CFA Institute Research Challenge

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Iron Condor Semantics

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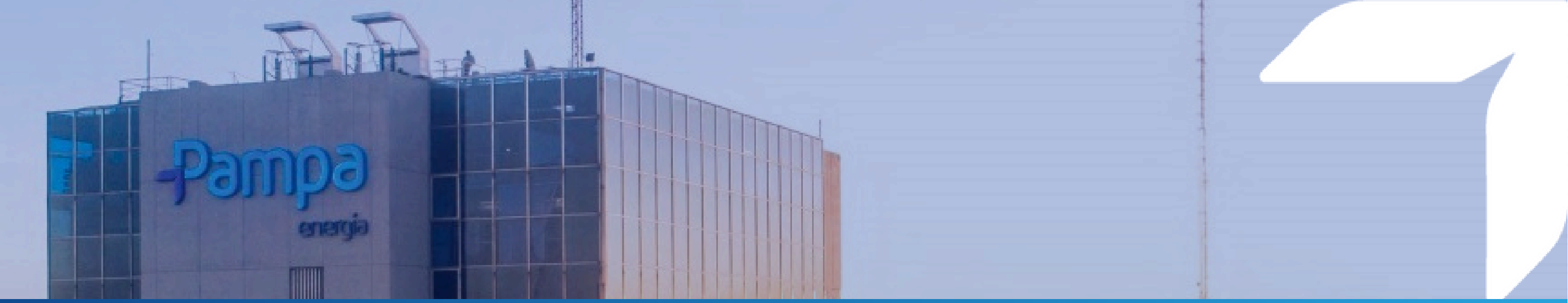


Investment summary

Pampa Energía (PAM:NYSE)
Price as of 11/17/2024: $ 76.38
Utilities - Oil & Gas

Recommendation: **BUY**
Dec 2025 Target: $ 103.60
Upside: 36% return

Shale's Promise Meets a Stabilizing Argentina

We issue a buy recommendation on PAM based on the below key factors reviewed in our analysis:

Optimistic expectations already implied in the stock price?

Even after the significant rally that PAM's shares have experienced recently, we believe it continues to be a solid story with upside potential. Looking towards the medium term, we believe the company's bet on shale oil will position it as a relevant player in the sector, leveraging its current structure as a leader in shale gas and power generation.

Navigating Argentina's economic and political uncertainty

PAM has historically shown the ability to successfully navigate Argentina's turbulent economy. We believe that the current government has the capacity to steer the macroeconomy towards stability as a fundamental requirement for the growth of local equity. Additionally, the development of the Vaca Muerta formation offers export potential which, if promises of trade liberalization and relaxed currency controls are fulfilled, would represent a favorable tailwind for the Oil & Gas industry's growth.

The Challenges in the Development of Rincón de Aranda

We understand that PAM's focus on Oil & Gas as the primary source of revenue within its productive matrix represents a considerable challenge. Nonetheless, this concern is mitigated by the company's current expertise, while recognizing that the potential obstacles are largely associated with external factors, such as dispatch issues or infrastructure investments, which could have a systemic impact on production.

O&G price dynamics

PAM's focus on Oil & Gas is projected to reshape its revenue and EBITDA mix, overtaking generation by 2027. This shift, alongside rising Oil & Gas exports surpassing local sales, will increase PAM's sensitivity to global price volatility. However, the generation business, expected to contribute around 20% of revenues, will remain a key stabilizing factor, with its reliable and predictable cash flows providing a buffer against the segment's volatility.

Price Scenarios

Fig. 1 - Source: TradingView.com and team estimates

Market Profile

Outstanding Shares	54.5 MM ADR's
52 Week Range (USD)	$ 38.15 - $ 78.72
Average Daily Volume (USD)	17.6 MM
Market Cap (USD)	4.1 B
EV/EBITDA	5.96x
Beta	0.92
Enterprise Value (USD)	5.2 B

Valuation Target Price 2025

DCF - 60% Weight	$ 117.74
EV/EBITDA - 30% Weight	$ 83.76
Multiples - 10% Weight	$ 78.00

Revenue by Segment (USD B)

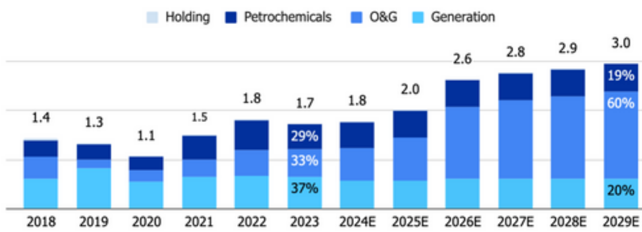


Fig. 2 - Source: company information and team analysis.

Adjusted EBITDA by Segment (USD B)

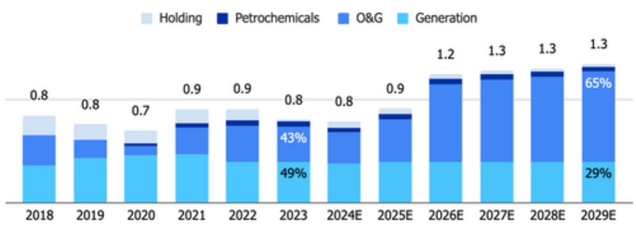


Fig. 3 - Source: company information and team analysis.

Business description

Company Overview

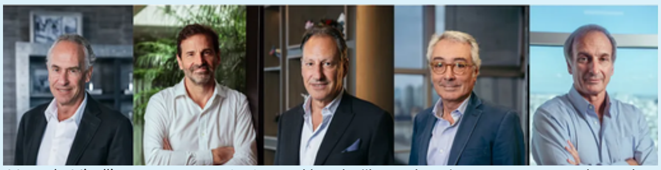
Pampa Energía S.A. (PAM) is a leading integrated power company in Argentina, operating in Electricity Generation, Oil & Gas, Petrochemicals, and related businesses. With over 5,000 MW of installed capacity, PAM contributes around 15% of Argentina's electricity market through thermal, hydroelectric, and wind energy. PAM is Argentina's third-largest unconventional gas producer, with 9% market share, primarily operating in Neuquén and Río Negro.

> Regarding oil production, the company is expected to tenfold its current output with the acquisition of the Rincón de Aranda block in the Vaca Muerta formation.

Following its acquisition of Petrobras Argentina S.A's operations, PAM also meets near 100% of domestic demand for essential petrochemicals like styrene, synthetic rubber, and polystyrene. Its strategic equity interests include Transener S.A., managing over 22,000 km of high-voltage lines and serving 86% of the market, and Transportadora de Gas del Sur S.A., controlling over 9,000 km of pipelines and 60% of Argentina's midstream market.

Management

PAM's growth is driven by an experienced leadership team. Chairman and co-founder Marcelo Mindlin, has been on the board since 2006 and was CEO from 2016 to 2018, pivotal in Pampa's rise in Argentina's energy sector. Since 2018, CEO Gustavo Mariani has focused on enhancing financial performance and operational efficiency, while Executive VP Ricardo Torres manages strategic execution. Executive E&P Director Horacio Turri plays a key role in the development of strategic O&G assets. This team has proven capable of building one of the main integrated power companies in the country, navigating complex regulations, emphasizing cost reduction, operational excellence and sustainability.



Marcelo Mindlin **Co-founder & chairman** | Gustavo Mariani **Co-founder & CEO** | Damián Mindlin **Co-founder & executive VP** | Ricardo Torres **Co-founder & executive VP** | Horacio Turri **Executive Director of O&G**

Source: company data

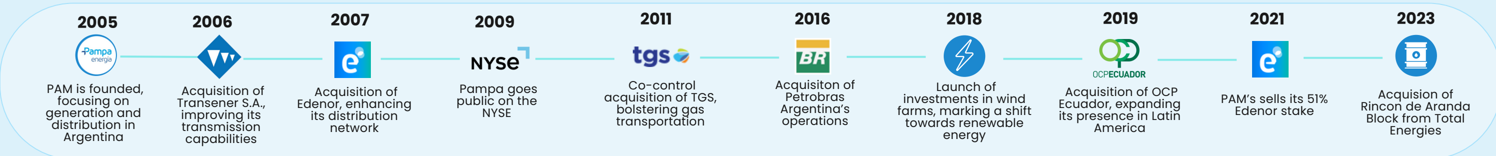


Fig. 4 -Source: Team elaboration based on company data

Segments and Corporate Structure

Generation

The Generation segment accounts for the company's electricity generation business, including thermal, hydroelectric and wind. The business is held through direct and indirect interests and through its own electricity generation assets. It operates 16 power plants: 9 thermal (4,107MW output); 3 hydroelectric (938MW output); 4 wind farms (382MW installed capacity).

These operations derive revenues from the sale of electricity in the spot regulated market for legacy generation (100% hydro, 66% thermal), and under term contracts (100% wind, 33% thermal) which include the government program to boost new electricity generation Energía Plus and wholesale electricity market supply agreements with CAMMESA (Cía. Administradora del Mercado Mayorista Electrico S.A.) and B2B agreements.

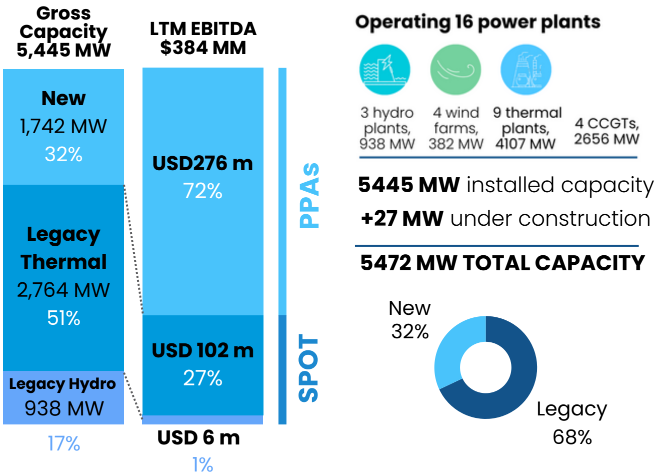
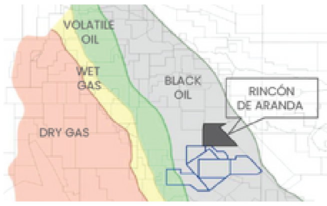


Fig. 5 - Source: company information

Oil & Gas

PAM focuses on upstream operations, primarily unconventional gas, contributing 42% of its LTM adjusted EBITDA as of Sep-24. Operating across 12 blocks, PAM produced 82 kboepd, including 77 kboepd of natural gas and 5 kbpd of crude oil. Over half of its Q3 2024 gas output was shale, driven by 23 Vaca Muerta wells connected in 2023.

Strengthening its oil segment, PAM acquired full control of the Rincón de Aranda block, aiming to reach 45 kbpd of shale oil production by 2027 with a $600MM per year investment. As of the latest data P1 reserves for both oil and gas are 199 million boe and a replacement ratio of 1.8x.



59K shale acres

400 Mbbl potential resources

Fig. 6 - Source: company data

Petrochemical

The company's petrochemical operations in Argentina encompass three high-complexity plants that produce oil and gas derivatives. Key assets include an integrated petrochemical complex with an annual production capacity of over 900 tn. These assets are not deemed strategic for PAM, contributing 26% of revenue and under 2% of adjusted EBITDA in Q3 2024.

Holding & Related Businesses

This segment primarily includes PAM's stakes in several key joint ventures. Among these are CITELEC and CIESA, through which PAM holds a 26.3% interest in Transener S.A., the nationwide high-voltage electricity transmission concessionaire and a 25.9% stake in TGS S.A., a leading gas transportation provider in southern Argentina. Additional interests include the associates OCP Ecuador and Refinor, further integrating PAM's portfolio in the energy sector.

Prospective View

PAM is focused on expanding its E&P operations in Vaca Muerta. Leveraging Argentina's vast unconventional reserves, PAM aims to drive growth by increasing production, optimizing well efficiency, and shifting its production matrix to prioritize higher-value O&G assets. Growing production will enable surplus hydrocarbon exports, using expanded pipelines to ramp-up capacity and diversify revenues while tapping international markets. PAM is also advancing LNG projects, aligning with Argentina's global energy strategy.

Industry Overview and Competitive Positioning

Competitive Positioning

PAM operates in many areas of the Argentine energy sector, a key characteristic which separates it from many of its peers. With a high presence in the energy transportation industry, as well as the Oil & Gas sector, PAM is well diversified and integrated.

PAM holds a 15% share in Argentina's power generation market, benefiting from integration through its stake in Transener S.A. In gas production, PAM has a 14% share of the unconventional market and provides 9% of Argentina's total gas output. Its stake in TGS, the largest gas transporter in Latin America with over 9,000 km of pipeline covering ~60% of Argentina's gas consumption, enhances cost control and product quality, giving PAM a significant competitive edge.

Oil production has become a key focus for PAM, supported by its full acquisition of the Rincón de Aranda block under a 35-year unconventional exploitation license. This block, expected to reach a maximum output of 45 kbpd by 2027, is among Argentina's most promising. Unlike competitors, PAM acquired the block at a significantly lower USD per acre, showcasing strong management expertise.

Industry Overview

The Argentine energy market is undergoing a transformation period marked by significant challenges such as the transition toward more sustainable energy sources, the need to increase infrastructure capacity, and the regulation and regularization of key sectors such as electricity generation, gas, and oil. Efficient management of these sectors is crucial to ensuring domestic energy supply and reducing dependence on imports.

Electricity generation market

Argentina's electricity market consists of thermal, hydroelectric, nuclear, and renewable sources, with CAMMESA regulating and managing supply, demand, and system stability. Regulatory measures and subsidies have aimed to balance supply and demand while protecting consumers from high tariffs. However, these subsidies and delayed tariff adjustments have strained energy companies financially, limiting new generation investment. Programs like RenovAr have boosted renewables to diversify the energy matrix, though the system remains heavily reliant on thermal generation, posing sustainability and cost challenges.

Gas market

Argentina has vast natural gas resources, mainly concentrated in the Neuquina basin. This resource, along with LNG imports, is essential to meet domestic demand. The gas market is also highly regulated by CAMMESA. One of the main initiatives launched by the Argentine government is the Gas.Ar Plan which aims to encourage investment in the exploration and production of non-conventional gas, with the objective of satisfying domestic demand. Under this plan, CAMMESA assigns contracts through competitive tender processes.

Oil market

Vaca Muerta is central to Argentina's oil exploration and production due to its substantial unconventional oil reserves. However, a major challenge for the Argentine oil market is inadequate infrastructure for transporting oil from Vaca Muerta to consumption and export hubs. Limited transportation and storage capacity create supply chain bottlenecks and delay production growth.

To address these issues, the government and private sector have launched several key projects:

Oldelval's Duplicar and Triplicar Plans:
Aim to double and triple oil transport capacity from Vaca Muerta, significantly boosting domestic oil exports and sector competitiveness.

Vaca Muerta Sur Pipeline:
Aims to boost crude oil transport capacity from Vaca Muerta to southern export ports, reducing transportation costs and increasing oil export capacity.

Oldelval Duplicar+
COD 1H25
Guaranteed capacity: **8 kbpd**
Additional agreed capacity:
2025-26: **12 kbpd**

Vaca Muerta Oil Sur
Guaranteed capacity: **50 kbpd**
25 kbpd by 2H26
25 kbpd by 2H27

Fig. 7 - Source: company information

Additionally, measures such as the Régimen de Incentivo para Grandes Inversiones (RIGI), explained in detail in later sections, aims to promote investment in this area in order to overcome what seems to be the main problem within the industry.

Argentina's power generation market share

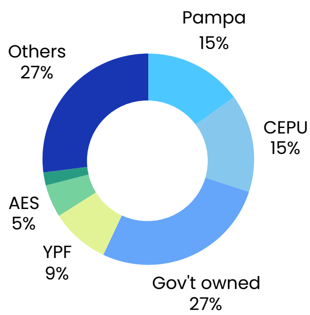


Fig. 8 - Source: company information

International Context

Since the Covid-19 pandemic, many economies have rebounded as restrictions eased, leading to inflation due to supply chain disruptions. In response, major central banks, including the U.S. Federal Reserve, raised interest rates to combat inflation. The Fed, which had reduced rates during the pandemic and implemented massive monetary stimulus, increased the Fed Funds rate from virtually 0% in January 2022 to 5.25% by July 2023 to address inflation levels not seen since the 1970s. The significant monetary emission during the pandemic — including the expansion of the money supply through programs like quantitative easing — contributed to rising demand and increased price pressures as the economy recovered. The recent political victory of Donald Trump, whose second presidential term begins on 20th January 2025, has meant even more uncertainty regarding future interest rates, given that the growing US fiscal deficit - which represents 120% of GDP at the time of writing - shows no sign of slowing down. As of now, the rate is 4.5%, still relatively high, reflecting the lingering effects of Covid.

Despite aggressive rate hikes, the U.S. seems to have avoided a major recession, supported by a strong labor market and resilient economic activity. The higher interest rates have strengthened the U.S. dollar, as seen in the rise of the DXY index from January 2021 to October 2022, coinciding with peak inflation in mid-2022. Inflation has since decreased from a high of 9.1% in June 2022 to 2.4% currently, in YoY terms. However, the legacy of extensive monetary issuance during the pandemic continues to shape the inflationary environment, as excess liquidity in the system contributed to sustained price pressures, even as demand moderated. As will be explained below, commodity price volatility, especially in the energy sector, has also contributed to increased inflationary tensions.
The behavior in US rates and a subsequent strengthening of the US dollar has meant a turbulent year for most commodities. On the agricultural side of the spectrum, most have seen negative returns. This can be seen by the YTD returns of soybean, wheat and corn futures for example, all of which portray a clear downward trend, particularly since late 2022, which coincides with the last peak of the DXY index.

DXY vs Agricultural Commodities - YTD

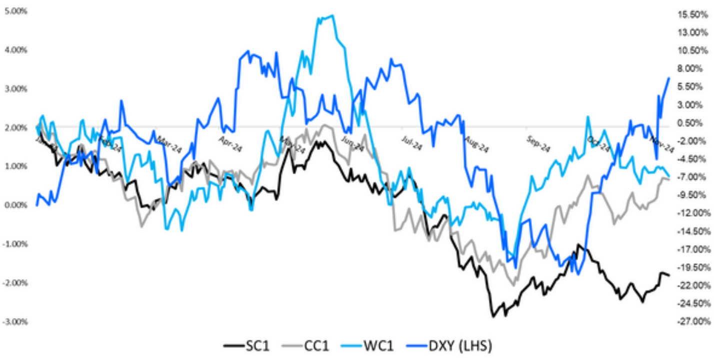


Fig.9 - Source: Team Elaboration based on Refinitiv data

In contrast to other commodities, fossil fuel markets have not followed a clear trend. Geopolitical tensions, particularly the Russia-Ukraine conflict (which began in early 2022 and is ongoing) and the recent escalation between Israel and Iran in October 2024, have contributed to greater volatility in oil and gas prices.
Regarding natural gas, a sharp price increase occurred in early October 2022, driven primarily by higher European demand following the Russia-Ukraine conflict. The explosion at the Freeport LNG export terminal in South Texas in June 2022 also contributed to the spike. Since then, Europe's reduced reliance on Russian natural gas, coupled with increased U.S. supply, has led to a steady decline in prices to around $2.65 USD/MMBtu, with lower volatility.
In the oil market, prices rose from $20 USD/bbl in late 2020 to $115 USD/bbl in early 2022, largely due to easing COVID restrictions and a recovery in demand, which grew by about 2 million barrels per day during the 2022-2023 period. Since then, prices have stabilized in the range of $65–$90 USD/bbl. In October 2023, Brent crude futures surged by $8/bbl, with the spot rate trading near $78/bbl. This price increase was driven by a 604 kbpd drop in OPEC production—around 2.5% of the bloc's total output—due to political tensions in Libya, along with the renewed conflict between Iran and Israel.
China, a key player in global oil demand, has shown signs of slowing down. Its oil demand has been weak, with consumption rising by 80 kbpd YoY in August, down from a 120 kbpd YoY growth in September. Parallelly, Non-OPEC+ oil supply, led by the Americas, continues to make robust gains of around 1.5 mbd this year and next. Recent price movements have been on an upward trend, largely driven by geopolitical factors. Global oil demand is expected to keep growing, particularly in emerging markets like India. However, the pace of growth is projected to slow, and geopolitical tensions continue to play a significant role in oil price dynamics, potentially supporting higher prices.

Significant downside risks also exist related to ongoing impact of tighter monetary policies in advanced economies and potential supply glut given by the absence of strong demand from China, posed as the main potential buyer for PAM's increasing oil output and production adjustments by major producers including OPEC and the US. The political victory of Donald Trump also poses the question regarding the US energy market, with potential increased stimuli of the sector.

Expected world oil demand -mbd

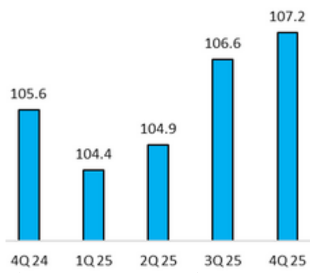


Fig. 10 - Source: Team elaboration based on OPEC data

This complex interplay of factors underscores the challenges in making definitive long-term oil price projections.

Domestic context

December of 2023 saw Javier Milei win the presidential election, defeating Sergio Massa in the runoff. His victory, which propelled La Libertad Avanza to the forefront of Argentine politics, has sparked significant changes in the country 's economy.
A key focus of Javier Milei's administration has been the reorganization of the Central Bank's balance sheet. Several measures have been implemented to achieve this goal. Firstly, a strong emphasis on fiscal balance has resulted in a 0.3% financial surplus and a 1.5% primary surplus relative to GDP. In parallel, a "zero issuance" policy regarding the Central Bank was introduced, with the aim of neutralizing endogenous monetary emission. To implement this, BCRA repos were replaced by LEFIs, which have become the new main monetary instrument as of July 22nd. These are bills issued by the Argentine Treasury with a maximum maturity of one year.

Total M2 (Trillions of constant pesos from October 2024)

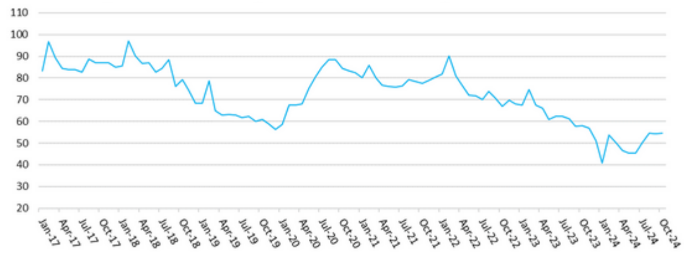


Fig. 11 - Source: Team Elaboration based on BCRA and INDEC

One key aspect regarding LEFIs is the fact that even though the interest accrued is paid by the Treasury, the rate is defined by the Central Bank. For those entities who choose to acquire them, the situation is basically the same as had been with repos, given that operations with the BCRA are made at technical value, meaning that there is no price risk from their standpoint. The Central Bank on the other hand sees an improvement in its balance sheet, given that the interest accrued by these instruments now falls on the Treasury. In other words, it exchanges an interest bearing liability (repos) with a non-interest bearing one (pesos). In the case of the Treasury, there is no impact on the financial result but rather on its debt level.
This has led to an anchoring of expectations and a subsequent sharp decrease in inflationary tensions. These effects can be seen by monthly CPI falling from values above 20% at the end of 2023 and beginning of 2024 to the sub 3% levels seen nowadays, with the latest value for October clocking in at 2.7%.

Monthly CPI - %

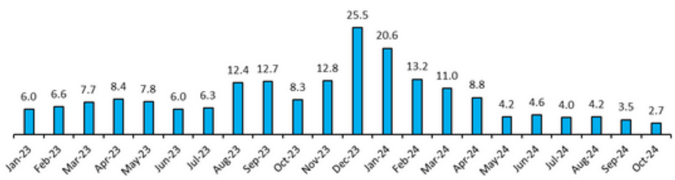


Fig. 12 - Source: Team Elaboration based on INDEC

This has been aided by the monthly crawling peg of 2%, which has been in place since December 2023 up until the time of writing. This policy has helped slow inflation, though its impact has diminished and has made it harder to build reserves. It should be noted that a possible deceleration in the current crawling peg is possible, with a slowdown to a monthly 1% depreciation rate being debated.

BCS vs Official Rate

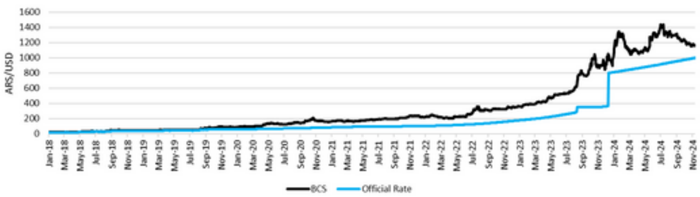


Fig. 13 - Source: Team elaboration based on BCRA and Refinitv

Additionally, measures like the General Resolution N°1018 capital controls relaxation and the September 2024 tax amnesty have boosted capital inflows, and helped ease strain on international reserves, while also reducing FX pressure. The amnesty could lead to an increase of nearly USD 20 billion in dollar deposits, not only benefiting reserves but also dollar-denominated credit. Additionally, fines paid through the amnesty are expected to improve tax collection, also helping on the fiscal front. An eventual liberalization of capital controls is to be expected, which could bring about inflationary tensions, at least in the short run.

These developments have seen Argentina's country risk significantly decrease, dropping from 2,200 bps in December 2023 to below 800 bps at the time of writing, signaling improved credibility and potentially attracting more foreign investment. The IMF predicts a 3.5% contraction in Argentina's real GDP for 2024, but a 5% expansion is expected in 2025.
To foster investment, the government introduced the Régimen de Incentivo para Grandes Inversiones (RIGI) sanctioned in the Ley Bases, offering fiscal benefits to large-scale projects in sectors like infrastructure, mining, technology, and energy. Investments of at least USD 200 million are required, potentially boosting productivity in key industries, many of which PAM operates in. Nonetheless, Argentina's economy still faces distortions that could limit growth, meaning that further flexibility is needed to strengthen ongoing improvements in economic policies and capital mobility.

BCRA International Reserves - MM USD

Fig. 14 - Source: Team Elaboration based on BCRA

Environmental, Social and Governance

ESG Scoring

0.549/1 (**B- category**): good performance with room for improvement in emissions and innovation.
Valuation Adjustment: +5% Beta adjustment to PAM's valuation based on ESG performance and the lack of more recent data.

To review PAM's environmental impact, societal responsibilities, and governance practices, Refinitiv's ESG framework (appendix VIII) offers a structured analysis of resources management, emissions, and waste, its employee and community relations and its leadership transparency and ethical standards. By comparing these metrics with industry benchmarks, the assessment highlights PAM's ESG strengths and areas for improvement, providing insight into its alignment with global sustainability goals. The company publishes an annual Sustainability report, but the latest data available belongs to 2022 and no newer information has been shared.

Environmental

Resource use: In a highly resource-intensive industry, PAM has implemented technological and operational improvements to reduce its water and energy intensity. In 2022, only 26% of its waste was recycled or reused, leaving a significant environmental footprint. Its recycled water consumption, 751,000 m³, is notable but limited compared to total demand, especially in high-consumption sectors like thermoelectric generation. While PAM promotes renewable energy use, it has not disclosed the specific percentage of renewable consumption, and it continues to rely mainly on fossil fuels, with few long-term carbon reduction targets. The high resource intensity presents a challenge to its sustainability unless they significantly increase investments in clean technology.
Carbon Emissions: Reducing emissions is a priority for PAM, with an Emissions Inventory that allows for analyzing the impact of its operations. The carbon intensity in 2022 was 0.36 tons of CO_2e per MWh, reflecting a reliance on thermal plants. While the company has added 460 MW of wind power capacity, renewables still make up a small portion of its energy mix. Without clear long-term absolute emissions reduction targets, PAM may face challenges in its transition to a low-carbon economy.

Innovation: PAM invests in innovative technologies and renewable energy, but progress is modest relative to its total operations. While it improves on operational metrics like energy consumption per employee, the lack of transparency in specific figures makes it difficult to fully assess progress. The company needs an ambitious and clear innovation strategy, including a firm commitment to R&D in renewable energy, to adapt to regulatory and social demands for sustainability and reduce its carbon footprint.

Social

Workforce: The company places a high priority on employee safety and satisfaction, fostering a healthy and diverse work environment. The company has significantly reduced workplace risks, with zero fatalities reported in recent years. However, diversity remains a critical area as 85% of the employees are male, and the lack of specific goals for achieving gender parity limits transparency. There is also limited information on the inclusion of people with disabilities, making it difficult to assess the effectiveness of their inclusion strategies. While the company promotes internal development and retention through training, it should establish formal metrics to track employee advancement and the effectiveness of training programs.
Human rights: This commitment is primarily expressed through its Code of Business Conduct, which promotes respect, dignity, and non-discrimination. The company also offers an ethics hotline for employees to report irregularities, enhancing accountability. PAM conducts regular audits of its suppliers, but it would be helpful if they published the percentage of suppliers audited and the results of these audits. Additionally, the company takes a proactive approach to respecting the rights of the communities where it operates, with consultation and impact processes.

Community: Social responsibility is key to its business model, and the company has made significant investments in its communities. In 2022, it invested about USD 1.2 million in community projects, benefiting over 1,500 students through scholarships and mentorship programs. The company also supports vulnerable groups through corporate volunteer activities and partnerships with civil society organizations, improving local infrastructure and access to basic services.

Product responsibility: PAM ensures the quality and safety of its products and services, holding international certifications such as ISO 9001, ISO 14001, and ISO 45001. The company has also implemented advanced systems to monitor and mitigate negative impacts during product distribution, improving logistics efficiency and reducing emissions.

Corporate Governance

Management: PAM operates under a corporate governance framework emphasizing transparency, ethics, and responsible risk management. The board of directors includes 50% independent members, ensuring impartial oversight and diverse perspectives. Audit and remuneration committees oversee compliance and align management compensation with KPIs such as financial metrics, operational efficiency, and sustainability targets. However, compensation details are not disclosed. PAM provides detailed disclosures in its quarterly results, including governance practices, and holds regular meetings with shareholders. The company has a robust risk management system, conducting regular risk assessments and stress tests. It also promotes ethical conduct through a Code of Ethics and regular compliance training.

Shareholders: PAM prioritizes fair treatment of all shareholders, protecting minority investors from hostile takeovers through preferred shares and defensive mechanisms in its bylaws, such as staggered board elections and voting rights limitations. Minority investors can challenge decisions they consider harmful, promoting accountability. PAM reports no conflicts of interest between majority and minority shareholders.

CSR Strategy: Corporate Social Responsibility is integrated into PAM's strategic decisions, balancing financial, environmental, and social factors. The company's Sustainability Council and Integrated Management System ensures alignment with sustainability goals, including social investments, carbon footprint reduction, and efficiency improvements. While PAM's CSR efforts are commendable, it could enhance transparency by conducting third-party audits of social investments and emissions reduction. Expanding reporting would improve accountability and provide stakeholders with clearer insights.

	Pillar	Weight	Score	Weighted Score	Final Score
Environmental 40%	Resource	0,133	0,5	0,07	0,167
	Emissions	0,133	0,4	0,05	
	Innovation	0,133	0,35	0,05	
Social 30%	Workforce	0,075	0,55	0,04	0,188
	Human Rights	0,075	0,65	0,05	
	Community	0,075	0,7	0,05	
	Product Resp	0,075	0,6	0,05	
Governance 30%	Management	0,100	0,7	0,07	0,195
	Shareholder	0,100	0,6	0,06	
	CSR	0,100	0,65	0,07	
Total Score					0,549

The SPICE rating system and "Beta Approach" from PRI were applied to adjust the company's valuation integrating its ESG factors performance.

Investment Risks

R1. Domestic macroeconomic context

Following Javier Milei's election in December 2023, Argentina faces uncertain macroeconomic outcomes as the administration aims to curb inflation through fiscal reforms. Indicators like slowing inflation and growing reserves suggest progress, but the period through mid-2025, leading to parliamentary elections, remains critical. Argentina's stability is vulnerable to political or external shifts, and failure to achieve fiscal balance or tariff deregulation could hurt PAM's revenue from regulated contracts. Despite sovereign risk trending down, Argentina remains a highly indebted nation, as it faces over USD 18 billion in sovereign debt obligations due 2025 as well as other bilateral arrangements with international organizations. Failure to meet these could reverse sovereign risk gains, and negatively affect PAM's valuation and debt capacity.

Argentina's country risk - JPMorgan EMBI +

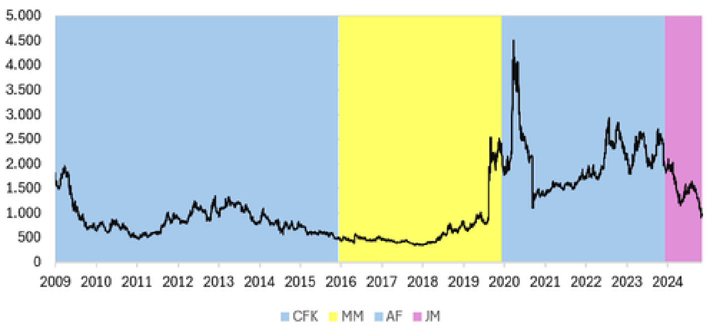


Fig. 15 - Source: Team Elaboration based on Rava Bursatil data

R2. FX Dynamics: Market Controls and Volatility

PAM's regulated pricing in generation and O&G is largely linked to USD, minimizing immediate concerns over FX volatility. However, a shift from USD to ARS in contracts could expose PAM to local inflation and currency risk, destabilizing real-term revenue.

Currency controls might also restrict access to USD for imports and capital expenditures, affecting E&P projects. Notably, the government's 2020 decision to block corporate USD access amid a macroeconomic crunch remains a precedent that underscores the risk of such policies being reimposed. Should similar restrictions occur, it would significantly hinder corporate debt servicing, erode confidence in Argentine corporate bonds, and exacerbate downside risks to PAM's dividend distributions and reinvestment capacity, further pressuring ADR valuations and market perception.

R3. Infrastructure Expenditures (Public & Private)

Argentina's government policy favors private over public infrastructure investment, leaving critical areas like transmission and pipelines underfunded. PAM's Rincón de Aranda ramp-up depends on projects like DUPLICAR and Vaca Muerta Sur, aiming to double and tenfold increase oil transport capacity, respectively. Delays in these projects would limit PAM's ability to monetize increased output. Without sufficient government incentives, the private sector may need to increase its capital spending to close infrastructure gaps or restrict growth to current capacities.

Oldelval Duplicar+
COD 1H25
Guaranteed capacity: **8 kbpd**
Additional agreed capacity:
2025-26: **12 kbpd**

Vaca Muerta Oil Sur
Guaranteed capacity: **50 kbpd**
25 kbpd by 2H26
25 kbpd by 2H27

R4. M&A Opportunities and Diversification

While large M&A opportunities are unlikely in the short term, other companies such as YPF, Glencore, Ganfeng Lithium, and Lithium Americas are increasingly exploring the mining sector, particularly lithium and copper, in line with the national strategy to drive mining exports. This trend could serve as a model for PAM's diversification into high-growth sectors, especially if it hits growth limits due to infrastructure constraints. If M&A becomes essential for expansion, PAM could face risks from antitrust regulations and potential inefficiencies in mismanaged acquisitions.

R5. Concessions and PPA Termination

A significant portion of PAM's business operates under public concessions. HIDISA's concession expired in October 2024 and HINISA's extension expires in November 2024. Both concessions have a transition period, allowing PAM to maintain operations while awaiting new terms. While there are no immediate risks due to the historical consistency of renewals, the maturity of PPAs indicates that larger contracts will expire after 2030 (appendix II), creating future renewal risks. PAM's renewable energy assets offer a potential mitigating factor by allowing private PPAs, which, despite offering lower tariffs than CAMMESA, would enable dollar denominated revenue and enhance stability through private sales, reducing reliance on government contracts.

R6. International Prices of Commodities (O&G)

As explained previously, the outlook for oil prices in the mid to long term is uncertain and driven by a mix of factors. The development of the Rincón de Aranda block is expected to make the oil business surpass gas and generation in both revenue and EBITDA composition by 2027. Additionally, gas exports are expected to surpass local gas sales by 2035.

In this context, PAM's exposure to more volatile international oil prices is deemed to increase with time. In the same way, deregulation of local oil market prices will mean further exposure of revenue to international prices, which could affect PAM's businesses profitability.

R7. Local Prices of Commodities (O&G)

PAM is projecting that 100% of its oil production will be sold at export parity, reducing its exposure to local regulated oil prices. Meanwhile, 80% of the company's total gas production is committed to Plan Gas programs through 2030, mitigating price fluctuations in the gas market.

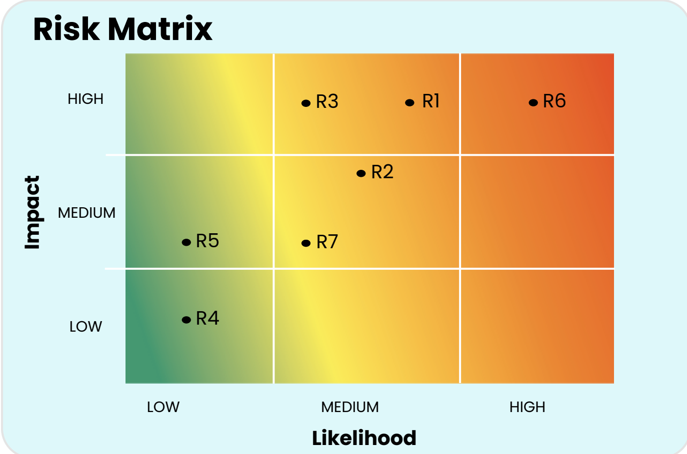


Fig. 16 - Source: Team elaboration

Financial Analysis

Financials

This financial analysis examines PAM's core segments, Generation and Oil & Gas, which drive the company's profitability and strategic growth. The petrochemical segment, inherited through the Petrobras Argentina acquisition, is excluded as its contribution to EBITDA—less than 2%—and its 10% average margins are too minor to significantly influence PAM's overall financial performance.

Revenue by Segment

Oil & Gas

In 2024, the 9 month sales reached USD 596 million, a 9% increase compared to 2023 and a 21% increase compared to 2022 9 month sales.
In 2023, full year sales reached USD 666 million, a 42% increase compared to 2021 and 3% higher than in 2022.
To better understand growth in this segment, it is essential to analyze both volume and price trends for gas and oil.
Gas sales accounted for 80% of the segment's revenue. Volumes increased from 8.1 MMm3/d in 2021 to 10.2 MMm3/d in 2023, and 13.1 MMm3/d as of Q3 2024**,** with El Mangrullo contributing over 50% of total production. This volume growth until 2023 added USD 124 million to total sales since 2021. Over the same period, price increases contributed an additional USD 67 million, with prices rising from USD 3.6 to USD 4.2 per MMbtu. This increase is attributed to commitments under the Gas.Ar Plan, export contracts to Chile, and further developments in El Mangrullo and Sierra Chata. Within this framework, as of Q3 2024, 46% of PAM's gas deliveries were allocated to distributors and 40% to thermal dispatch, both under the Gas.Ar Plan. An additional 7% supplied the industrial and spot markets, 3% was exported, and the remainder was used as feedstock for the company's petrochemical plants.

For oil, it is important to consider that PAM's oil sales consist mainly of small quantities of liquids and other associated products from its gas fields. Consequently, oil production from 2021 to Q3 2024 showed only slight variations, increasing from 4.6 to 5 kbpd (same as full year 2023) and contributing USD 11 million to total segment revenue. Price variations added another USD 11 million, with prices rising from USD 59 per barrel in 2021 to USD 66 per barrel in 2023, and USD 70 per barrel as of Q3 2024 . With its new development at Rincón de Aranda, PAM aims to become a major oil producer, with oil representing 30% of the company's total revenue and potentially over 50% of the segment, depending on price levels.
For the gas segment, 65% of PAM's production is tied to competitive Gas.Ar contracts. With the reversion of Gasoducto Norte and the expansion of Gasoducto Perito Moreno (formerly "Gasoducto Presidente Néstor Kirchner"), production volumes may rise aligning with normal revenue growth. However, by 2029, PAM's focus shifts to expanding its oil operations at Rincón de Aranda, targeting crude production of 45 kbpd. Assuming an oil price of USD 60 per barrel, the Oil & Gas segment could see balanced contributions from gas and oil, with total revenues potentially reaching USD 1.7 billion.

Oil & Gas price and volume effect - MM of USD

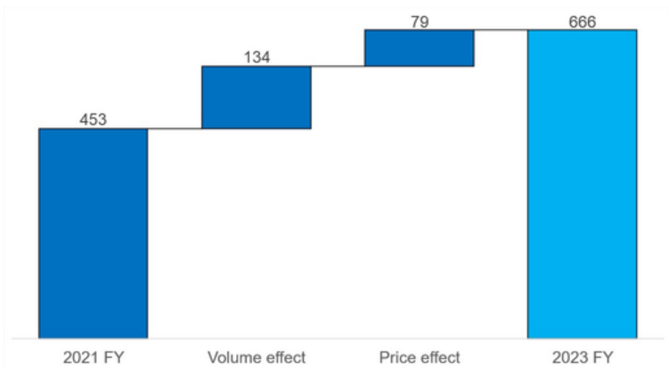


Fig 17 -Source: Team elaboration and company data

Generation

To analyze PAM's generation segment revenue over the past five years, it is essential to consider both the volume in GWh and the impact of installed capacity investments. Generation sales reached USD 648 million in 2023 and USD 505 million as of Q3 2024. In terms of volume, PAM has grown at a rate of approximately 5% annually due to these capacity expansions.
With volume growing at a nearly constant rate, generation segment revenue has largely been determined by the price per MWh. Price variations across generation sources are significant, but the segment is particularly sensitive to thermal generation prices.

YEAR	Thermal Generation (GWh)	Thermal Price (US$/MWh)	Wind Generation (GWh)	Wind Price (US$/MWh)	Hydro Generation (GWh)	Hydro Price (US$/MWh)	TOTAL (GWh)
2019	13.172	55	450	62	1.960	38	15.582
2020	13.256	45	480	65	1.814	39	15.550
2021	13.722	47	580	70	1.876	40	16.178
2022	13.880	39	1.000	70	2.196	23	17.076
2023	14.500	34	1.200	72	2.278	24	17.978
3Q2024	**15.074**	**35**	**844**	**72**	**1.641**	**15**	**17.559**

Fig. 18 - Source: Team Elaboration and company data

Annual sales in this segment currently range around USD 650 million. While wind generation has seen a 27% compound annual growth rate (appendix X) due to recent acquisitions and favorable pricing, this increase was insufficient to fully offset declining thermal generation prices, which fell by 40% over the past five years and 15% in the past three years.
In essence, volume growth in the generation segment has helped to compensate for the decline in MWh prices in recent years. Looking forward to 2029, generation revenue will be affected due to the expiration of PPA's and compensated with volume growth.

Cost Structure by Segment

Oil & Gas

Lifting costs
Between 2019 and 2021, PAM faced rising lifting costs due to inflation and the devaluation of the Argentine peso, which increased operational expenses. In response, the company focused on improving efficiency in key fields like El Mangrullo and Sierra Chata. Despite these efforts, external economic pressures kept costs elevated. The implementation of the Gas.Ar Plan brought some relief, enabling PAM to stabilize costs through investments in processing and transportation infrastructure. Currently, PAM's lifting cost averages a competitive USD 6 per barrel across its Oil & Gas operations in Q3 2024. At Rincón de Aranda, lifting costs are estimated at USD 22 per barrel for as of Q3 2024, mainly due to evacuation via trucking, but significant investments in a Central Processing Facility (CPF) aim to reduce this to below USD 5 per barrel by 2027. The CPF will centralize crude processing, streamline logistics, and optimize transportation, driving down costs efficiently.

Drilling costs
As of 2024, PAM's average development and drilling cost is approximately USD 18 million per well. However, the company expects to reduce this cost to USD 15 million by 2027 through the implementation of a more standardized production model, which will increase drilling and completion efficiencies and reduce per-well costs.

Generation

Structure & Operating costs
Structure costs in the generation segment rose to USD 50 million in 2023, representing a 28% increase from 2022, driven by investments in new capacity and Argentina's challenging economic context. Adjustments in 2024 helped limit structural costs to USD 39 million, showing improved cost control.
Operating costs rose to USD 88 million in Q3 2024, reflecting a decline in delayed CAMMESA payments and the associated penalty interest, which typically reduce overall costs by offsetting increases in key expenses such as wages and maintenance.
PAM's net operating cost per GWh remains stable, showing a decrease to USD 13.1 per MWh in 2024 compared to 14.1 2023. This ratio is expected to normalize as CAMMESA's payments stabilize further, as explained in previous paragraph.

Margins

Oil & Gas

The adjusted EBITDA from PAM's Oil & Gas segment currently represents ~40% of total EBITDA. With approximately 90% of the segment's revenue derived from gas sales, this has enabled PAM to maintain more stable pricing, allowing a focused approach on production and cost efficiency. In 2023, PAM achieved an adjusted EBITDA of USD 341 million, and USD 310 million as of Q3 2024, resulting in a 52% margin on sales—slightly below the same period previous year. Access to the Chilean export market, competitive pricing under the Gas.Ar plan, and firm long-term contracts have supported PAM's ability to maintain healthy EBITDA margins of 50% to 55% in recent years, excluding the pandemic period.
Looking ahead to 2029, these margins may experience greater fluctuations. If crude output increases to the targeted 45 kbpd, segment margins will likely become more sensitive to Brent prices, alongside greater variability in domestic gas prices. In a base-case scenario with Brent at USD 60 per barrel, EBITDA could potentially reach over USD 800 million, maintaining current margin levels but with a higher contribution to total EBITDA.

Generation

In the mature power generation segment, cost optimization remains crucial for margin improvement. Currently, this segment contributes 48% of total EBITDA with a 65% margin on sales.
In Q3 2024, the gross margin is USD 22.6 per MWh, adjusted to average price and production cost. Compared to 2023 margins were between USD 20-23 per MWh. This stable gross margin underscores PAM's effective cost control in generation, particularly in managing fuel supply for thermal power.

Working capital

PAM's working capital is heavily dependent on collections from CAMMESA, whose payment delays had a significant impact in the past year. Payment in bonds for December 2023 and January 2024 resulted in a USD 53 million loss, of which USD 23 million was due to penalty interest. As a result, the accounts receivable turnover period extended to approximately 60 days. Looking forward, with payment schedules anticipated to normalize, this period is expected to return to a standard 45 days. This improvement will enhance PAM's cash generation capacity and directly reduce net debt.

CAPEX

PAM's investments increased by over 40% last year, reaching USD 758 MM. With a strategic focus on expanding its oil business, the Rincón de Aranda development has required higher CAPEX intensity, expected to continue at elevated levels of around USD 600 million per year until 2027 to meet targeted production levels. Once the Central Processing Facility (CPF) is completed, a slowdown in capital expenditures is anticipated in 2028 onwards, with annual maintenance CAPEX stabilizing at approximately USD 250 million.
As previously mentioned, while debt instruments have been issued to fund this investments, a significant portion of capital came from company cash flow, underpined by the strength of the Generation segment.
For the remaining business units, the company does not anticipate major fluctuations in spending, maintaining a consistent CAPEX level of USD 600 million annually to support operational stability.

Debt

As of Q3 2024, PAM's total debt stood at USD 1,725 billion, comprising corporate bonds, financial loans, other credit facilities, and bank overdrafts.

Recently PAM conducted a debt rollover of USD 397 million due in January 2027 (at a fixed rate of 7.5%) with proceeds from a new issuance of USD 410 million, due in September 2031 at a fixed rate of 7.95%.
This transaction significantly strengthened PAM's debt profile by easing near-term maturities, extending duration, and lowering net debt to a record low of USD 539 million with a cash position of USD 1.2 billion as of Q3 2024, providing room to support substantial investments in Rincón de Aranda.
Looking ahead to 2029, PAM is committed to maintaining a Net Debt to EBITDA ratio of 1x. With this target in mind, and given the current debt maturity profile, improving collection rates from CAMMESA, and stable cash levels, this ratio appears both achievable and reasonable.

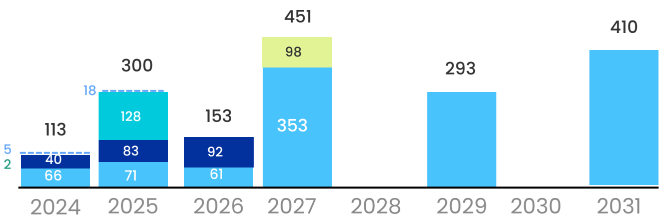


Fig. 19 - Source: Team Elaboration based on 2024 report

Valuation

Discounted Cash Flow (DCF) Valuation

The DCF model serves as the primary valuation method for PAM, designed to reflect each business segment's contribution— Power Generation, Petrochemicals and Oil & Gas. Given PAM's diversified operations, the model captures distinct cash flow drivers across segments, offering a detailed view of its potential value. Valuation incorporates historical data and projections, estimating the present value of expected cash flows, with scenario analysis providing a valuation range.
A base case with segment-specific assumptions is accompanied by optimistic and pessimistic scenarios, illustrating upside and downside risks across Key Value Drivers.

Key Value Drivers

Gas prices
Gas plays a significant role in the revenue structure, with half of sales under Argentina's Plan Gas program, priced in the USD 2–4 per MMBtu range. Sensitivity analysis addresses price impact from domestic policy shifts and global benchmarks, given the potential for alignment with international markets. For these projections, US Energy Secretary estimates were used to illustrate different outcomes.

Oil Production
Targets for Rincón de Aranda's output are integrated to capture scenario-based impacts on cash flow.

Oil Prices
Oil price volatility directly impacts PAM's Oil & Gas revenue. Starting from the latest price on Dec-24 Brent future, the base case assumes USD 60 per bbl, aligned with company guidance. The optimistic scenario assumes favorable global conditions with oil prices above USD 80 per bbl, while the pessimistic scenario models price declines to below USD 60 per bbl, both based on projections from the U.S. Energy Secretary. These price adjustments capture revenue variability across scenarios.

Appendix IV shows the variations for each of these value drivers.

Macroeconomic Scenarios

Given Argentina's high-risk environment, three country risk premium scenarios are modeled to reflect potential economic stability and volatility risks. From the actual starting point of 800 bps (base case), policy reform reduces country risk by 100 bps annually to 500 bps by 2027. The optimistic scenario assumes faster reform (CRP reaching 400 bps by 2027), while the pessimistic case reflects a growing country risk that reaches 1100 bps in 2027.

Country Risk Premium estimates

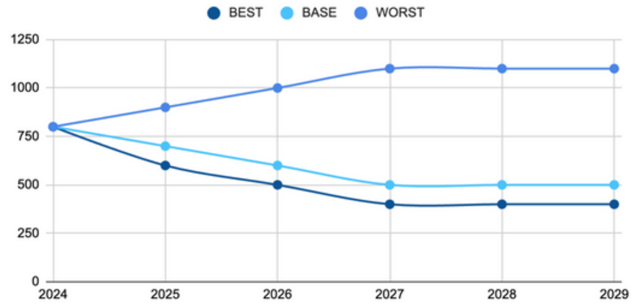


Fig. 20 Source: Team elaboration and estimates

Terminal growth rates are set at 2.6% in the base case, 3.5% in the optimistic case, and 1.7% in the pessimistic case, the three of them aligned to IMF GDP growth data for Argentina, Emerging markets and Developed economies.

Weighted Average Cost of Capital (WACC)

The WACC calculation integrates a 4% U.S. Treasury 10Y rate, a 0.92 adjusted beta (appendix VI), and a 3.96% equity risk premium, along with country risk adjustments. Beta was adjusted as per the Beta approach for PRI given the ESG score for PAM.
The cost of debt is based on PAM's Class 21 bond yield of 7.95%, applying a 21% tax rate. These inputs reflect a capital structure suited to PAM's Argentina-focused operations.
WACC for year one is 15.30% and as country risk premium evolves, the cost of capital evolves over time.

Base Case Scenario

In the base case, Oil & Gas leads revenue growth with production ramp-up at Rincón de Aranda achieving 45 kbpd in 2027 and stable oil prices set at USD 60 per bbl as per the company's guidance. Gas production increases with expanded export capacity and exposure to international gas price. With moderate economic stabilization, base-case revenues rise by 80% from 2024 to 2029, driven by oil expansion. Generation volumes are kept at stable levels given the generation infrastructure limitations. Expired PPAs are projected to renew at lower prices, softening energy rates.
EBITDA margins reflect O&G's increased share, from 43% in 2023 to 65% by 2029. Capex remains high at over USD 600 million annually through 2027 for Rincón de Aranda development, tapering post-expansion.
As explained, country risk premium decreases gradually from 800 bps to 500 bps in 2027 and TGR of 2.6% is applied as estimated for Argentina by the IMF.
The stakes in TGS and TRAN were incorporated by weighting each company's enterprise value according to PAM's ownership percentage, adding these to the compay's own EV.
The base-case DCF valuation yields a total EV of $8.8 billion, with a target ADR price of $105.3 contemplating the company's operations and interests in subsidiaries after accounting for cash, debt. A Holding Company discount of 30% was applied to reflect market benchmarks for similar holding companies, which typically range between 20% and 40%. This percentage was chosen as a midpoint within the range, based on empirical evidence and references.

Alternative Scenarios

Optimistic Case:

Favorable conditions enhance PAM's cash flow generation:

- Gas Prices: Domestic prices align more closely with international markets, reaching the upper end of USD 4 per MMBtu, bolstering revenue in the Gas segment.
- Oil Production: The Rincón de Aranda project exceeds production targets, with a 10% surplus, achieving peak capacity earlier than expected.
- Oil Prices: Global demand drives oil prices above USD 80 per barrel, significantly boosting PAM's Oil & Gas revenue.

Macroeconomic Environment: Accelerated reform reduces the country risk premium to 400 bps by 2027, resulting in a lower WACC and enhancing the present value of cash flows. With a terminal growth rate of 3.5%, this scenario projects strong revenue growth across segments, yielding a substantial upside in ADR valuation due to higher cash flows and a lower discount rate.
The optimistic scenario reveals a price target of $190.30 per ADR with nearly a 150% increase from its actual price.

Pessimistic Case:

Adverse conditions challenge PAM's growth and valuation:

- Gas Prices: Domestic gas prices hover at the lower end of USD 2 per MMBtu due to weak demand, constraining revenue growth in the Gas segment.
- Oil Production: Production at Rincón de Aranda encounters delays and logistical setbacks, leading to a 15% shortfall from targets, which raises per-unit costs and limits revenue potential.
- Oil Prices: Global oversupply and weaker demand push prices below USD 60 per barrel, restricting cash flow growth from oil production.

Macroeconomic Environment: Argentina faces limited reforms, increasing the country risk premium to 1200 bps by 2027. Higher WACC reduces the present value of cash flows, while a terminal growth rate of 1.7% reflects low economic growth. This scenario illustrates the potential downside for PAM, with valuation pressures resulting from both macroeconomic instability and sector-specific challenges.
The pessimistic scenario provides a price target of $ 59.70 per ADR with a downside from the actual price of nearly 22%.
By assessing these scenarios alongside the base case, the potential impact of market, regulatory, and economic shifts is captured on PAM's valuation, providing a well-rounded perspective on growth prospects across varying conditions. Applying a 70% weight for the base, 10% for the pessimistic and 20% for the optimistic scenarios, the compounded average target price is $117.74 per ADR.

Peer Multiple Valuation Analysis

To complement the DCF valuation, a multiples analysis was conducted comparing PAM to Latin American peers in energy generation and oil & gas, providing insights into its market positioning and relative valuation.
For a more robust multiples valuation the company's current consolidated multiple was used as a baaseline. This methodology allowed for the decomposition and recalibration of multiples for each business unit reflecting their distinct contributions to value creation. By deriving unit-specific multiples, the analysis facilitates a more precise comparison with industry peers, ensuring alignment with the operational and financial dynamics of each segment.

Oil & Gas peers

	PAMP O&G	ENIC	EC	YPF SA	PBR	Average
P/E	23,70	6,06	4,44	8,59	5,60	6,17
Price/Sales	1,58	0,70	0,50	1,13	0,89	0,81
EV/EBITDA	4,39	5,88	3,36	4,30	2,98	4,13

Generation peers

	PAMP GEN	COPEL	CEPU	AES	Average
P/E	4,39	11,42	13,29	7,26	10,66
Price/Sales	3,24	1,21	4,40	0,70	2,10
EV/EBITDA	5,97	6,89	10,63	16,14	11,22

Conclusion Peer Valuation

PAM's multiples for both the Oil & Gas and Generation segments are consistently above the industry average except from the P/E and EV/EBITDA for generation peers, reflecting its relative premium positioning. The average target price to match O&G peers is $37.5 while the price for Generation peers is $126.1 given the considerable EV/EBITDA discount. By weighting these averages by the expected EBITDA contribution in 2025 by each segment (54% O&G and 46% for Generation) a final target price of $78 is obtained.

EV/EBITDA Multiple Valuation

A valuation using the EV/EBITDA multiple derived from the DCF model's forecasted EBITDA was conducted to provide an alternative perspective on PAM's enterprise value. By applying the current market EV/EBITDA multiple of 5.96x and assuming a Net Debt/EBITDA ratio of 1x, the analysis integrates detailed cash flow projections with a market-based profitability metric. This approach cross-validates the DCF model, offering a complementary view of PAM's growth potential and income generation. The resulting theoretical 2025 share price of $83.76. It is also noticiable the promising price trajectory as operating income increases over time supported by ongoing oil investments and a solid financial position, appealing to long-term investors.

	2024E	2025E	2026E	2027E	2028E	2029E
EBITDA / NET DEBT	792	920	1.254	1.294	1.319	1.369
EV	4.723	5.485	7.471	7.713	7.863	8.157
MARKET CAP	3.931	4.565	6.218	6.418	6.544	6.788
Share Price	72,12	83,76	114,09	117,77	120,07	124,56
Upside	-6%	10%	49%	54%	57%	63%

Monte Carlo simulation

A Monte Carlo simulation was performed to account for uncertainty in key variables, such as commodity prices, WACC and production levels. This approach generated a range of potential valuation outcomes, providing a clearer understanding of risks and opportunities under varying market conditions. Obtaining the following results:

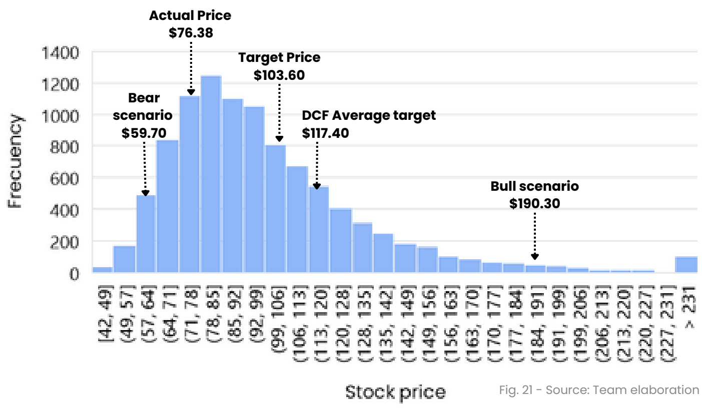
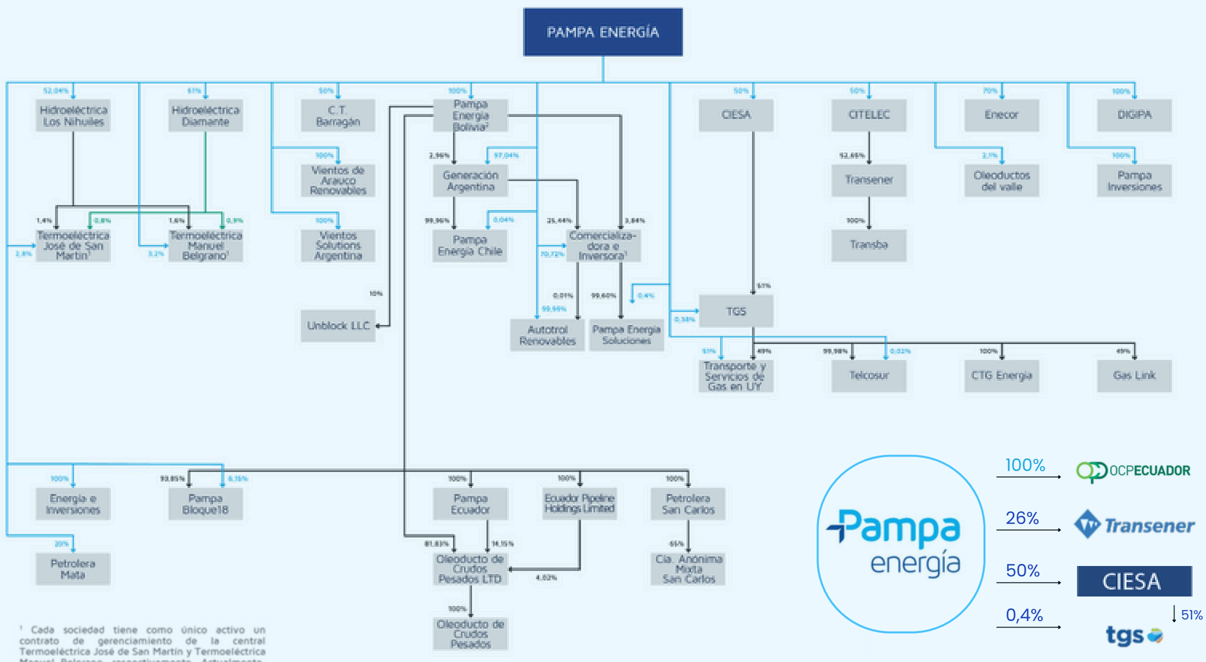


Fig. 21 - Source: Team elaboration

Appendices

Appendix I: Company structure



[1] Cada sociedad tiene como único activo un contrato de gerenciamiento de la central Termoeléctrica José de San Martín y Termoeléctrica Manuel Belgrano, respectivamente. Actualmente, ambos activos están bajo la titularidad de un Fideicomiso. [2] Comercializadora e Inversora y Generación Argentina poseen el 0,00003% cada una de Pampa Energía Bolivia. [3] La sociedad se encuentra en proceso de escisión-fusión con fecha efectiva a partir del 1/1/2024.

Fig. 22 - Source: Company data

Appendix II: PPAs days to expiration

PPA's EBITDA in USD million, installed capacity in MW and outstanding life (days)

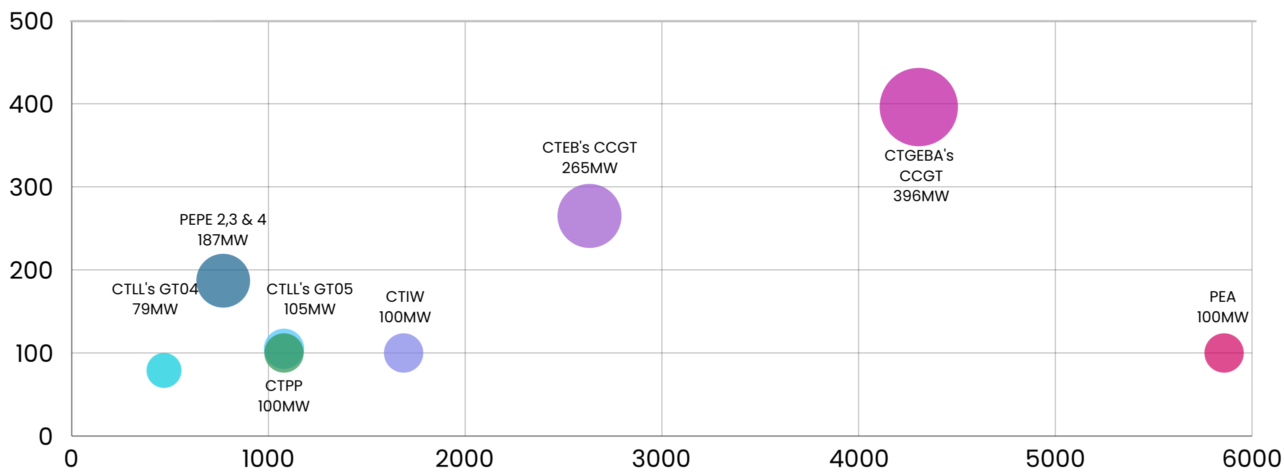


Fig. 22 - Source: Company data

Appendix III: Vaca Muerta dispatch projects

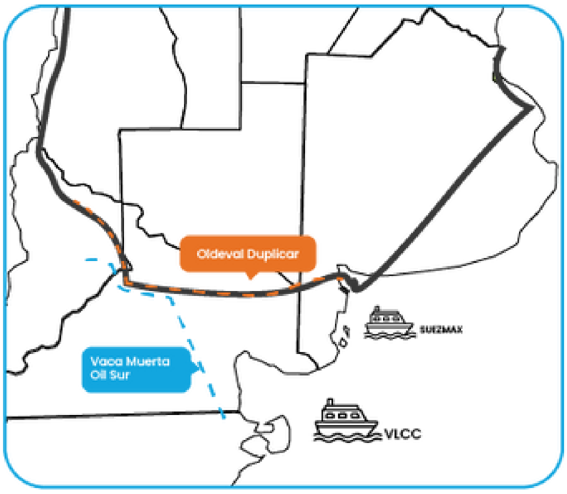


Fig. 23 - Source: Company data

Oldelval Duplicar+
COD 1H25
Guaranteed capacity: **8 kbpd**
Additional agreed capacity:
2025-26: **12 kbpd**

Vaca Muerta Oil Sur
Guaranteed capacity: **50 kbpd**
25 kbpd by 2H26
25 kbpd by 2H27

Appendix IV: Prices & production estimates

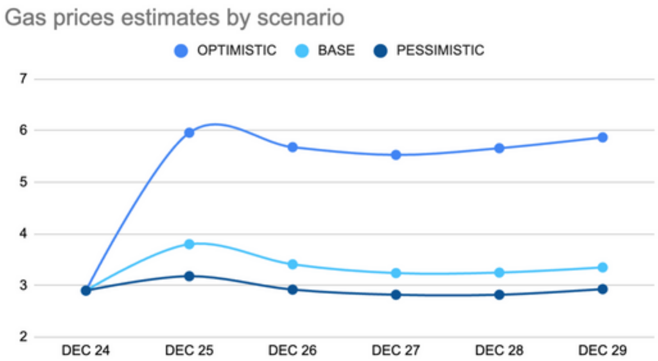


Fig. 24 - Source: Team Elaboration based on US Energy Secretary

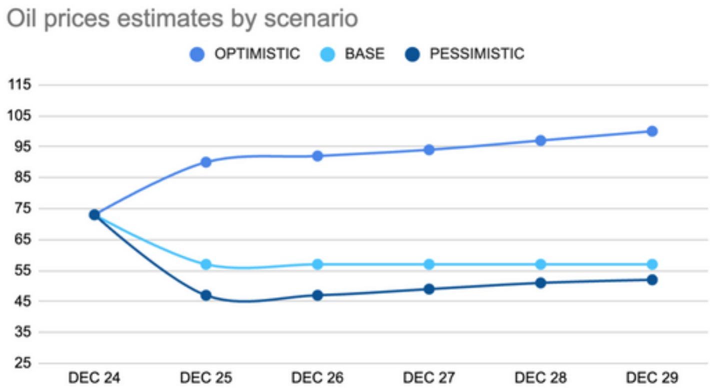


Fig. 26 - Source: Team Elaboration based on US Energy Secretary

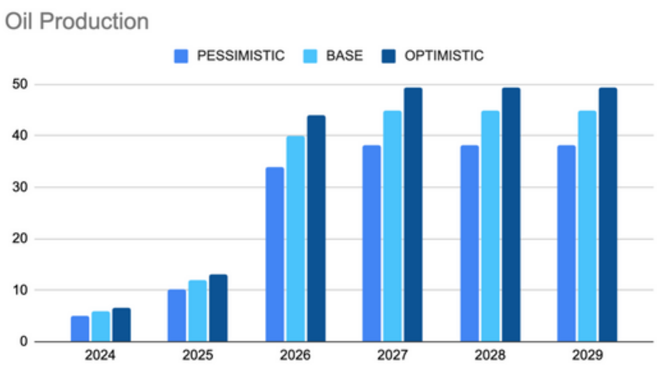


Fig. 25 - Source: Team Elaboration and Estimates based on company data

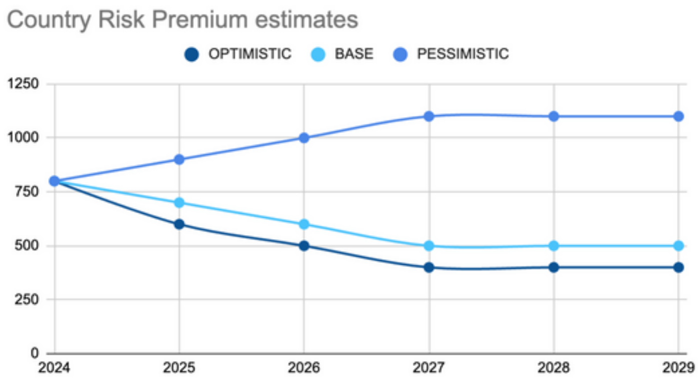


Fig. 27 - Source: Team Elaboration and Estimates

Appendix V: Porter's five forces

Market rivalry: Intense

In energy generation, Pampa competes with major players ,such as CEPU, in a highly regulated market dominated by CAMMESA's pricing and payment controls. In oil & gas, its lower cost acquisition of the Rincón de Aranda block strengthens its position in shale production, though expanding into global markets introduces new competitive pressures.

Threat of new entrants: Low

The threat of new entrants is low due to high barriers to entry, including significant capital requirements, regulatory complexities, and the need for technical expertise in PAM's business segments.

Bargaining power of customers: High

Customer power is high due to reliance on CAMMESA payments in energy generation and global price fluctuations in oil & gas. PPAs and export diversification mitigate risks but introduce new pricing challenges

Threat of substitute: Growing

PAM faces a growing threat of substitutes primarily stemming from the ongoing global transition toward renewable energy sources, including wind, solar, and hydropower. This trend poses a risk to PAM's conventional energy offerings. However, PAM has recognized this shift and has invested in alternative energy sources, diversifying its portfolio to mitigate the impact of this transition.

Bargaining power of suppliers: Moderate

PAM relies on fuel suppliers for thermal plants and international suppliers for drilling technology, exposing it to cost and currency risks. However, long-term contracts and integration into TGS and Transener reduce supplier dependency and enhance competitiveness.

Appendix VI: Valuation

WACC and Beta

WACC	
Market Cap	4.163
% Equity	74,19%
Cost of Equity	7,65%
RF rate	4,00%
Beta	0,92
Market Risk Premium	3,96%
Theorical Country Risk Premium	8%
Debt	1.448
% of debt	25,81%
Cost of debt	7,95%
Tax rate	21%
Total	5.611
WACC	15,30%

	Damodaran Beta	Revenue contribution	Weighted Beta	
Utilities	0,58	28%	0,2	
Oil and Gas	0,93	45%	0,4	
Chemical	1,10	27%	0,3	
			0,9	Total Weighted Beta
			+ 5%	ESG Beta Adjustment
			0,92	Final Beta

For Beta calculation, Damodaran's site Betas were used and weighted upon the latest data available for each segment's revenue contribution for PAM.
Later the Beta obtained was adjusted based on ESG Scoring.

Appendix VII: Financials and DCF

Base Case

Revenue	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
Generation	604,00	819,00	559,00	656,00	663,00	648,00	576,5	579,2	615,3	619,7	613,7	604,7
% of total sales	*42%*	*61%*	*52%*	*44%*	*36%*	*37%*	*32%*	*29%*	*23%*	*22%*	*22%*	*20%*
O&G	458,00	178,00	227,00	340,00	529,00	563,00	665,8	874,4	1461,9	1594,9	1673,0	1783,7
% of total sales	*32%*	*13%*	*21%*	*23%*	*29%*	*33%*	*37%*	*43%*	*56%*	*57%*	*59%*	*60%*
Petrochemicals	338,00	323,00	267,00	490,00	617,00	507,00	530,4	552,5	540,4	551,9	559,3	561,5
% of total sales	*24%*	*24%*	*25%*	*32%*	*34%*	*29%*	*30%*	*27%*	*21%*	*20%*	*20%*	*19%*
Holdings	36,00	20,00	20,00	22,00	20,00	14,00	11,9	10,9	9,7	8,3	7,0	6,1
% of total sales	*3%*	*1%*	*2%*	*1%*	*1%*	*1%*	*1%*	*1%*	*0%*	*0%*	*0%*	*0%*
Total	**1.436,00**	**1.340,00**	**1.073,00**	**1.508,00**	**1.829,00**	**1.732,00**	**1.784,70**	**2.016,95**	**2.627,34**	**2.774,87**	**2.853,05**	**2.956,09**
% Growth		*-7%*	*-20%*	*41%*	*21%*	*-5%*	*3%*	*13%*	*30%*	*6%*	*3%*	*4%*

Adj EBITDA	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
Generation	362,00	434,00	462,00	467,00	395,00	392,00	376,94	393,00	399,32	394,39	395,58	394,54
% of sales	60%	53%	83%	71%	60%	60%	65%	68%	65%	64%	64%	65%
% of total EBITDA	44%	57%	66%	52%	44%	49%	48%	43%	32%	31%	30%	29%
O&G	289,00	173,00	90,00	257,00	347,00	341,00	307,91	417,12	747,33	797,40	824,00	871,59
% of sales	63%	97%	40%	76%	66%	61%	46%	48%	51%	50%	49%	49%
% of total EBITDA	35%	23%	13%	28%	38%	43%	39%	46%	60%	62%	63%	65%
Petrochemicals	(23,00)	6,00	19,00	50,00	59,00	53,00	41,59	49,92	50,90	51,12	51,47	50,27
% of sales	-7%	2%	7%	10%	10%	10%	8%	9%	9%	9%	9%	9%
% of total EBITDA	-3%	1%	3%	6%	6%	7%	5%	5%	4%	4%	4%	4%
Holdings	193,00	145,00	127,00	131,00	107,00	16,00	62,21	52,31	43,79	34,96	27,85	27,72
% of sales	536%	725%	635%	595%	535%	114%	521%	480%	449%	420%	397%	453%
% of total EBITDA	24%	19%	18%	14%	12%	2%	8%	6%	4%	3%	2%	2%
Adj EBITDA	**821,00**	**758,00**	**698,00**	**905,00**	**908,00**	**802,00**	**788,64**	**912,35**	**1241,35**	**1277,87**	**1298,90**	**1344,12**
% of sales	57%	57%	65%	60%	50%	46%	44%	45%	47%	46%	46%	45%

Cash Flow Items	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
D&A	31,70	62,00	139,00	4,00	38,00	39,00	261,67	315,53	446,63	479,97	513,76	541,07
% of sales	2%	5%	13%	0%	2%	2%	15%	16%	17%	17%	18%	18%
% of Capex	7%	15%	112%	2%	9%	5%	37%	43%	60%	99%	131%	143%
Capex	455,00	426,00	124,00	206,00	416,00	758,00	714,88	736,42	738,75	484,59	393,41	377,78
% of sales	32%	32%	12%	14%	23%	44%	40%	37%	28%	17%	14%	13%
Change in NWC	(226,00)	52,00	(22,00)	(62,00)	(140,00)	(136,00)	(99,72)	(78,58)	(136,41)	(158,60)	(170,70)	(168,63)
% of sales	-16%	4%	-2%	-4%	-8%	-8%	-6%	-4%	-5%	-6%	-6%	-6%

DCF (USD MM)	2024E	2025E	2026E	2027E	2028E	2029E
Revenue	1.785	2.017	2.627	2.775	2.853	2.956
EBITDA	789	912	1.241	1.278	1.299	1.344
EBIT	527	597	795	798	785	803
Taxes	111	125	167	168	165	169
EBIAT	**416**	**471**	**628**	**630**	**620**	**634**
D&A	262	316	447	480	514	541
CapEx	715	736	739	485	393	378
Change in NWC	-100	-79	-136	-159	-171	-169
Unlevered FCF	**63**	**129**	**472**	**784**	**911**	**966**
WACC	15,30%	14,30%	13,30%	12,30%	12,30%	12,30%
PV of Unlevered FCF	**8**	**111**	**352**	**512**	**535**	**509**
Terminal Value	**10.224**					
PV of Terminal Value	**5.391**					
Enterprise Value	7.411					
TGS EV Stake	1.166					
TRAN EV Stake	236					
(+) Cash	834					
(-) Debt	1.448					
Equity Value	**8.199**					
Holding Discount Factor	30%					
Equity Value w/ Holding Discount	5.740					
ADR's	54,5					
Implied Share Price	**105,3**					

Optimistic Case

Revenue	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
Generation	604,00	819,00	559,00	656,00	663,00	648,00	576,5	579,2	615,3	619,7	613,7	604,7
% of total sales	*42%*	*61%*	*52%*	*44%*	*36%*	*37%*	*26%*	*23%*	*17%*	*15%*	*15%*	*14%*
O&G	458,00	178,00	227,00	340,00	529,00	563,00	1124,2	1413,5	2526,5	2822,6	3035,7	3291,8
% of total sales	*32%*	*13%*	*21%*	*23%*	*29%*	*33%*	*50%*	*55%*	*68%*	*71%*	*72%*	*74%*
Petrochemicals	338,00	323,00	267,00	490,00	617,00	507,00	530,4	552,5	540,4	551,9	559,3	561,5
% of total sales	*24%*	*24%*	*25%*	*32%*	*34%*	*29%*	*24%*	*22%*	*15%*	*14%*	*13%*	*13%*
Holdings	36,00	20,00	20,00	22,00	20,00	14,00	11,9	10,9	9,7	8,3	7,0	6,1
% of total sales	*3%*	*1%*	*2%*	*1%*	*1%*	*1%*	*1%*	*0%*	*0%*	*0%*	*0%*	*0%*
Total	**1.436,00**	**1.340,00**	**1.073,00**	**1.508,00**	**1.829,00**	**1.732,00**	**2.243,07**	**2.556,04**	**3.691,87**	**4.002,54**	**4.215,74**	**4.464,15**
% Growth		*-7%*	*-20%*	*41%*	*21%*	*-5%*	*30%*	*14%*	*44%*	*8%*	*5%*	*6%*

Adj EBITDA	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
Generation	362,00	434,00	462,00	467,00	395,00	392,00	376,94	393,00	399,32	394,39	395,58	394,54
% of sales	60%	53%	83%	71%	60%	60%	65%	68%	65%	64%	64%	65%
% of total EBITDA	44%	57%	66%	52%	44%	49%	38%	34%	22%	21%	20%	19%
O&G	289,00	173,00	90,00	257,00	347,00	341,00	519,88	674,27	1.291,52	1.411,19	1.495,16	1.608,47
% of sales	63%	97%	40%	76%	66%	61%	46%	48%	51%	50%	49%	49%
% of total EBITDA	35%	23%	13%	28%	38%	43%	52%	58%	72%	75%	76%	77%
Petrochemicals	(23,00)	6,00	19,00	50,00	59,00	53,00	41,59	49,92	50,90	51,12	51,47	50,27
% of sales	-7%	2%	7%	10%	10%	10%	8%	9%	9%	9%	9%	9%
% of total EBITDA	-3%	1%	3%	6%	6%	7%	4%	4%	3%	3%	3%	2%
Holdings	193,00	145,00	127,00	131,00	107,00	16,00	62,21	52,31	43,79	34,96	27,85	27,72
% of sales	536%	725%	635%	595%	535%	114%	521%	480%	449%	420%	397%	453%
% of total EBITDA	24%	19%	18%	14%	12%	2%	6%	4%	2%	2%	1%	1%
Adj EBITDA	**821,00**	**758,00**	**698,00**	**905,00**	**908,00**	**802,00**	**1000,62**	**1169,50**	**1785,53**	**1891,66**	**1970,05**	**2081,00**
% of sales	57%	57%	65%	60%	50%	46%	45%	46%	48%	47%	47%	47%

Cash Flow Items	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
D&A	31,70	62,00	139,00	4,00	38,00	39,00	382,13	458,34	706,83	778,26	858,35	923,51
% of sales	2%	5%	13%	0%	2%	2%	17%	18%	19%	19%	20%	21%
% of Capex	7%	15%	112%	2%	9%	5%	34%	41%	61%	107%	144%	161%
Capex	455,00	426,00	124,00	206,00	416,00	758,00	1.127,42	1.113,78	1.164,57	730,13	597,81	573,83
% of sales	32%	32%	12%	14%	23%	44%	50%	44%	32%	18%	14%	13%
Change in NWC	(226,00)	52,00	(22,00)	(62,00)	(140,00)	(136,00)	(125,34)	(99,58)	(191,68)	(228,77)	(252,23)	(254,65)
% of sales	-16%	4%	-2%	-4%	-8%	-8%	-6%	-4%	-5%	-6%	-6%	-6%

DCF (USD MM)	2024E	2025E	2026E	2027E	2028E	2029E
Revenue	2.243	2.556	3.692	4.003	4.216	4.464
EBITDA	1.001	1.170	1.786	1.892	1.970	2.081
EBIT	618	711	1.079	1.113	1.112	1.157
Taxes	130	149	227	234	233	243
EBIAT	**489**	**562**	**852**	**880**	**878**	**914**
D&A	382	458	707	778	858	924
CapEx	1.127	1.114	1.165	730	598	574
Change in NWC	-125	-100	-192	-229	-252	-255
Unlevered FCF	**-131**	**6**	**586**	**1.156**	**1.391**	**1.519**
WACC	15,30%	13,30%	12,30%	11,30%	11,30%	11,30%
PV of Unlevered FCF	**-16**	**5**	**446**	**770**	**847**	**838**
Terminal Value	**20.161**					
PV of Terminal Value	**11.125**					
Enterprise Value	14.031					
TGS EV Stake	1.166					
TRAN EV Stake	236					
(+) Cash	834					
(-) Debt	1.448					
Equity Value	**14.819**					
Holding Discount Factor	30%					
Equity Value w/ Holding Discount	10.373					
ADR's	54,5					
Implied Share Price	**190,3**					

Pessimistic Case

Revenue	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
Generation	604,00	819,00	559,00	656,00	663,00	648,00	576,5	579,2	615,3	619,7	613,7	604,7
% of total sales	*42%*	*61%*	*52%*	*44%*	*36%*	*37%*	*33%*	*31%*	*27%*	*25%*	*24%*	*23%*
O&G	458,00	178,00	227,00	340,00	529,00	563,00	621,8	697,8	1122,5	1257,4	1351,3	1467,2
% of total sales	*32%*	*13%*	*21%*	*23%*	*29%*	*33%*	*36%*	*38%*	*49%*	*52%*	*53%*	*56%*
Petrochemicals	338,00	323,00	267,00	490,00	617,00	507,00	530,4	552,5	540,4	551,9	559,3	561,5
% of total sales	*24%*	*24%*	*25%*	*32%*	*34%*	*29%*	*30%*	*30%*	*24%*	*23%*	*22%*	*21%*
Holdings	36,00	20,00	20,00	22,00	20,00	14,00	11,9	10,9	9,7	8,3	7,0	6,1
% of total sales	*3%*	*1%*	*2%*	*1%*	*1%*	*1%*	*1%*	*1%*	*0%*	*0%*	*0%*	*0%*
Total	**1.436,00**	**1.340,00**	**1.073,00**	**1.508,00**	**1.829,00**	**1.732,00**	**1.740,71**	**1.840,33**	**2.287,92**	**2.437,36**	**2.531,37**	**2.639,59**
% Growth		*-7%*	*-20%*	*41%*	*21%*	*-5%*	*1%*	*6%*	*24%*	*7%*	*4%*	*4%*

Adj EBITDA	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
Generation	362,00	434,00	462,00	467,00	395,00	392,00	376,94	393,00	399,32	394,39	395,58	394,54
% of sales	60%	53%	83%	71%	60%	60%	65%	68%	65%	64%	64%	65%
% of total EBITDA	44%	57%	66%	52%	44%	49%	49%	47%	37%	36%	35%	33%
O&G	289,00	173,00	90,00	257,00	347,00	341,00	287,56	332,87	573,83	628,65	665,57	716,94
% of sales	63%	97%	40%	76%	66%	61%	46%	48%	51%	50%	49%	49%
% of total EBITDA	35%	23%	13%	28%	38%	43%	37%	40%	54%	57%	58%	60%
Petrochemicals	(23,00)	6,00	19,00	50,00	59,00	53,00	41,59	49,92	50,90	51,12	51,47	50,27
% of sales	-7%	2%	7%	10%	10%	10%	8%	9%	9%	9%	9%	9%
% of total EBITDA	-3%	1%	3%	6%	6%	7%	5%	6%	5%	5%	5%	4%
Holdings	193,00	145,00	127,00	131,00	107,00	16,00	62,21	52,31	43,79	34,96	27,85	27,72
% of sales	536%	725%	635%	595%	535%	114%	521%	480%	449%	420%	397%	453%
% of total EBITDA	24%	19%	18%	14%	12%	2%	8%	6%	4%	3%	2%	2%
Adj EBITDA	**821,00**	**758,00**	**698,00**	**905,00**	**908,00**	**802,00**	**768,30**	**828,10**	**1067,84**	**1109,12**	**1140,46**	**1189,47**
% of sales	57%	57%	65%	60%	50%	46%	44%	45%	47%	46%	45%	45%

Cash Flow Items	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
D&A	31,70	62,00	139,00	4,00	38,00	39,00	250,11	268,74	363,67	397,96	432,42	460,81
% of sales	2%	5%	13%	0%	2%	2%	14%	15%	16%	16%	17%	17%
% of Capex	7%	15%	112%	2%	9%	5%	37%	44%	60%	95%	125%	137%
Capex	455,00	426,00	124,00	206,00	416,00	758,00	675,30	612,78	602,98	417,09	345,16	336,64
% of sales	32%	32%	12%	14%	23%	44%	39%	33%	26%	17%	14%	13%
Change in NWC	(226,00)	52,00	(22,00)	(62,00)	(140,00)	(136,00)	(97,26)	(71,70)	(118,79)	(139,31)	(151,45)	(150,57)
% of sales	-16%	4%	-2%	-4%	-8%	-8%	-6%	-4%	-5%	-6%	-6%	-6%

DCF (USD MM)	2024E	2025E	2026E	2027E	2028E	2029E
Revenue	1.741	1.840	2.288	2.437	2.531	2.640
EBITDA	768	828	1.068	1.109	1.140	1.189
EBIT	518	559	704	711	708	729
Taxes	109	117	148	149	149	153
EBIAT	**409**	**442**	**556**	**562**	**559**	**576**
D&A	250	269	364	398	432	461
CapEx	675	613	603	417	345	337
Change in NWC	-97	-72	-119	-139	-151	-151
Unlevered FCF	**81**	**170**	**436**	**682**	**798**	**850**
WACC	15,30%	16,30%	17,30%	18,30%	18,30%	18,30%
PV of Unlevered FCF	**10**	**143**	**308**	**415**	**407**	**363**
Terminal Value	**5.211**					
PV of Terminal Value	**2.226**					
Enterprise Value	3.862					
TGS EV Stake	1.166					
TRAN EV Stake	236					
(+) Cash	834					
(-) Debt	1.448					
Equity Value	**4.651**					
Holding Discount Factor	30%					
Equity Value w/ Holding Discount	3.256					
ADR's	54,5					
Implied Share Price	**59,7**					

Appendix VIII: ESG Scoring Methodology

	Pillar	Weight	Score	Weighted Score	Final Score
Environmental 40%	Resource	0,133	0,5	0,07	0,167
	Emissions	0,133	0,4	0,05	
	Innovation	0,133	0,35	0,05	
Social 30%	Workforce	0,075	0,55	0,04	0,188
	Human Rights	0,075	0,65	0,05	
	Community	0,075	0,7	0,05	
	Product Resp	0,075	0,6	0,05	
Governance 30%	Management	0,100	0,7	0,07	0,195
	Shareholder	0,100	0,6	0,06	
	CSR	0,100	0,65	0,07	
Total Score					**0,549**

SCORE RANGE	GRADE	DESCRIPTION
0.0 < score <= 0.08333	D-	"D" Score indicates poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly
0.08333 < score <= 0.16666	D	
0.16666 < score <= 0.25000	D+	
0.25000 < score <= 0.33333	C-	"C" Score indicates satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly
0.33333 < score <= 0.41666	C	
0.41666 < score <= 0.50000	C+	
0.50000 < score <= 0.58333	B-	"B" Score indicates good relative ESG performance and above-average degree of transparency in reporting material ESG data publicly
0.58333 < score <= 0.66666	B	
0.66666 < score <= 0.75000	B+	
0.75000 < score <= 0.83333	A-	"A" Score indicates excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly
0.83333 < score <= 0.91666	A	
0.91666 < score <= 1.00000	A+	

SPICE RATING	BETA ADJUSMENT
A+	-20%
A	-15%
A-	-10%
B+	-5%
B	0%
B-	5%
C+	10%
C	15%
C-	20%

Appendix IX: Price sensitivity table

Earnings G/ PER	4x	6x	8x	10x	12x	14x
20%	50	75	100	125	151	176
15%	48	72	96	120	144	168
10%	46	69	92	115	138	161
5%	44	66	88	110	132	154
0%	42	63	84	105	125	146
-5%	40	60	79	99	119	139
-10%	38	56	75	94	113	132

Source: Team Elaboration

EBITDA G / EV/ EBITDA	2x	4x	6x	8x	10x	12x
20%	25	62	99	135	172	208
15%	24	59	94	129	164	199
10%	22	56	89	123	156	190
5%	21	53	85	117	149	181
0%	19	50	80	111	141	172
-5%	18	47	76	105	134	163
-10%	16	44	71	99	126	153

Source: Team Elaboration

Appendix X: Main financials

	2022	Δ%	2023	Δ%	2024E	Δ%
Revenue	1,829	**21%**	1,732	**-5%**	1,801	**4%**
EBITDA	719	**12%**	658	**-8%**	666	**1%**
Net Income	456	**67%**	302	**-34%**	513	**70%**
Levered Free Cash Flow	(26)		(370)			
Total Assets	4,742	**23%**	4,722	**0%**	5,865	**24%**
Total Common Equity	2,277	**28%**	2,404	**6%**	3,187	**33%**
Total Liabilities	1,625	**12%**	1,466	**-10%**	1,726	**18%**
Cash	700	**22%**	835	**19%**	1,186	**42%**
Net Debt / EBITDA	1.3		1.0		0.8	
ROE %	22		13		24	

Source: Team Elaboration based on PAM's reports

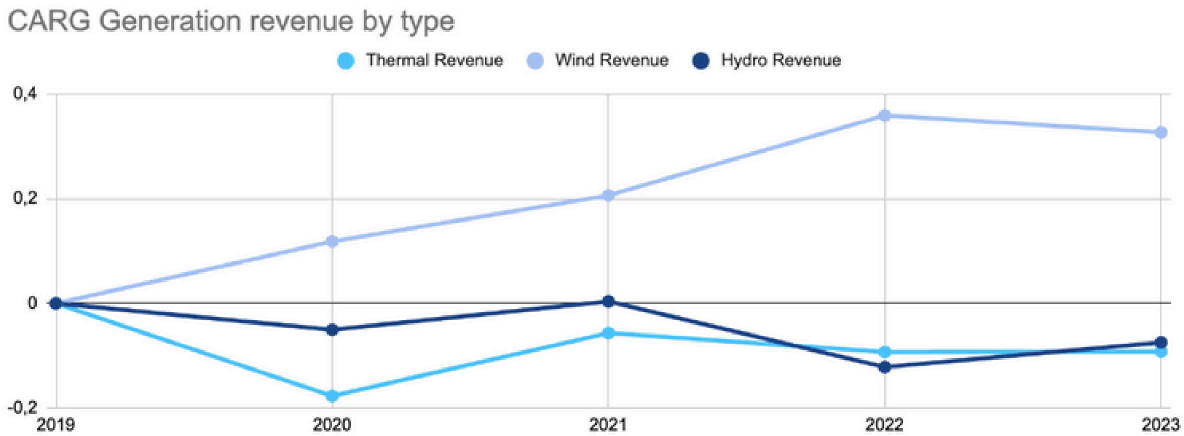


Fig. 28 - Source: Team Elaboration based on PAM's reports

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