



## **Uranium mining: Securing America's energy future**

by Jack Spencer and Nicolas Loris

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What does uranium have in common with Arctic oil, off-shore natural gas, coastal wind and cellulosic ethanol? They're all sources of energy that government bureaucrats have declared off-limits needlessly.

Just last month, Rep. Raul Grijalva, D-Ariz., declared an emergency situation to withdraw public lands adjacent to the Grand Canyon from uranium mining. The rarely used emergency resolution would force Interior Secretary Dirk Kempthorne to ban more than 1,100 mining claims on approximately 1 million acres.

Banning uranium mining isn't unique to Arizona. The nation's largest-known uranium deposit was discovered in the 1980s on a farm in southern Virginia. The owner of that land has been exploring the possibility of mining the 110 million pounds of uranium believed to be on the site. But Virginia banned uranium mining in 1982 and more recently decided to prohibit the land owner from even studying its viability.

This quantity of uranium could supply all 104 nuclear reactors in the United States, which provide 20 percent of the nation's electricity, for two years. And we're not even talking about new technology. Uranium has been mined safely for decades in many global spots, including in New Mexico, Nebraska, Utah and Wyoming.

Uranium is found throughout the world, but often in quantities too small to be economically mined. Australia has the most; Canada has the highest-grade uranium. Kazakhstan, South Africa, Niger, Namibia and Brazil also have large deposits. The United States has about 3 percent to 4 percent of the world's known uranium and produces about 4.3 percent of the world's supply, despite operating about one-quarter of the world's commercial power reactors.

Barely a day goes by without a story on some country planning to expand commercial nuclear power. Indeed, 35 reactors are under construction today. U.S. companies alone are planning to build up to 30 reactors — though none have actually started construction.

As the only proven power source that affordably provides large amounts of primarily domestic energy without atmospheric emissions, nuclear energy is a logical choice for nations struggling to reconcile energy policy with economic, environmental and security objectives.

More nuclear power will inevitably lead to higher demand for uranium. Given that more than half of the world's uranium production comes from three countries, the United States faces substantial incentives to increase access to domestic uranium mining.

Uranium is mined in one of three ways. Deposits near the surface are accessed through open-pit mining, while underground mining is used for deeper reserves. A third method, called in-situ leaching (ISL), is most often used in the U.S. ISL entails dissolving the below-surface uranium into a solution and pumping it to the surface.

It's unclear which type would take place in Arizona or Virginia. But depending on the method, the project would create hundreds of jobs.

Of course, the primary concern is safety and radiation exposure. But the impacts of uranium mining aren't much different from other mining. Natural uranium ore is about as radioactive as granite. There's often more dangerous radium or radon with uranium, but these elements are managed safely to protect workers and the environment.

Most environmental and operational oversight is conducted by the Environmental Protection Agency and the Nuclear Regulatory Commission. These agencies have found that both mining and ISL operations pose a low risk to the public.

The waste from conventional open-cut mining and related activities does create radioactive solid products that could pose a danger. However, these byproducts are safely managed to protect public health and the environment. Regardless of the mining method, the sites are restored and revegetated. In the case of ISL, because the only surface disturbance is bore-hole drilling, the groundwater is cleanly restored and the site is returned to its original condition.

Nuclear energy is a safe, affordable, clean energy source. Uranium is a necessary component of nuclear energy, and firms that choose to mine uranium shouldn't be burdened unnecessarily by fear and government overreach.

Arizona and Virginia surely won't be the only states that attempt to prohibit access to uranium reserves. Three decades of anti-nuclear propaganda continue to influence the public's perception of nuclear power. That, however, shouldn't cloud the fact that uranium mining has proved to be safe for workers, the public and the environment. For the United States to enjoy all of the advantages of using more nuclear power, it's indispensable.

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