

Synthetic Fuels Will Enhance U.S. National Security

America's demand for fuel is growing quickly and our reliance on foreign oil is increasing. We need to adopt proven solutions, using transformative technologies, to reduce our reliance on imported oil and enhance U.S. national security.

Synthetic Fuels Can Help Our Security

In a geopolitically unstable world, synthetic fuels can help improve energy security.

- Production of coal-to-liquid (CTL) synthetic fuels would drastically reduce imports of oil from unstable and hostile regimes. CTL fuels would be produced using America's nearly 250 billion tons of recoverable coal reserves, by far the largest coal reserves in the world. America's unrivaled coal reserves hold more energy than all of the oil reserves in Saudi Arabia.
- With coal reserves and production dispersed widely across more than two dozen states, the U.S. boasts a geographic diversity of domestic fuel supply that is less susceptible to natural disasters and terrorist threats.
- Synthetic fuels from coal could feasibly supply at least 300,000 barrels of high-grade fuel per day by 2015 – equivalent to the amount of transportation fuel consumed daily by the U.S. military for domestic operations.

Oil Dependency

A failure to develop new domestic energy resources, such as synthetic fuels, to reduce oil dependence will leave our country vulnerable to future supply disruptions.

- The U.S. has less than 3 percent of the known conventional world oil reserves, but is dependent on oil for 95 percent of its transportation needs.
- In 2005, U.S. petroleum imports exceeded \$250 billion. In 2007, the number grew to \$340 billion.
- The United States currently depends on foreign sources for 60 percent of its domestic oil requirements, including crude oil and refined products. According to the Energy Information Administration (EIA), that dependence will grow to 70 percent by 2025.

Military Use

The U.S. Department of Defense has determined that domestically produced synthetic fuels are the preferred alternative fuels to reduce military dependence on imported oil.

- Realizing the tremendous impact our dependence on foreign oil could have on our military, the Department of Defense has already begun studying the advantages of synthetic fuels.
- On Dec. 17, 2007, the U.S. Air Force successfully proved the effective use and high performance of synthetic fuel in a transcontinental flight with a C-17 aircraft. Test results have shown that a 50 percent blend of standard and synthetic fuel for military aircraft showed no operational or performance differences compared with regular JP-8 fuel. In fact, B-52 engine testing showed these virtually sulfur-free fuels had a superior environmental profile regarding emissions of numerous pollutants regulated by the federal government, such as nitrogen oxide and particulate matter.



- The Air Force has a goal of certifying the entire fleet to use a 50/50 synthetic/oil-based fuel blend by 2011.
- In 2007, the Air Force spent \$8 billion on fuel. For every \$10 increase on a barrel of oil, U.S. taxpayers must pay an additional \$600 million.
- The National Aeronautics and Space Administration (NASA) is planning to establish a laboratory to test synthetic fuels. NASA's efforts are aimed at promoting the use of synthetic fuels by commercial airlines and express delivery companies. The lab will be operational in mid-2008.

Oil Production

Clean diesel fuel from U.S. coal or other domestic feedstocks will be produced in the U.S. and regulated by our government rather than controlled by international cartels such as OPEC.

- Nearly half of all oil imported by the U.S. comes from members of the Organization of Petroleum Exporting Countries (OPEC), and nearly one-quarter comes from countries in the Persian Gulf region.
- Most of the remaining world oil reserves are in politically unstable countries.

Potential Threats

The U.S. and world economies are at continuous risk of shock from oil supply disruptions because so much of world's oil supplies must travel great distance through pipelines and shipping channels that are vulnerable to accidents and terrorism. A failure to develop new domestic energy resources, such as synthetic fuels, will leave our country vulnerable to future supply disruptions.

- 40 percent of the world's oil flows through pipelines, running over thousands of miles through often volatile

territory. Even a small explosion can puncture a pipeline and shut it down. Pipelines are nearly impossible to protect due to their vast lengths, making them easy targets.

- Oil tankers, which are often slow, difficult to maneuver and defenseless, are also prime targets. Some 4,000 ships must pass through a handful of key chokepoints around the world. Many of these straits lie in areas where terrorists are known to operate. A single burning supertanker in one of these narrow chokepoints would block other ships and disrupt the oil shipments for weeks, potentially causing economic havoc.



- Worldwide demand for petroleum products is expected to increase 40 percent by 2025 largely due to growing demand in China and India. China's demand in particular is projected to increase eight-fold in the next 20 years.
- Worldwide production of oil could peak before 2025.

America's demand for transportation fuel is growing fast and our national security is being jeopardized by our increasing reliance on foreign oil. We need to adopt proven solutions, using transformative technologies, to reduce our reliance on foreign oil, enhance our national security and provide for sustained US economic growth.