curtail its enormous fuel consumption.

For every \$1 price increase for a barrel of crude oil, the military's projected fuel costs increase by \$130 million because its four branches consume more than 750 million gallons a year, according to the **Defense Energy Support Center** and the **U.S. Army Tank Automotive Research, Development and Engineering Center** in Warren.

While the largest consumer by far is the **U.S. Air Force**, much of that consumption on the ground comes in heavy-armored tanks such as the M1A1 Abrams, which averages two gallons or more per mile, or self-propelled artillery and infantry units such as the M109 howitzer or M2/M3 Bradley, each of which averages a little better than 1.4 mpg.

One area the defense industry is trying to improve on those consumption figures is through development of a "no-idle system" that would allow ground vehicles to operate their weapons, communications and other systems while stationary but not idling the engine, said Paul Curtis, vice president of business development at Plymouth-based **Prestolite Electric Inc.** Curtis also serves as president of the **National Defense Industrial Association** Michigan chapter.

"An auxiliary power unit on (heavy-armored vehicles) has the potentiality to conserve fuel and allows the vehicles to operate with less noise while they're deployed (in combat)," Curtis said.

"But it'll have to be a pretty involved solution for the Army because (the units) also tend to be high emitters of heat so they show up on IR (infrared radiation sensors), and there are other challenges."

Officials at TARDEC sent out a request earlier this year for companies to propose an auxiliary power unit for the Abrams, Bradley and other vehicles.

The center is reviewing proposals turned in over the spring and will likely make a decision on which initiatives to pursue under a three-year, \$19.5 million contract sometime in the fall, Curtis said.

Among the contenders is Ortonville-based **Technical Directions Inc.**, which has submitted its own turbojet auxiliary generator for consideration.

A small company with five employees and roughly \$1 million in annual revenue, TDI started looking at other applications for a miniature jet engine and power generator it

originally designed for a missile system, said company President Vern Brooks.

"As part of a missile propulsion system, it was pretty much a one-use, nonreturning engine system," Brooks said. "Basically in this system it doesn't do propulsion, it's a power generator with military and commercial vehicle applications."

Also trying to line up other contracts or buyers for TDI's generator is the **Defense Contract Coordination Center**, a program of the **Michigan Economic Development Corp.** in Lansing.

Bradley Lott, director of the defense center, said he is trying to facilitate contracts, and TDI and will also be in Washington this week lobbying the Defense Energy Support Center to consider a fuel purchasing commitment for **M&M Energy L.L.C.**, which proposes a power plant in Alma and is marketing a process to extract excess fuel from existing wells in the region.

"Apparently a big help for that company in lining up financing for its project would be having a committed buyer like the DESC," Lott said.

"One of the things people don't realize is that by the time we put a gallon of gas into a vehicle in the field (in combat), we spend something close to \$20 for that gallon of gas. We don't just pump it. We have to ship it, store it, maintain it, test it, and make sure we have different fuels for different vehicles. Getting costs down is a huge priority."

Some of that cost would likely come under control with the development of manned ground vehicles in the Army's Future Combat Systems program, said FCS public information officer Paul Mehney.

The family of eight proposed vehicles in that program, which requested more than \$3 billion in defense appropriations this year, would run on hybrid electric engines that use a diesel engine only to recharge and run on-board systems, Mehney said, improving fuel economy to a relatively impressive three to four mpg.

Even at that rate, Mehney said, the fuel consumption in certain vehicle groups would be cut more than two-thirds.

But Future Combat Systems vehicles are still in prototype development and not expected to reach troops for deployment until 2015.

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