

## Case #11. Energy Fuels Seeks a Uranium Mining Permit in Arizona

If uranium imports to the U.S. end because of the war in the Ukraine, companies may look to increase domestic mining, which has a toxic history on Indigenous Native American lands. **President Biden** came into office vowing to safeguard Native American resources like these and uphold the rights of tribes that have endured generations of land theft and broken treaties. But the **Biden Administration's** promise is colliding with one of its other priorities: starting a revolution in renewable energy to confront climate change.



Pinyon Plain Mine is less than 10 miles from the southern rim of the Grand Canyon. Credit...Sharon Chischilly for The New York Times

This case is based on the following article, “[Why the Debate Over Russian Uranium Worries U.S. Tribal Nations](#)” by [Simon Romero](#) *New York Times* May 2, 2022. Some minor editing has been required.

KAIBAB NATIONAL FOREST, Ariz. — After Russia invaded Ukraine in February 2022, the United States placed bans on Russian energy sources from oil to coal. But one critical Russian energy import was left alone: uranium, which the United States relies on to fuel more than 90 nuclear reactors around the country.

That dependence on Russia is breathing life into ambitions to resurrect the uranium industry around the American West — and also evoking fears of the industry’s toxic legacy of pollution. With some of the most coveted uranium lodes found around indigenous **Native American** lands, the moves are setting up clashes between mining companies and energy security “hawks” (aggressive advocates) on one side and tribal nations and environmentalists on the other.

Arizona’s **Pinyon Plain Mine**, situated on **U.S. Forest Service** land less than 10 miles from the Grand Canyon’s southern rim, is emerging as ground zero for such conflicts.

The **Havasupai Tribe**, whose people have lived in the canyonlands and plateaus of the Grand Canyon since time immemorial, call the area of the mining site Mat Taav Tiihundva — “Sacred Meeting Place” in a rough translation.

But since Russia’s invasion, mining executives have seen the site as something else: the tip of the spear in their jostling to advance American uranium projects.

“We have the ability to reduce dependence on Russian uranium right now,” said Mark Chalmers, chief executive of **Energy Fuels**, the Colorado company that owns Pinyon Plain and is fighting in court to ramp up uranium production.

The Grand Canyon area went through a uranium mining boom in the 1950s that ebbed by the 1980s, when Pinyon Plain was built. Near **Havasupai** burial sites, and targeted by legal battles nearly since its inception, the mine has never been fully operational. But the mine produces water heavy in arsenic and uranium as a result of drilling several years ago that punctured an aquifer, provoking fears that the site could contaminate **Havasupai** water supplies.

“It’s easy to use this war as an excuse to advance this project,” Stuart Chavez, a member of the **Havasupai Tribal Council**, said about the Pinyon Plain Mine, which is one of several permitted uranium sites in states including Arizona, Utah and Wyoming that could quickly increase activity if sanctions are levied on Russian uranium. He contends that the United States could turn to Canada or other friendly nations to make up for Russian uranium if the imports end.



“The domestic uranium industry is set to go into overdrive again,” said Carletta Tilousi, a former **Havasupai** tribal council member who has been fighting the mine for decades.

The predicament surrounding Russian uranium stands in contrast to Russian oil, which accounted for a relatively small flow of oil into the country before the ban on such imports. The United States still relies on Russia and two former Soviet republics, Kazakhstan and Uzbekistan, for nearly half the uranium needed to fuel American nuclear reactors.

Leaders in the American uranium industry, including **Uranium Producers of America, a trade group**, which has largely been in a slump since the 1990s, are seizing the moment even as resistance to their plans emerges in various parts of the West.

Talking about Indigenous Native American leaders and environmental groups opposing the mining resurgence, Mr. Chalmers, the mining executive, said, “A lot of them would rather get uranium from Russia than mine our own.”

The Russian uranium imports originated in the Cold War’s aftermath. Aiming to curb the risk of nuclear war, the United States struck a deal in 1992 to buy enriched uranium that had been used in thousands of scrapped Russian nuclear warheads.

Called Megatons to Megawatts, the nonproliferation program lasted until 2013. Still, even when Russia annexed the Crimean Peninsula in 2014 and went on to invade Ukraine this year, the United States kept importing large quantities of Russian uranium.

As the Russian uranium sales took hold, the American uranium industry idled mines around the West, a result of the collapse of prices after the end of the Cold War arms race and of a slowdown in construction of new nuclear plants.

Now the industry is finding powerful support in the **U.S. Congress**. **Senator John Barrasso of Wyoming, a Republican**, introduced a bill in March to ban Russian uranium imports partly as a way to revive American mines. Legislators in the House of Representatives, including **Representative Henry Cuellar of Texas, a powerful Democrat**, introduced their own bipartisan bill in March calling for a ban.

“A robust domestic supply chain for nuclear fuel has never been more important for our nuclear fleet,” Scott Melbye, the president of the **Uranium Producers of America, a trade group**, said in testimony before the Senate in March. “The sooner we decouple our nuclear industry from Russia, the sooner Western nuclear markets can get to work to fill the gap.”

The measures have not advanced in the Democratic-controlled chambers in large part because the United States still relies so heavily on Russian uranium. While energy sources like wind and solar are gaining ground, nuclear power makes up about 19 percent of the electricity produced in the United States, the world’s largest uranium consumer.

Plans for a new generation of advanced nuclear reactors, a potentially crucial source of carbon-free energy that the United States needs to reach climate goals, also depend heavily on Russia, which holds what some call a monopoly on the enriched uranium needed to fuel such projects.

Image



Low-enriched uranium was loaded onto a vessel in St. Petersburg, Russia, in 2013 as part of the final shipment in the Megatons to Megawatts program. The uranium, which had come from scrapped Russian nuclear warheads, was then used as fuel for nuclear reactors. Credit...Dmitry Lovetsky/Associated Press

A proposal for an emergency stockpile of uranium, supplied by mines in the United States, is also raising alarm even if sanctions on Russian uranium fail to materialize. The idea of a Strategic Uranium Reserve, a concept that originated during the Trump administration, is being examined by the **U.S. Department (Ministry) of Energy** and drawing some prominent support in the **U.S. Congress**. It would require the federal government to buy uranium “newly produced in the U.S. from deposits at an existing site” such as Pinyon Plain.

“The possibility that this mine could go forward is unthinkable under an administration that has made promises to prioritize environmental justice,” said Amber Reimondo, energy director at the nonprofit **Grand Canyon Trust**, an environmental NGO.

As nuclear power companies seek ways to expand mining and jump-start the enrichment supply chain in the United States, opponents of Pinyon Plain warn it could produce an outcome similar to the hundreds of abandoned uranium mines still emitting dangerous radiation levels on Indigenous lands.

“This specific site is sacred for us, dotted with burial places and remains of homes and sweat lodges,” said Carletta Tilousi, a former **Havasupai Tribal Council** member who has been fighting the mine for decades.

Like other uranium projects around the country, activity at the mine was suspended in the 1990s when uranium prices crashed. But the mine’s owners managed to advance the project, even after the Obama Administration (2009-2017) announced a 20-year moratorium (ban) in 2012 on new uranium mining around the Grand Canyon.

Owners of the mine, which was “grandfathered in” (received a license to operate) before the moratorium, have prevailed in one legal challenge after another. In February 2022, a **U.S. federal appeals court** sided with the **U.S. Forest Service** in a ruling against the Havasupai and three environmental groups seeking to prevent the mine from operating.

Mr. Chalmers, of **Energy Fuels**, called the ruling a victory for energy security, contending that the mine had enough uranium to provide the entire state of Arizona with electricity for one year.

“It’s the highest-grade uranium mine in the United States,” said Mr. Chalmers, who has extensive experience in Australia and former Soviet republics.

Eying uranium prices, which have shot up more than 30 percent since the war flared up, he also said that **Energy Fuels** was close to negotiating contracts to supply uranium to **U.S. electrical utilities that are nuclear power plant operators** in the United States. At the same time, he argued that the mine would not be harmful to the Havasupai.

Image



The scene at the Pinyon Plain Mine. Credit...Sharon Chischilly for The New York Times

**David Kreamer**, a professor of hydrology and an authority on groundwater contaminants at the University of Nevada, Las Vegas, disputed that assertion. “I’m all for mining if it’s done responsibly with proper safeguards,” **Dr. Kreamer** said. But he called Pinyon Plain a potential “time bomb” that could have detrimental effects in a decade or so. **Dr. Kreamer** said he was especially concerned about drilling activity at the mine that pierced an aquifer several years ago, releasing millions of gallons of water high in both uranium and arsenic.

To prevent the water from contaminating nearby areas, **Energy Fuels** is collecting it in a pool at the mine, where some of it evaporates. The company has also trucked the water nearly 250 miles to White Mesa, Utah, where the company owns the country’s only fully licensed and operating conventional uranium mill. The **Ute Mountain Ute Tribe**, whose members live near the White Mesa site, called last year for the mill to close.

In correspondence this year with Arizona regulators, Scott Bakken, vice president for regulatory affairs at **Energy Fuels**, said the company was also measuring the daily volume and conducting periodic sampling of the water pumped to the surface. Mr. Bakken added that **Energy Fuels** would increase the frequency of pumping to mitigate any risk to groundwater if water quality standards were not met.

In late April 2022, the **Arizona Department of Environmental Quality (ADEQ)** gave the company the green light to continue, moving to grant an aquifer protection permit to **Energy**

**Fuels.** The ruling, which is the latest stamp of regulatory guidance for the project, allows the company to use engineering controls to “reduce discharge of pollutants to the greatest degree achievable,” the agency said.

"The mine meets the legal requirements for issuance of a permit. They've met the requirements in law," explained **ADEQ Water Quality Division Director Trevor Baggione**.

He said state officials met with Havasupai tribal leaders at Red Butte, the nearby mountain sacred to the tribe and that the permit addressed the tribe's concerns.

*"From the stories that I've read, it's clearly not satisfactory to have the mine in existence at all," Baggione said.*

As part of its permit requirements, ADEQ is requiring extra groundwater monitoring wells and to keep checking the water 30 years after the mine closes.

"With this individual permit, the mine is the most tightly regulated uranium mine in Arizona and possibly the most heavily regulated conventional uranium mine in the United States," Baggione said.

But members of the **Havasupai Tribe**, as well as hydrologists such as **Dr. Kreamer**, are also expressing concern that the uranium-heavy water released by the aquifer, despite the company's efforts to collect it, could jeopardize the supply of water to nearby Supai Village, home to Havasupai families, and springs within the Grand Canyon itself.

"They're setting up conditions that would mobilize the contaminants," **Dr. Kreamer** said.

Noting how Pinyon Plain is steadily advancing, Ms. Tilousi, of the **Havasupai Tribe**, said, "The domestic uranium industry is set to go into overdrive again."

"But we'll lie down in front of the mine's entrance to keep it from fully functioning if we have to," she added. "We'll make them understand this is about much more than money."

## ACTORS IN THE CASE

**Energy Fuels**, owner of Pinyon Plains mine

**Uranium Producers of America**, a trade group  
**Arizona Department of Environmental Quality**

**U.S. electrical utilities that are nuclear power plant operators**

**U.S. Congress Supporters of a ban on import of Russian uranium**

**Biden Administration**

**U.S. Department (Ministry) of Energy and its allies in the US Congress** advocating for a strategic uranium reserve from US mines

**U.S. Forest Service**, a part of the **U.S. Department of Agriculture**

**Arizona Department of Environmental Quality**

**Dr. Kreamer**

**Havasupai Tribal Council**

**Grand Canyon Trust**, an environmental NGO

**Media**

## CASE QUESTIONS

1. (1.5) Define this case in terms of the conflicting property claims raised by the case. **(maximum words: 60)**
2. (2) If you were ENERGY FUELS, what would be (a) the two most important issues you would monitor as you seek to influence the U.S. Forest Service?  
*Format: I'd monitor\_\_\_\_\_ because\_\_\_\_\_.*  
**(maximum words: 80)**
3. (3) Summarize the power situation that ENERGY FUELS faces in the case  
**(maximum 100 words)**

4. (3) Diagram your most likely scenario on how mining policy and decision-making will unfold in the U.S. government (without active intervention on your part) as the Biden Administration contemplates reviving domestic uranium production.
5. (1.5) What public policy model do you think will best describe how the following governmental actors will make decisions:
  - Biden Administration
  - US Congress
  - ADEQ

Explain your choice (**maximum words: 30 words for each**)

6. (4) Given your power summary, scenario and public policy models, as ENERGY FUELS, what will be your strategy going forward to maximize the possibility that the U.S. government will support development of a domestic uranium mining industry and thereby your mining permit? (**maximum words: 150**)