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4-15-2016

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Recommended Citation

Marris, Johanna. "Fracking in Latin America: An Irresistible Evil?" (2016). <https://digitalrepository.unm.edu/notisur/14416>

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Fracking in Latin America: An Irresistible Evil?

by Johanna Marris

Category/Department: Region

Published: 2016-04-15

Latin America stands at a crossroads for determining the future of its energy production and consumption. Following the commitments made at the UN Climate Change conference in Paris in December to keep global warming below 2 degrees Celsius ([NotiSur, Dec 18, 2015](#), and [Jan 8, 2016](#)), the region must now decide how far it is prepared to invest in renewable energy sources to meet these goals, and how far it will be guided by corporate interests and the opportunity for short-term financial gain.

Hydraulic fracturing is becoming a key part of this debate in Latin America. More commonly known as fracking, it facilitates the extraction of unconventional hydrocarbon resources, usually trapped by shale, through deep vertical wells and horizontal drilling. The wells are subjected to the injection of a high-pressure mixture of water, chemicals and sand, which breaks up the shale rock and releases the oil and gas trapped there. It provides a means to exploit Latin America's huge, previously unreachable, unconventional reserves.

Fracking was developed in the United States and can be traced back to the 1940s. Its successful application at the Barnett Shale in Texas in the 1980s helped lead to its adoption across the US during the following two decades and has resulted in a boom in the country's natural gas production. Around 2 million oil and gas wells in the US have now been hydraulically fractured, and according to the International Energy Agency, shale gas made up over half of overall gas production in the US in 2014, and 11% worldwide. The basis of its irresistible appeal for energy producers and governments is its ability to open up access to huge new reserves, and to extend the lifespan of existing ones, with sometimes astronomical financial rewards. Its proponents claim this can provide countries with greater energy security and independence.

However, fracking is a highly controversial technique. Environmental groups and NGOs are producing evidence of the devastating effects of fracking on surrounding areas. This is mainly due to the highly toxic chemicals that are mixed with the water for use in the wells. Up to 80% of the water and chemicals remain underground after the fracking process, and what is removed cannot be used again. In cases where there are leaks, these chemicals can pollute whole water systems and surrounding soil, affecting local inhabitants, crops and livestock. Every time a well is fracked, 3.6 million gallons of water are used. This often occurs multiple times per well. According to Greenpeace, chemicals released into the air during the fracking process have been linked to cancer, allergies and radioactive exposure.

There are many risks in addition to contamination. Natural gas consists of between 70% and 90% methane, and some inevitably leaks into the air during the fracking process. Greenpeace says that methane is 80 to 105 times more powerful than carbon dioxide at disrupting the climate over a 20-year period. Areas where fracking has taken place in the US have experienced more frequent seismic activity. Health effects cited in a public health report by the state of New York include birth and congenital defects, abnormal development, and an increase in the incidence of heart problems. For these reasons, fracking has been banned or suspended in France, Bulgaria, and Germany, as well as in parts of the US, Canada, and the Netherlands, among others.

Fracking in Latin America

While its use is still highly concentrated in the US, fracking is rapidly spreading elsewhere. It is the most common method for the extraction of gas from unconventional sources. As Argentina and Mexico have the second- and sixth-largest estimated reserves of shale gas in the world, according to the US Energy Information Administration (EIA), with significant reserves of shale gas and oil also existing in Brazil, Colombia, Venezuela, Bolivia, and Paraguay, this has inevitably led to the use of fracking at Latin American shale reserves.

It has also pushed Latin America into the fracking debate. Community resistance and opposition are growing as the practice increases in the region. Fracking has taken place in countries including Argentina, Mexico, Colombia, and Chile, with contracts also awarded for unconventional exploration using fracking in Brazil.

The adoption of fracking in Latin America has generally had a low public profile. The Asociación Interamericana para la Defensa del Ambiente (Interamerican Association for Environmental Defense, AIDA) says: "There have been no previous consultations with the communities, nor holistic studies carried out about the impact and risks of this technique in any [country of Latin America]. There is also no access to information about the oil companies' contracts and operations."

In response to this lack of information, civil society groups are forming across the region in opposition to fracking, led by scientists, academics, environmentalists, and lawyers. These include the Alianza Latinoamericana Frente al Fracking, Alianza Mexicana contra el Fracking, Fundar, Observatorio Petrolero Sur in Argentina, AIDA, and the Heinrich Böll Foundation, as well as grassroots initiatives such as the Não Fracking Brasil campaign ([NotiSur, Nov. 6, 2015](#)). These groups are actively raising awareness about the dangers of fracking through social media, seminars and the publication of international reports and studies. They also actively support efforts to pass anti-fracking legislation.

Government support

Argentina has the largest shale reserves in Latin America, with the latest estimates at 802 trillion cubic feet of shale gas and 27 billion barrels of tight oil, according to EIA data. Most of these reserves are located in the Neuquén, Chubut, and Río Negro provinces in the west of the country. Despite the fact that fracking is known to be taking place across this region, its environmental impact has been shrouded in secrecy. The agreement signed between the national oil firm YPF and US giant Chevron in July 2013 ([NotiSur, Aug 9, 2013](#)) for the exploitation of Neuquén's huge Vaca Muerta shale deposits has been the subject of controversy due to YPF's refusal to disclose certain clauses of the agreement detailing the environmental impact of the fracking techniques used in the area, among other things.

Former senator Rubén Giustiniani led efforts for the clauses to be made public and Argentina's Supreme Court ruled in favor of this in November 2015, citing the human right for freedom of information. In March, however, the national Anticorruption Office backed YPF's right to maintain confidentiality. Former President Cristina Fernández's administration (2007-2015) and now the administration of President Mauricio Macri have both defended the firm.

There have been protests against fracking in Neuquén and against the secrecy surrounding the YPF-Chevron agreement by local inhabitants and indigenous groups defending their land. A number

of people were wounded in a 3,000-strong protest outside the Neuquén legislature against the agreement. The opposition group Observatorio Petrolero Sur noted that “the government had high stakes in the agreement with Chevron and defended it with sticks and bullets.”

Mexico has the second largest shale reserves in Latin America and the sixth largest in the world, at 545 trillion cubic feet of gas and 13 billion barrels of oil, according to the EIA. They are mainly located along the country’s east coast, and while some fracking has been carried out by the state-run oil company PEMEX, the 2013 energy reform has opened up the possibility of the wider extension of these practices by external companies ([SourceMex, Dec. 18, 2013](#), and [Aug. 6, 2014](#)).

The parliamentary group for the conservative Partido Acción Nacional (PAN) in the Senate cited PEMEX data in reports that 924 wells in Mexico have already been drilled using fracking techniques, with the majority of these in the states of Veracruz, Puebla, Nuevo León, and Tamaulipas. Raúl Gracia Guzmán, the PAN senator for Nuevo León, began pushing for a bill to ban hydraulic fracturing after the approval of permits for exploration at three new sites where there are plans to use the method.

Colombia, despite its promising shale resources, is newer to large-scale fracking than Argentina and Mexico. In a country reliant on hydrocarbon exports, the exploitation of unconventional oil and gas is undeniably attractive as a means of extending export revenue beyond the limited life span of the current conventional reserves. With about 55 trillion cubic feet of gas and 7 billion barrels of oil, Colombia’s shale deposits are located in the large Llanos basin in the southeast, as well as the middle Magdalena Valley, the northeastern Catatumbo sub-basin and the Putumayo basin in the south. The country’s National Hydrocarbon Agency has approved fracking in Catatumbo, the Magdalena Valley, and Putumayo.

The Colombian government has strongly promoted fracking as a means of securing income for the country. Former Mines and Energy Minister Tomás González said in an interview that the income from fracking would directly pay for the government’s key goals of peace, education, and poverty reduction. Critics say, however, that the local risks have not been sufficiently analyzed. For example, Tatiana Roa, director of local NGO Censat Agua Viva, highlighted the fact that Colombia is one of the few countries in the world where hydrocarbon extraction is carried out at high altitudes—sometimes as high as 3000 meters above sea level—and very little is known about the risks of fracking in these conditions.

An International Energy Agency report says that the future of natural gas worldwide “hinges critically on the successful development of the world’s vast unconventional gas resources.” Fracking is not simply another method for fossil fuel extraction; it is central to defining the extent of global dependence on fossil fuels for the coming generations. For Latin American governments, the decisions being made now about the extent to which fracking should be adopted, regulated, or restricted will directly determine their future energy mix and their ability to maintain the commitments made in Paris. Fracking has become a symbol of which energy future they are truly willing to invest in.

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