

Vaca Muerta Shale Basin Argentina

Sectors: Oil and Gas Extraction

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About Vaca Muerta Shale Basin

According to the US Energy Information Agency, Argentina has the [second-largest](#) shale gas reserves and [fourth-largest](#) shale oil reserves in the world. The country's shale gas reserves alone would account for [11.4%](#) of the world's remaining 1.5°C carbon budget if exploited to its maximum. Nearly all of these reserves are located in the [Neuquén Basin](#) in Northern Patagonia.

The Vaca Muerta Shale Basin is located in the Neuquén Basin. It has been identified as the largest shale play outside North America. The megaproject entails extraction from the area's enormous shale oil and gas reserves, as well as building associated infrastructure such as pipelines and LNG terminals. The deposit extends over [30,000 square kilometres](#) and represents [43%](#) of Argentina's total oil production and [60%](#) of its gas production.

Brief history

Due to economic crises, Argentina lost energy self-sufficiency and was forced to [import](#) large quantities of LNG and Bolivian gas. In order to solve the country's energy and economic issues, the government set a goal in 2011 to drastically increase the country's oil and gas output. The government [nationalised](#) the energy company YPF and put the company in charge of achieving this goal.

YPF and other Argentinean companies had been operating in the Vaca Muerta region for decades already when in 2013, an [agreement](#) between YPF and Chevron opened up the area to the global oil and gas industry. Besides Chevron, oil and gas giants such as Shell, Total and ExxonMobil now also started operations in Vaca Muerta. This development caused a significant [increase](#) in the number of extraction sites in Vaca Muerta, which also led to several disputes between companies and local communities (see: issues).

The international energy companies operating in the area mostly work in partnerships with YPF. As of March 2019, most projects were still in [pilot phase](#). This can be attributed to the fact that the government has been unable to meet its promise to subsidise global oil and gas companies. The government will require substantial investments from foreign companies in order to be able to succeed in accelerating development in Vaca Muerta.

The developments in Vaca Muerta have been the target of protests by unions, environmentalists and indigenous groups. In September 2019, the Argentinean Ministry of Security announced that Vaca Muerta will be placed under the jurisdiction of the [military police](#).

What must happen

Banks should avoid financing new oil and gas extraction projects in the Vaca Muerta Shale Basin, and phase out their support for existing fossil fuel projects in the area. Banks should also demand that the companies they finance refrain, or withdraw, from involvement in Vaca Muerta. In general, banks should phase out their support for fossil fuel companies on a timeline consistent with what is necessary to meet the Paris targets.

Issues

Human rights and social issues

Indigenous rights Indigenous communities living on the land are heavily opposed to the fracking activities taking place. They have not been asked for, and thus have not given, their [free, prior and informed consent](#) for the activities taking place on their lands. According to The Guardian, The Mapuche's [cultural identity](#) is being denied with the purpose of refusing community legal rights. Already at this stage of development, their ancestral lands are [irreversibly damaged](#): water and air have been contaminated, plants have dried up, and new diseases have appeared.

- *Intentional fire* When Chevron started its operations in Vaca Muerta in 2013, it started fracking in the Loma Campana, an oil field of which the

ownership was in dispute. In 2015, the government recognised that part of the land belongs to the Mapuche community. A **spokeswoman** for the Mapuche community explained how the oil companies entered the land without their permission in 2013. At that time, the indigenous community built an observation facility to keep track of the activities of oil and gas companies on their lands. A few months after building it, the facility was **burned down** in an intentional fire.

Public health In 2018, the Mapuche filed a **lawsuit** against ExxonMobil, Total and Pan American Energy, accusing the companies of dumping toxic waste **too close** to the town of Añelo, indigenous lands and the region's principal river. The toxic waste is not being treated according to laws and therefore threatens human health. It contains high levels of hazardous elements that **pose risks** to reproduction and inhalation.

Workers safety In March 2019, a strike was called after the **death** of a worker in one accident and another that caused **three injuries** in Vaca Muerta.

Local disruptions

- **Prices** The food and housing **prices** in the Vaca Muerta region are tied to oil and gas workers' salaries, even though they only make up a minority of the population.
- **Urban growth** A so-called '**gold-rush**' effect caused urban growth and unmanaged migration into the Vaca Muerta region. The population of Añelo city grew from 2,500 to more than 6,000 people in less than three years. Families with little resources end up on the outskirts of towns.
- **Trafficking** Due to unmanaged migration to the region, **trafficking of women and drugs** has increased. A report found that **67%** of the women being trafficked are found in oil towns.

Environmental issues

Climate change In order to align with the Paris Agreement and avoid climate disaster, oil and gas production needs to be phased out as soon as possible. The carbon emissions from existing oil and gas operations would already push the world **beyond** 1.5°C warming - thereby making it impossible to meet the demands of the Paris Agreement. The Argentinean gas reserves alone could already eat up 11.4% of the world's remaining budget required to keep global temperature rise to below 1.5°. If the Vaca Muerta megaproject would receive the investments and support needed for expansion, the cumulative emissions are expected to **quadruple by 2050** - exceeding 8 gigatonnes of carbon dioxide in total.

Pollution Hydraulic fracturing, or fracking, is the technology being used to develop unconventional hydrocarbon reservoirs. Scientific research shows that the employment of fracking **negatively impacts** public health, water, soil and air. The technique makes use of several dangerous chemicals that are released during the process causing pollution. In the Vaca Muerta Shale Basin, fracking has caused **leaks** causing both air and water pollution.

Methane leaks It was found that methane leaks often occur during operations in Vaca Muerta. This potent greenhouse gas heats the planet **86 times more intensely** than CO2 over a period of 20 years.

Oil spills Oil spills often occur in Vaca Muerta. Reportedly, an average of **three oil spills per day** took place between January 2018 and October 2018. In November 2018, Argentinean authorities suspended the license of the YPF/Schlumberger partnership that was operating at a shale well in the Vaca Muerta. The **suspension** followed a major well blow-out that contaminated 85 hectares of land with oil and drilling mud.

Governance

Bank policies

The following bank investment policies apply to this project:

Goldman Sachs

Human Rights Statement

Oct 29 2012 | Goldman Sachs

Environmental Policy Framework

Dec 15 2019 | Goldman Sachs

Citi

Statement on human rights

Nov 22 2018 | Citi

Deutsche Bank

Position on Shale Gas

Jun 9 2016 | Deutsche Bank

Human Rights Statement

Mar 24 2016 | Deutsche Bank

Morgan Stanley

Coal and oil & gas policy statements

Mar 15 2019 | Morgan Stanley

Statement on human rights

Aug 8 2019 | Morgan Stanley

Credit Suisse

Statement on human rights

Date listed represents date as accessed on website

Mar 5 2019 | Credit Suisse

ING

Environmental and Social Risk Framework

Jul 1 2019 | ING

Stance on human rights

Date listed represents date as accessed on website

Dec 19 2019 | ING

Applicable norms and standards

The National Law of Hazardous Waste (Argentina)

UNFCCC - The Paris Agreement

Updates

Financiers

Banks finance the operations in Vaca Muerta in different ways. Banks mostly finance the companies that are active within the region, either through corporate lending or through equity investments. Some banks have also provided finance to companies for specific projects in Vaca Muerta. See below for more details.

Banks

[Citigroup](#) United States [profile](#)

[Details](#) ▼

Debt – corporate loan

Citi has financed YPF and Pampa Energía via corporate debt

source: Vaca Muerta Megaproject (2017)

[link](#)

Debt – corporate loan

USD 300 million

Citi co-financed a USD 300 million credit line for Vista Oil & Gas for its 400-well drilling programme in Vaca Muerta

source: Financial Times (2018)

[link](#)

[Credit Suisse Group](#) Switzerland [profile](#)

[Details](#) ▼

Debt – corporate loan

USD 300 million

Credit Suisse co-financed a USD 300 million credit line for Vista Oil & Gas for its 400-well drilling programme

source: Financial Times (2018)

[link](#)

[Deutsche Bank](#) Germany [profile](#)

Details ▼

Debt – corporate loan

Deutsche Bank has financed YPF and Pampa Energía via corporate debt

source: Vaca Muerta megaproject (2017)

[link](#)

[Goldman Sachs](#) United States [profile](#)

Details ▼

Equity – share owner/manager

Current shareholder of YPF

source: Vaca Muerta Megaproject (dated 2017)

[link](#)

[HSBC](#) United Kingdom [profile](#)

Details ▼

Equity – share owner/manager

Current shareholder of YPF

source: CNN Business

[link](#)

[ING Group](#) Netherlands [profile](#)

Details ▼

Equity – share owner/manager

Current shareholder of YPF

source: CNN Business

[link](#)

[Industrial and Commercial Bank of China \(ICBC\)](#) China [profile](#)

Details ▼

Debt – corporate loan

ICBC has financed YPF and Pampa Energía via corporate debt

source: Vaca Muerta Megaproject (2017)

[link](#)

[Morgan Stanley](#) United States [profile](#)

Details ▼

Debt – corporate loan

USD 300 million

Morgan Stanley co-financed a USD 300 million credit line for Vista Oil & Gas for its 400-well drilling programme

source: Financial Times (2018)

[link](#)

Equity – share owner/manager

Current shareholder of YPF

source: Vaca Muerta Megaproject (dated 2017)

[link](#)

Multilateral development banks

[Interamerican Development Bank \(IDB\)](#)

Details ▼

Uncategorised

The Interamerican Development Bank has funded massive urban planning projects in Añelo city to serve the hydrocarbon industry

source: Vaca Muerta Megaproject (2017)

[link](#)

[World Bank \(IBRD, IDA\)](#)

Details ▼

Uncategorised

The World Bank has funded massive urban planning projects in Añelo city to serve the hydrocarbon industry

source: Vaca Muerta Megaproject (2017)

[link](#)

Related companies

More than [30](#) oil and gas companies are active in Vaca Muerta. The Argentinean energy company YPF is the [main actor](#) in the region. The company is involved in most of the projects, either alone or in joint ventures.

Chevron United States

ConocoPhillips United States

Equinor Norway

ExxonMobil United States [show profile](#)

Oil and Gas Extraction

Gas y Petroleo del Neuquén Argentina

Pampa Energía Argentina

Pan American Energy Argentina

Petrobras Energia Argentina

Petronas Malaysia

Pluspetrol Argentina

Royal Dutch Shell Netherlands [show profile](#)

Oil and Gas Extraction

Tecpetrol Argentina

Total France

Vista Oil & Gas Mexico

Wintershall Netherlands

YPF Argentina