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A new fuel fix: boon or bane?

The US increases natural-gas imports to meet energy demands. Will it create a new dependency?

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FALL RIVER, MASS. - Climbing to the top of a dizzyingly curved stairway welded to the side of a huge cylindrical tank, Tom Gehrig thinks he can see America's energy future.

It's a gargantuan tank - dwarfing the one he's standing on - which he would build here in Fall River, Mass., to hold 200,000 cubic meters of imported liquefied natural gas. LNG would help meet the United States' growing energy needs, but this project has sparked protests by residents of this working-class city, worried about terrorist attacks. "I'm a believer in free markets," says Mr. Gehrig, president of Weaver's Cove Energy, gazing across the site. "If people don't want LNG, the question I would ask them back is: 'What are you going to do?'"

What indeed?

For three decades, the US has coped - sometimes uncomfortably - with its growing reliance on foreign oil. But at least that dependence was limited to transportation, while domestic coal and gas continued to power the nation's factories and heat its homes. Now, the rising price of domestic natural gas has triggered a plan to dampen those price hikes by bringing in foreign LNG.

That may be smart economics, at least in the short term. But some analysts worry that in the long run, the US may be setting itself up to become dependent on a second foreign fuel, just as it has become increasingly dependent on foreign oil since the 1970s.

"All we're talking about doing is replacing one dependency with another," says Gal Luft, executive director of the Institute for the Analysis of Global Security in Washington, D.C., a think tank focused on energy security issues. "The main sources of natural gas are located in the Middle East and Russia. So we're talking about the same sort of problem."

Some of the parallels are uncanny. The US is largely self-sufficient in generating electricity. Nearly half comes from coal, 20 percent is nuclear, about 18 percent is powered by natural gas, and the rest comes from hydropower and other renewable sources. Excluding gas piped in from Canada and Mexico, natural-gas imports (in the form of LNG) made up about 3 percent of US demand last year.

That will almost certainly change. Imports of LNG - the liquid form of natural gas, supercooled to 260 degrees below zero so it can be transported by tankers - could rise to 21 percent of total US gas consumption by 2025, according to the Department of Energy. Some economists who have looked at the issue say it could easily rise to 25 to 30 percent by then. That's roughly the share of oil imported to the US when the first energy crisis hit in

the 1970s.

"There are certainly people who are worried about the US trading one form of energy dependence for another," says Reid Detchon, executive director of the Energy Future Coalition. His group recently proposed a plan for added US energy security that includes LNG imports - but only warily. "If LNG became a principal source of energy for the US and demand rises around the world, we're going to have problems in the future similar to those that we have with oil today," he notes

There are some mitigating factors, however. For one, nations with the potential to export LNG may be more numerous and far more geographically diverse than the current oil-producing nations, some experts note.

Known global reserves are estimated at 5,500 trillion cubic feet. To tap that, more than 60 new LNG liquefaction facilities that can chill the gas to a liquid for transport are in planning or construction phases, according to Henry Lee, director of the Environmental and Natural Resources Program at Harvard University. Norway, Russia, Egypt, Iran, Venezuela, and Peru, among many others, hope to join Indonesia, Oman, Algeria, Nigeria, Libya, Australia, and the United Arab Emirates as exporters.

But building a liquefaction facility would require an upfront investment of \$1 billion or more. Once they invested that amount, few nations would be likely to reduce production or cut off supplies, Dr. Lee concludes.

"Factors that contribute to vulnerabilities that industrialized nations have with oil are simply not present with LNG and natural gas," Lee says in an interview. His recent study of LNG markets notes security concerns, but concludes that fears of a future LNG cartel cutting off supplies "are overstated." Instead, there are "significant benefits, in terms of supply, by bringing in more LNG," he says.

Others think so, too. New supplies of LNG are "an economic imperative," declared a report last month by the New England Council, an alliance of business and government leaders. It calls for construction of new LNG import facilities "somewhere in New England within the next several years."

Natural-gas supplies are indeed tight nationwide. Spot prices have more than tripled since 2000. The roots of the current challenge, however, lie in federal policy. During the energy crisis years, President Carter signed the National Energy Act of 1978, which deregulated natural gas, but also prohibited electric utilities from burning natural gas. That move was intended to save the fuel for heating homes.

But after fuel prices fell, the Reagan administration dropped that policy. Gas-fired power plants became popular, not only because their fuel was cheap, but because they had far cleaner exhaust, cost far less to build, and were easier to site than their coal-fired counterparts.

The industry went on a construction spree, adding 128,000 megawatts of new gas-fired electric generators since 1990. In New England alone, more than 20 gas-fired power plants have been built since 1998. Today the power sector consumes about a quarter of the nation's natural gas. That's expected to grow as electricity generation from natural gas rises from 18 percent today to 24 percent by 2025, according to the Department of Energy. The need for natural gas to run those plants and others in planning stages is driving the US abroad for LNG.

The nation already has five LNG-importing facilities. Energy men like Gehrig say the nation's future depends on building more of them. At least 40 such facilities are planned or are already under construction in the US, Lee reports. The Weaver's Cove facility - a wholly-owned subsidiary of Amerada Hess Corp. and Poten & Partners - could supply up

to 10 percent of New England's natural-gas needs by itself, Gehrig says.

Of course, at 185 feet high and nearly a football field wide, the LNG tank would also contain the energy equivalent of a sizable nuclear bomb. That's why many Fall River residents, the city's mayor, and other politicians oppose the Weaver's Cove facility on grounds it would be an ideal terrorist target.

In the nearly 80 years that Lillian Correia has lived in the little blue two-story home across from a defunct textile mill in Fall River, this daughter of an Azorean immigrant mother never lived in fear for her life. Now she's not so sure. In front of her home, in the middle of her flower garden, stands a bright red and white "No LNG" sign - one of a sprinkling of such signs up and down North Main Street. It's why her dining room table is spilling over with fliers she is mailing to neighbors informing them of an LNG protest rally and picnic. "We realize the area needs more energy," she says. "But we're against putting this LNG facility in the middle of this heavily populated city.... To be honest, I'm really not so sure our country needs this thing as bad as they say we do."

One of the hottest battles in Congress is over a provision of the new energy bill that would grant most authority for siting LNG facilities to the Federal Energy Regulatory Commission. California Gov. Arnold Schwarzenegger and others are fighting to have state and local authorities retain a substantial share of control. By the end of the month, FERC is expected to vote up or down on the new LNG facility in Fall River.

Caught between high gas prices and concerns about terrorism, the US has energy alternatives - albeit controversial ones. Renewable energy and energy efficiency could cut natural-gas prices by 20 percent and save the nation \$100 billion within five years, says the American Council for an Energy Efficient Economy, a think tank. "The US won't be able to avoid at least some use of LNG," says Steven Nadel, executive director of ACEEE. "But we have to ask ourselves how dependent do we want to become on foreign energy?"

In December, the National Commission on Energy Policy released a report calling for more imported LNG to meet rising natural-gas demand as well as a host of energy-saving measures. But there are few signs the energy-saving proposals are being picked up, says Susan Tierney, an NCEP board member.

Scenarios involving energy efficiency often have been met with skepticism. The nation's energy architect, Vice President Dick Cheney, called energy efficiency "a sign of personal virtue" in 2001, but otherwise dismissed the idea that it was a true alternative to energy development. In an April speech, President Bush declared that "our dependence on foreign energy is like a foreign tax on the American people." But moments later he was pushing to "expand our use of liquefied natural gas" by building more coastal LNG terminals.

Meanwhile, Royal Dutch/Shell is reportedly looking at scenarios two decades from now, when natural gas may dethrone oil as the world's most important energy source.

• *Last article in an occasional series. Parts 1 and 2 appeared May 5 and 19.*

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