



VACA MUERTA AND ARGENTINE DEVELOPMENT assessment of fracking and future outlook



socio-environmental and
energy justice alliance

April 2020

the solution to all of our problems

Vaca Muerta has been at the heart of the Argentine political and economic debate for nearly a decade.

This megaproject has raised great expectations, as it has been portrayed as the key to unlock energy self-sufficiency, an attractive asset for foreign investment, and an export hub that would finally solve the historical problem of foreign currency shortage.

After eight years of significant exploitation, we must ask ourselves: Where are we? Has Vaca Muerta truly helped us take a step closer to our energy sovereignty?

Vaca Muerta in numbers

January 2020

total gas extraction
130 million m³ a day

vaca muerta

remaining fields

54 mmcm

total oil extraction

521 thousand barrels a day

vaca muerta

remaining fields

119,000
barrels

Gas extraction in Vaca Muerta reached 54 mmcm a day in January, with a strong downward trend in the last few months. It accounts for 43% of total gas extraction.

Oil extraction reached 119,000 barrels a day, representing 23% of the aggregate oil extraction.

main companies operating in Vaca Muerta

gas



oil



YPF and Tecpetrol together make up 55% of the gas extracted from Vaca Muerta.

YPF and Chevron account for 57% of the oil extracted from that formation.

Every moment in the history of Vaca Muerta was led by one of these companies: First, through the YPF-Chevron agreement and, then, through the stimulus program for Tecpetrol.

Vaca Muerta from 2012 to 2015

YPF in association with  invested **USD 3.27** billion in 2014/15 and received **42%** of the state subsidies granted to the sector during that period

2012-2015

In search of energy self-sufficiency, the State regained majority shareholding over YPF, created partnerships with foreign capital and granted considerable subsidies to the company.

a snapshot of VM in 2015

share by company

gas
extraction



oil
extraction



*As of December 2015

Vaca Muerta from 2016 to 2019



Tecpetrol invested **USD 1.115** billion in 2017/18 and received over 50% of state subsidies

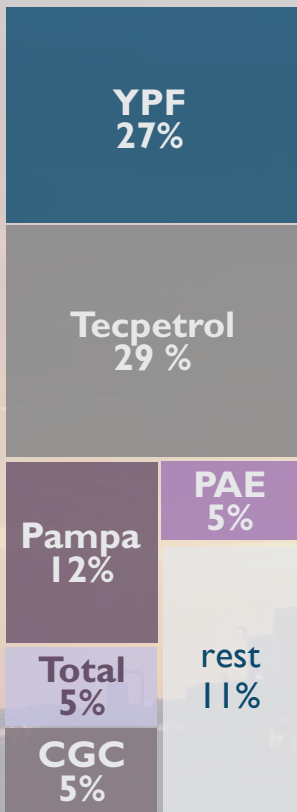
2016-2019

In its quest for foreign investment and with a view to developing an export hub, the State relaxed labor laws and granted subsidies to new projects to the detriment of existing ones.

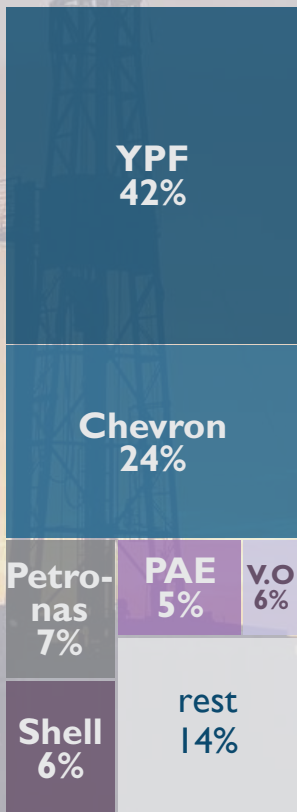
a snapshot of VM in 2019

share by company

gas
extraction



oil
extraction



*As of March 2019

company funding

Every company can secure funding in
four different ways:

Self-funding

All profits earned in one period are saved for future investment.

Subscription by new shareholders

The issuance of shares allows companies to increase their capital stock.

Debt

A company may borrow from financial entities, investors (by issuing bonds) or an affiliate (intercompany loans).

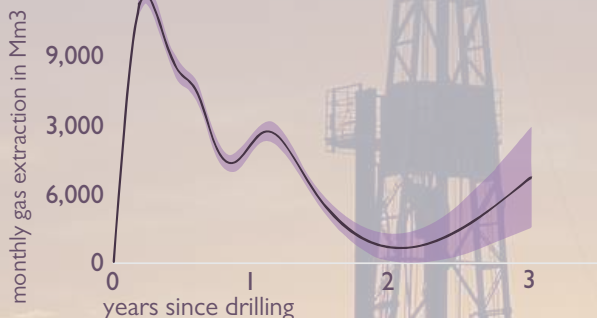
State subsidies

A common form of funding in the sector. The State gives money to the companies to promote business.

why do they need funding?

average productivity of an unconventional well

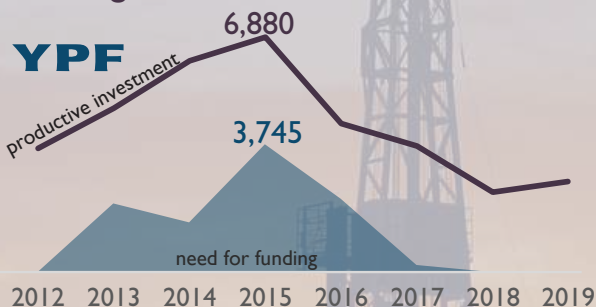
Area: Fortín de Piedra.



Drillings are the primary investments in the sector. Unconventional wells are less productive and larger investments are needed for an area to remain productive.

how much funding do they need?

productive investment and need for funding in millions of USD

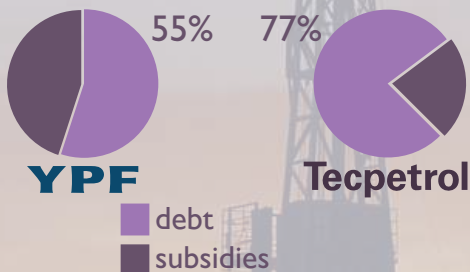


When their drilling operations increase, oil companies are unable to get sufficient cash flow to finance themselves.

YPF and Tecpetrol needed more funding in busier times.

how did they secure funding?

external funding of companies
operating in Vaca Muerta



The subsidies granted to the sector were key to fracking expansion policies, but it is no less true that **company debt was one of the main sources of financing** for their investments throughout the eight years of operation in Vaca Muerta.

the private debt issue

Companies' external debt is a major problem for economic development.

First, the setting surrounding financial loans is usually complex, with a long line of business in tax havens.

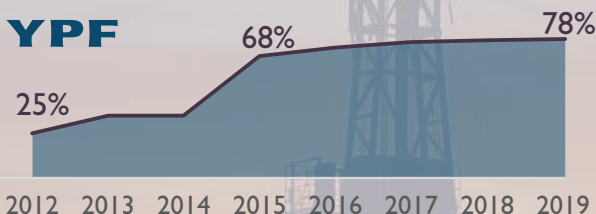
Intercompany loans –through which a company lends itself– are very common. This makes tax and currency exchange systems permeable.

Finally, in a country with difficulties to create foreign currency inflows, or dispose of those created, high indebtedness in the private sector adds significant strain.

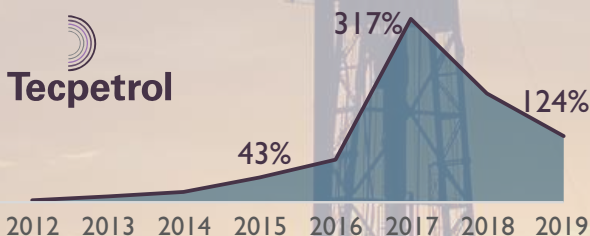
how much debt did they take on?

debt stock as a percentage of annual turnover

YPF

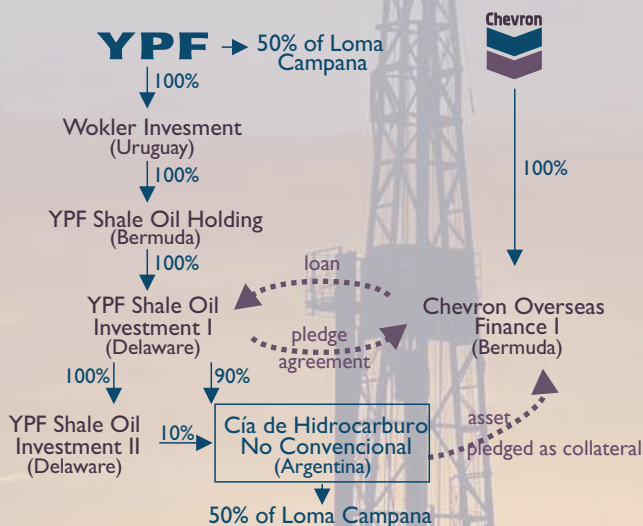



Tecpetrol



As for YPF, once the investment cycle started, debt remained close to 75% of turnover. In the case of Tecpetrol, debt stock is virtually higher than the company's ability to generate income .

Vaca Muerta in heaven: YPF/Chevron

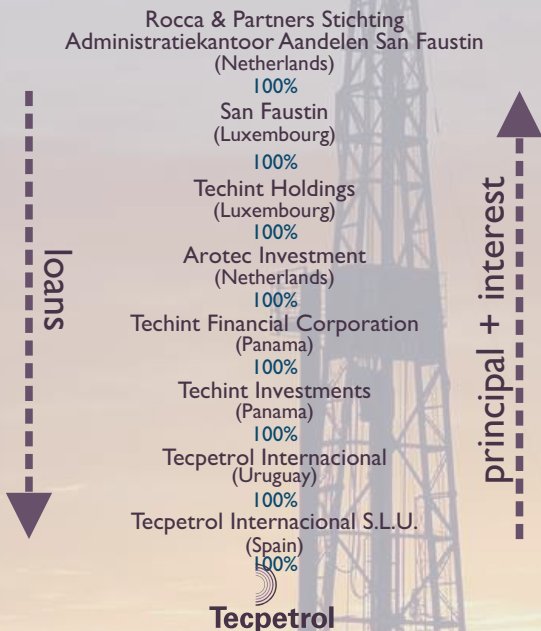


Chevron served as lender in the agreement signed with YPF to operate in Vaca Muerta.

They organized a series of companies in tax havens that took on debt from one another to direct capital.

Chevron earned a 7% interest rate and 50% of all profits derived from the project.

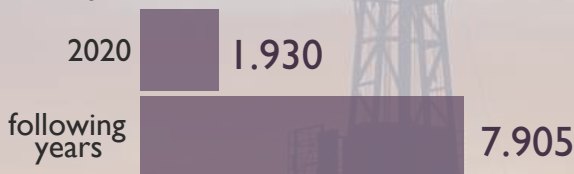
Vaca Muerta in heaven: Tecpetrol



As the company needed more funding, different lines of credit were opened with affiliates in tax havens, notably companies in the Netherlands, Luxembourg, Panama and Uruguay.

an alarming level of debt

debt maturity profile of YPF and Tecpetrol in USD billions

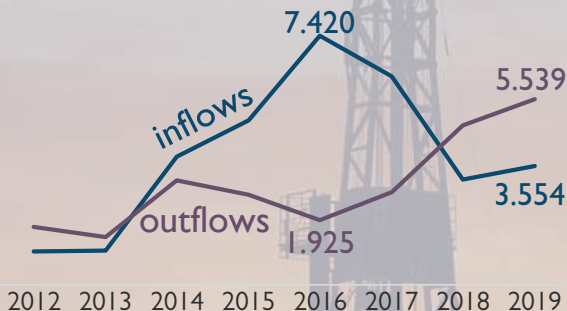


In the coming years, the two largest companies in Vaca Muerta will face maturities for 10 billion dollars.

This adds strain to the debt problem of the Argentine State and the provinces, as the dollars necessary to repay such debt all come from the same place: The reserves of the Argentine Central Bank.

loans come in only to go out again

financial inflows and outflows in the energy industry in USD billions



Financial inflows from different types of loans become outflows when, sooner or later, principal and interest start being repaid. This has been the case in the oil industry since 2018, with annual net outflows of 2,000 million dollars.

subsidies and oil revenues

Subsidies to the oil industry can serve a variety of purposes. On the one hand, when a government seeks to restore fossil fuel domestic supply, subsidies can enable affordable prices to meet transport, heating and household electric power needs.

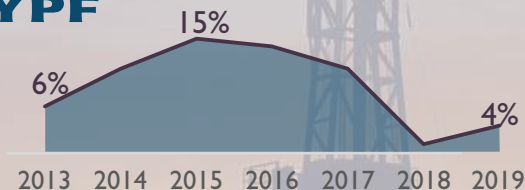
On the other hand, when the intention is to develop an export hub, the purpose of subsidies is to lure foreign investors, who take over those subsidies. This is the case of the programs earmarked for Vaca Muerta.

In this case, the State loses its ability to take over a portion of oil revenues, and territory inequalities arise that favor oil provinces.

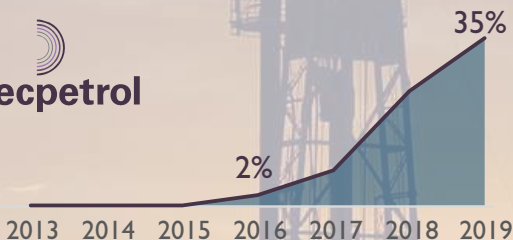
how many subsidies did they receive?

state subsidies as a percentage of annual turnover

YPF




Tecpetrol

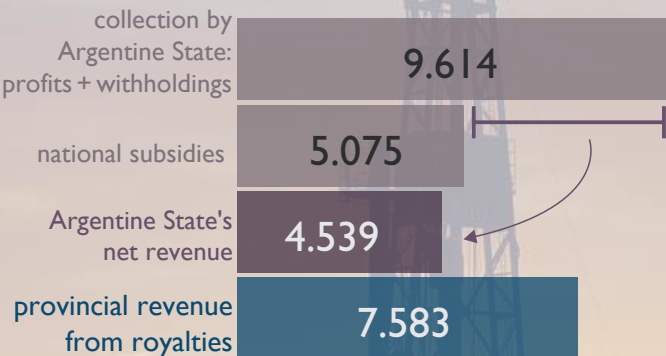


At those stages where YPF made the largest investments, subsidies accounted for a stunning 15% of its turnover.

As for Tecpetrol, at the height of its investment, subsidies made up for 35% of the company's turnover.

the fiscal balance of YPF's business

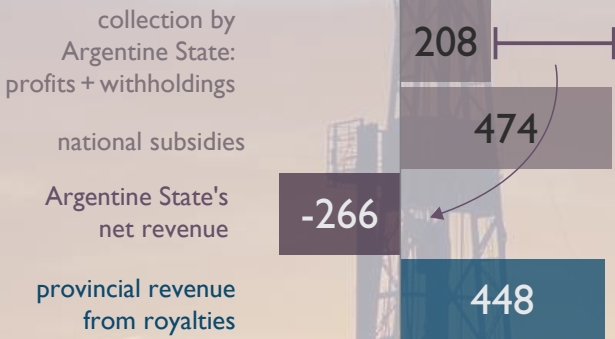
YPF's fiscal balance:
collection and subsidies in USD
billions. 2013-2019, aggregate.



The Argentine State loses its ability to distribute oil revenues across the territory: The subsidies granted to YPF accounted for 53% of what it collected from the company by way of taxes. Oil provinces benefit because subsidies boost the activities from which they earn royalties.

the fiscal balance of Tecpetrol's business

Tecpetrol's fiscal balance: collection and subsidies in millions of dollars. 2013-2019, aggregate.



In the case of Tecpetrol's business, the fiscal balance is negative.

Boosting this company's operation meant a net cost for the Argentine State of 266 million dollars between 2013 and 2019.

Oil provinces, in turn, benefited with 448 million dollars from royalties.

references

- YPF-CHEVRON INVESTMENT PROJECT
AGREEMENT DATED JUNE 16, 2013
- FINANCIAL STATEMENTS OF YPF,
TECPETROL AND SUBSIDIARY/
PARENT COMPANIES
- CENTRAL BANK OF ARGENTINA
- ARGENTINE ANTITRUST COMMISSION
- ARGENTINE MINISTRY OF ECONOMY
- ARGENTINE MINISTRY OF ENERGY

financial research

Gustavo García Zanotti

industry research

Facundo López Crespo

Marco Kofman