



The American landscape is dotted with hundreds of thousands of new wells and thousands of drilling rigs, as the country scrambles to tap into this century's gold rush — for natural gas.

The gas has always been there, of course, trapped deep underground in countless tiny bubbles, like frozen spills of seltzer water between thin layers of shale rock. But drilling companies have only in recent years developed techniques to unlock the enormous reserves, thought to be enough to supply the country with gas for heating buildings, generating electricity and powering vehicles for up to a hundred years.

So energy companies are clamoring to drill. And they are getting rare support from their usual sparring partners. Environmentalists say using natural gas will help slow climate change because it burns more cleanly than coal and oil. Lawmakers hail the gas as a source of jobs. They also see it as a way to wean the United States from its dependency on other countries for oil.

But the relatively new drilling method — known as high-volume horizontal hydraulic fracturing, or hydrofracking — carries significant environmental risks. It involves injecting huge amounts of water, mixed with sand and chemicals, at high pressures to break up rock formations and release the gas.

With hydrofracking, a well can produce over a million gallons of wastewater that is often laced with highly corrosive salts, carcinogens like benzene and radioactive elements like radium, all of which can occur naturally thousands of feet underground. Other carcinogenic materials can be added to the wastewater by the chemicals used in the hydrofracking itself.

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