

In Oil-Rich Iran, Natural Gas Turns Wheels

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TEHRAN

HOW'S this for a paradox? Iran, an oil power seeking to become a nuclear power, has instead become a natural gas power.

According to the latest figures from Natural Gas Vehicle Knowledge e, Iran, with the world's second-largest natural gas reserves after Russia in 2011 became the world leader in natural gas vehicles with some 2.9 million on the road, narrowly edging Pakistan, which is trailed by Argentina, Brazil and India, respectively. (The United States, which does not subsidize and note the fuel like other countries do, is 16th.)

Iran's reliance on its cleaner fossil fuels seems unlikely to diminish as international sanctions continue to bear down on its nuclear program, which in turn have curbed imports of gasoline; though Iran has large oil reserves, its inability to refine its own gasoline falls short of its needs.

For ordinary Iranian motorists, natural gas is less a geopolitical or environmental issue than a pocketbook concern.

"This sort of fuel is cheap, and it comes home every day — that's what I want," said Sasan Ahmadi, a 42-year-old office assistant filling up his

Iranian-made Kia Pride at a natural-gas station for his hour commute home.

The government began promoting natural gas about a decade ago, and not just in response to American-led sanctions. A big initial reason was the increasingly thick yellow blankets of smog that often engulf greater Tehran and its 12 million inhabitants. That was a result of rising auto sales by domestic carmakers like Iran Khodro and Saipa, which took off as oil revenue began rising sharply around 15 years ago, enriching tens of millions of Iranians.

While rising car ownership fit nicely into the government's narrative of life as ever-improving after the 1979 Islamic revolution, clouds of smog from increased traffic congestion did not. To deal with the pollution, Iranian government planners found an answer in natural gas and its infrastructure, which was already serving the heating and cooking needs of consumers.

"We already had a network of gas pipes in place all over the country," said Reza Hajj Hosseini, a spokesman for the Iranian Fuel Distribution and Refinery Company, a subsidiary of the state oil company. "It was relatively inexpensive for us to start offering alternative fuel."

As a means to counter outside economic pressure, natural gas's usefulness

is clear. Because of its inadequate investment in oil refineries, Iran has long been forced to refine a portion of its own crude at refineries in Europe to satisfy rising domestic demand for gasoline. So when the European Union in July barred gasoline sales to the country, natural gas helped to blunt the blow.

Despite the sanctions against Iran, motorists like Mr. Ahmadi can make their commute for the equivalent of less than a penny a mile using the alternative fuel at subsidized prices. Gasoline is more expensive, especially because government subsidies have been reduced, but it is still incredibly cheap by Western standards: less than \$1 a gallon.

Iran's gradual natural gas conversion has focused heavily on installing natural gas canisters in cars and altering engines for dual gas and gasoline use, although Iran Khodro, Iran's largest carmaker, and Saipa both produce natural gas vehicles. About 40 percent of the nation's vehicle fleet is now natural gas capable. Still, long-range planning has been uneven, especially as regards filling stations.

A long line of yellow taxis waited in front of the Azadi natural gas station the other day. Peddlers were selling hot

lunches, ice cream and nuts to those in line, with a waiting time of two hours minimum.

"Sure it's cheap," said Amir Mousavi, 32, who drove a domestically built Peugeot 405. "But the waiting really puts me off. I usually buy gasoline because it's more convenient."

In a way, the government program is a victim of its own success, Mr. Hajj Hosseini said. "When the fuel prices

Pollution, prices and sanctions help explain the demand.

rose, many more people started converting their cars, much more than we had foreseen," he said. "Now we have too few natural gas stations in Iran."

Iran has 1,262 vehicles per refueling station compared with 856 vehicles per refueling station in Pakistan, the No. 2 country in natural gas vehicles, according to a report in *The Economist* in July, which cited the Gas Vehicle Report, an industry resource.

"The long waits are a real problem for

those using natural gas," said Reza Zandi, a prominent oil and gas specialist. He faulted poor planning throughout the country's natural gas supply chain.

"It starts with our huge gas projects in the south of Iran — they are behind schedule," he said. "The building of natural gas stations is behind schedule. And we also lack the know-how to build more efficient engines for our domestically built cars. The situation is relatively good, but should be much better."

In January, President Mahmoud Ahmadinejad conceded that while it was possible to convert many more cars to natural gas, the infrastructure to fuel them was lagging. "We have to work on a larger scale," he said in a speech. "We need to be ready to serve millions and millions of cars."

On Tehran's main Enghelab boulevard, which cuts crosstown through the capital, natural gas-powered buses have become common, but perhaps not common enough.

"There still is a lot of pollution," said Hamid-Reza Samadian, an information technology student. Cars stood at a near standstill in the afternoon rush hour, pumping out exhaust fumes. "I guess if we wouldn't have natural gas, the pollution would be much worse," he said. "At least we are coping now."