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Hot spot: Uranium Energy Corp. plant in Hobson, Tex.

Homegrown Fuel

The U.S. imports most of the uranium its nuclear reactors use. A small mining outfit in Texas wants to change that.

By Jonathan Fahey



Plant supervisor Gregory Kroll holding a sample of yellowcake slurry, or uranium oxide.

EVERY YEAR THE NATION'S 104 nuclear reactors burn through 55 million pounds of uranium to produce electricity. Yet only 3.5 million pounds are mined in the U.S. "We're more dependent on foreign uranium than we are on foreign oil," says Amir Adnani, chief executive of Uranium Energy Corp., a tiny mining outfit headquartered in Austin, Tex. that aims to make us less dependent.

The timing is good. The U.S. has one-fourth of the world's nuclear reactors, and most of them have decades of life left in them. The Obama Administration recently proposed tripling a new nuclear-plant loan guarantee program to \$54 billion. That could lead to the construction of a dozen more reactors.

In January Adnani's UEC

was granted licenses to begin operating its Palangana mine in Duval County, Tex., 75 miles west of Corpus Christi. Adnani thinks he can start production by the end of the year. His ambition is to get permits at more spots and to reach 2.5 million to 3 million pounds a year all told within five years.

The U.S. has the fourth-biggest total of uranium reserves in the world, but uranium, like other commodities, has been on a price roller coaster over the past several years. Decades ago, when nuclear

power plants were still being built, the search for uranium deposits turned up millions of pounds in states like Texas, New Mexico, Nebraska, Wyoming, Colorado and Utah. But uranium mining collapsed along with the price of uranium after accidents at Three Mile Island and Chernobyl and the cancelation of 100 planned reactors in the U.S. There are now only four productive uranium mines. Two are owned by Cameco, with one in Nebraska and one in Wyoming; one is

owned by the private company Mestena Uranium in Brooks County, Tex.; and one in Utah is owned by Denison Mines.

Even as energy prices rose and nuclear power plant capacity was boosted in the late 1990s and early 2000s, excess inventory and uranium from decommissioned Russian warheads kept prices low. That changed starting in 2005 amid talk of a nuclear renaissance in the U.S. The price of uranium, which had hovered near \$10 a pound for years, spiked to \$138 in 2007. This, predictably, led to a rush of speculators. "People in it for fast money were looking for big pieces of land to grab so they could hang a sign and say they were a uranium company," Adnani says.

Adnani, 32, founded UEC at the beginning of that rush, in 2005. The geology in Texas allows for a mining procedure called "in situ" recovery, cheaper than traditional seam or open-pit mining. UEC will drill 50 or so wells and inject carbonated water. The water dissolves the uranium out of the sandstone in which it is held in South Texas. This so-called pregnant solution is then pumped to the surface. The uranium is isolated, concentrated and refined into uranium oxide, also known as yellowcake. Last year, after uranium prices had fallen from their highs, UEC was able to buy a processing plant and another mine near its existing holdings.

"There are hundreds of exploration companies out there but very few with a real clear path to production," says Ian Parkinson, an analyst at CIBC World Markets. "UEC has all the pieces in place." It has \$18 million in cash on hand, and Adnani says he can get the mine going for \$10 million to \$12 million. He claims that he can break even with a uranium price as low as \$15. The price is now just over \$40 on the spot market, and utilities are paying closer to \$60 in longer-term contracts.

Nicolas Carter, a uranium analyst at the consulting firm UXC, thinks UEC's cost will be closer to \$30. It could go higher still if rules to protect groundwater are tightened. Still, long-term prospects for uranium prices are good as new reactors get built around the world. Uranium is a small part of the cost of electricity in a nuclear plant, so a steady supply is as important as the price. That's where Adnani may come in. **F**



UEC's Amir Adnani is pushing for production this year.