Universidade do Minho
Escola de Economia e Gestão

Equity Research Report Galp SGPS SA

Carla Oliveira

UMinho | 2023

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Maio de 2023

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Equity Research Report
Galp SGPS SA

Projeto de Mestrado
Mestrado
em Finanças

Trabalho efetuado sob a orientação da
Professora Florinda Silva

Maio 2023

Acknowledgements

First, I would like to express my deepest appreciation for Florinda Silva due to her unwavering support, guidance, and feedback through this journey. Her expertise and insights proved to be very valuable and without her support this research wouldn´t be possible.

I would also like to acknowledge my MCA colleagues. Your friendship, guidance and incentive were priceless to me both professionally and personally. I am grateful for all the laughter and knowledge we have shared.

I would like to extend my gratitude to Francisco, for all the support and encouragement through the execution of this project. He has been there for me through setbacks and successes, always having a comforting word. His unwavering support has given me the strength and confidence to pursue my goals. Thank you for being the partner anyone could ask for.

A very special thank you to my family, that their help made it possible for me to pursue my dreams and achieve my goals. I am very lucky to have such a fantastic family who always support me and show me what it means to be part of a supportive and loving family. Thank you so much for everything.

To conclude, I want to express my heartfelt appreciation to all of those who have been a part of this journey.

STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration.

I further declare that I have fully acknowledged the Code of Ethical Conduct of the University of Minho.

Resumo

O presente documento consiste num relatório de *Equity Research* sobre a Galp Energia S.G.P.S., SA (GALP.LS). Este relatório segue o formato do *CFA Institute*, que fornece informações sobre o desempenho financeiro de uma empresa e os potenciais riscos da mesma.

A Galp é uma empresa portuguesa que opera no sector do petróleo e do gás natural. Opera no *Upstream*, através da exploração, recuperação e produção e no *Downstream*, através da refinação e comercialização. As atividades da empresa estão divididas em quatro segmentos de negócio: Exploração e Produção, Industrial e Gestão de Energia, Comercial e Renováveis & Novos Negócios.

Este relatório emite uma recomendação de compra para a Galp com um preço-alvo no final de 2023 de 18.1€/ação, obtido usando uma abordagem Soma das Partes, onde foram aplicados os métodos de fluxo de caixa descontados e a avaliação relativa, de forma a refletir todas as idiossincrasias de cada segmento. A avaliação compreende uma potencial valorização de 73% face a 3 de maio de 2023, com um preço de fecho de 10.5€. Para apoiar a avaliação, realizamos também uma análise de sensibilidade para endereçar possíveis riscos.

O relatório foi finalizado a 15 de maio de 2023.

Classificação JEL: G10, G32, G34

Palavra-Chave: *Equity Research*, Avaliação de Empresas, Combustíveis Fosseis, Renováveis, Fusões & Aquisições

Abstract

The present document consists of an Equity Research of Galp Energia S.G.P.S., SA (GALP.LS). This report follows the CFA Institute format, which gives insights into the financial performance of a company and the potential risks of the same.

Galp is a multinational Portuguese energy corporation present throughout the entire oil and natural gas value chain and the marketing of electricity. It works Upstream, through exploration, recovery, and production and Downstream, by refining and marketing. The Company's activities are split into four business segments: Exploration & Production, Industrial & Energy Management, Commercial and Renewables & New Businesses.

This report issues a buy recommendation for Galp with a 2023YE price target of 18.1€/share, applying a Sum-of-the-Parts valuation approach, where a discounted cash flow and relative valuation models were applied to reflect all the idiosyncrasies of each segment. The valuation comprises a potential upside of 73% dated from May 3rd, 2023, at a closing price of 10.5€. To support the valuation, we also perform a sensitivity analysis to address possible risks.

The report was concluded on the 15th of May 2023.

JEL Classification: G10, G32, G34

Keywords: Equity Research, Valuation, Fossil Fuel, Renewables, Merger & Acquisition

Disclaimer

This Equity Research Report was prepared for academic purposes only by Carla Oliveira, a student of the master's in finance at the University of Minho. The report was supervised by a faculty member acting merely as an academic mentor. Neither the author of this report nor the supervisor are certified investment advisors. This report should be read as a pure academic exercise of a master student. The information used to produce this report is generically available to the public from different sources and believed to be reliable by the student. The student is the sole responsible for the information used in this report, as well as the estimates and forecasts, application of valuation methods, and views expressed. The UMinho and its faculty members have no unique nor formal position on those matters and do not take responsibility for any consequences of the use of this report.

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Galp Energia S.G.P.S, SA
(Euronext Lisbon Exchange)

Recommendation: Buy (73% upside)

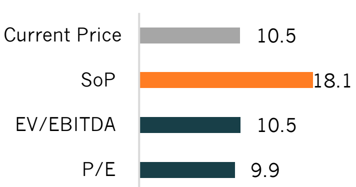
Date: May 03, 2023

1. Investment Summary

Recommendation	BUY
Date	mai 03, 2023
Current Price	10.5
Target price	18.1
Upside	73%
Ticker	GALP.LS
Industry	Energy
Market	Euronext Lisbon
Shares outstanding (m)	815
Market Cap (m)	7,963

Source: Refinitiv, Own Analysis

Figure 1 - Galp Target Price



Source: Refinitiv, Own Analysis

We issue a **BUY** recommendation for Galp with a target price of 18.1€, offering a 73% upside to its May 3rd, 2023, at a market price of 10.5€. Our valuation follows a sum of the parts approach based on the Discounted Cash Flow (DCF) method and relative valuation (figure 1). Our recommendation is based on the following pillars: (1) Profitability growth driven by Brazilian operations, (2) Increased presence in renewable energies.

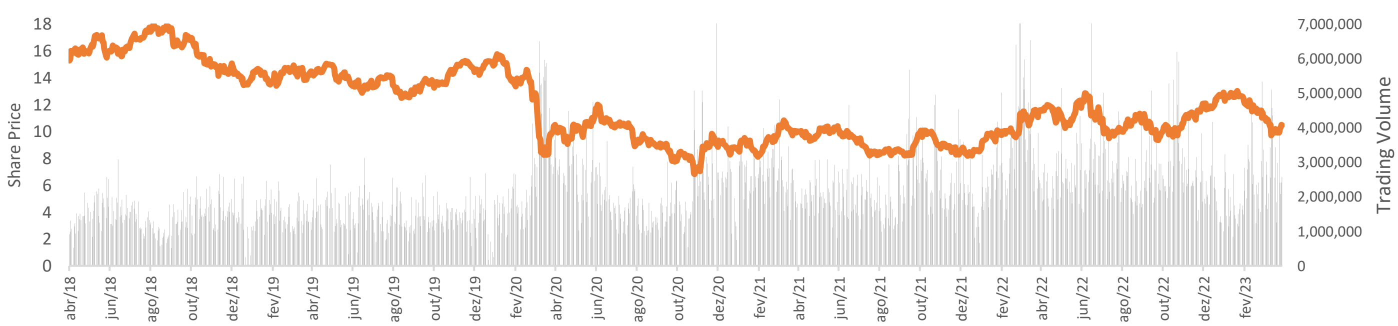
Profitability Growth Driven by Brazilian operations

The Galp projects in Brazil are the ones that present higher returns, since it has a competitive portfolio. Most of the long-term value will come from Bacalhau FPSO which will be one of the most technologically advanced. Galp will also benefit from economies of scale with a very low production cost. What is more, there is also the Rovuma LNG block in Mozambique which is expected to start in 2025 and it is projected to be one of the most competitive Liquidated Natural Gas (LNG) projects in the world. The revenues of the upstream segment grow 29% from 2017 to 2022. We expect a CAGR of 2% by 2027.

An increased presence of renewables energies

Galp has a risky portfolio due to its dependence on fossil fuels, consequently, Galp is increasing its investment in low-carbon and high-grade projects, mostly in renewables & new business. Countries and companies are watching closely the clean energy supply chain given that it's expected growth in the coming years. The global leader in green energy is China but the European Union is also implementing measures to reduce CO2 emissions and to increase the energy source by reducing its dependency on the fossil fuel market. Galp may be one of the main players of solar, onshore wind, and lithium in Iberia.

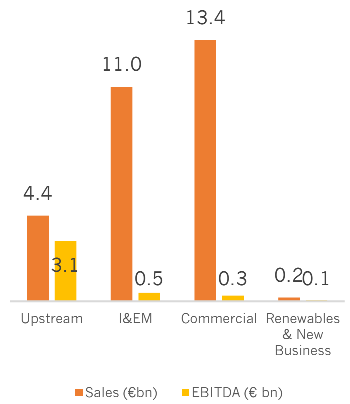
Figure 2 - Price and Trading volume history



Source: Refinitiv

2. Business Description

Figure 3 - 2022 Sales and EBITDA by business segment

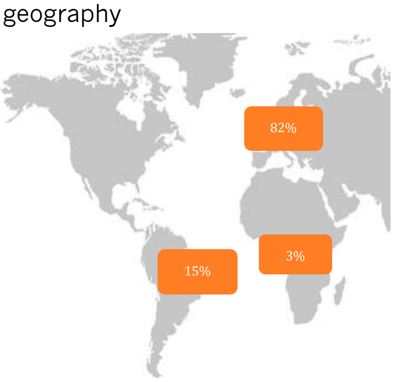


Source: Company Data

Table 1 - Industry´s Abbreviations

Abbreviations	
bbl	Oil Barrel
boe	Barrel of Oil Equivalent
E&P	Exploration & Production
FPSO	Floating Production Storage and Offloading
GW	Gigawatt
IOC	Integrated Oil Company
kb/d	Thousand bbl per Day
kboepd	Thousand boe per Day
LNG	Liquidated Natural Gas
mb/d	Million bbl per Day
mton	MillionTonnes
mta	MillionTonnes per Annum
NG	Natural Gas
NOC	National Oil Companies
tWh	Terawatt-hour

Figure 4 - 2022 Revenue by geography



Source: Company Data

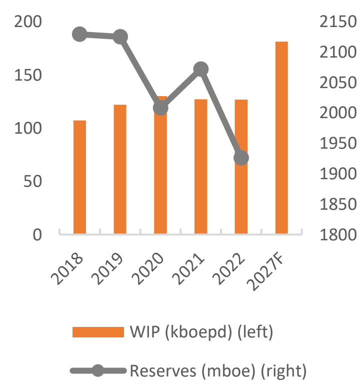
Galp Energia S.G.P.S, S.A. is a Portuguese company that operates in the oil and natural gas (NG) industry, headquartered in Lisbon, Portugal, and listed in Euronext Lisbon. The company began in the 19th century with the introduction of gas lamp lighting. The company has a diverse portfolio of assets across several continents, including Europe, Africa, and South America. Galp has a total of 6,156 employees. In 2022, the company reported €27bn in total revenues (consolidated) and an increase of 67% when compared with the year 2021. In its 2022 annual report, Galp reported an EBITDA of €3.5bn, higher by 43% YoY (Year-over-Year), while cash increased 25% YoY, led mainly by strong upstream results. The upstream segment alone accounts for 80% of the total EBITDA in 2022 (Figure 3) with sales of only €4bn out of a total of €27bn. Galp is spread around the world, with 82% of revenues coming from Europe, 15% from Latin America, and 3% from Africa in 2022 (Figure 4).

Operational Highlights

Galp operates throughout the whole value chain and its operational level is divided into four business units namely the Upstream, Industrial & Energy Management (I&EM), Commercial and Renewables & New Business which is a new segment at Galp (appendix 1).

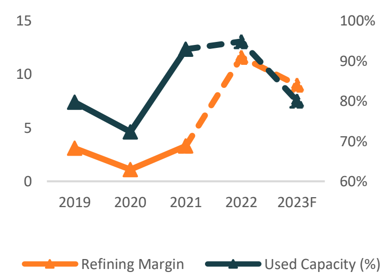
Upstream | The upstream is the business segment that impacts most Galp's return, which is primarily driven by oil and gas production volumes and brent prices. In 2022, the working interest (WI) production was 127 kboepd, a 3% CAGR 2018-21 (Figure 5). In the short term, the production will remain flat considering the ramp-up of Berbigão/Sururu and the beginning of Sépia, with a slightly decrease related with Angola divestment. It is expected a higher increase in 2025 onwards in connection to the beginning of production in the Bacalhau project.

Figure 5 - Production and Reserves



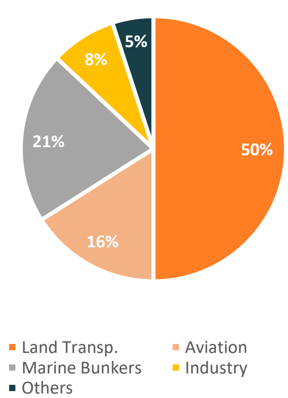
Source: Company Data, Own Analysis

Figure 6 - Refining Margin and Used Capacity (%)



Source: Company Data, Own Analysis

Figure 7 - 2021 Iberian Oil Product in B2B



Source: Company Data

I&EM | The Industrial & Energy management segment 2022 sales represented c.41% of total sales, explained by the recovery in demand and the tightness in supply. These factors lead to an increase in the refining margin from $3.3/boe to $11.6/boe (figure 6). In 2021 Galp's distillation capacity decreased 104 kbpd to 226kbpd with the closure of Matosinhos refinery.

Commercial | Galp´s commercial sales increased 69% YoY in 2022, reflecting the slightly recovery from the pandemic. In 2021, the sales of oil product volume and natural gas to direct customers increased by 8% and 19 % YoY, respectively. Most of the commercial segment sales are from the business-to-business (B2B) activity, which are spread across a variety of sectors, such as transportation & distribution, aviation, and others (figure 7).

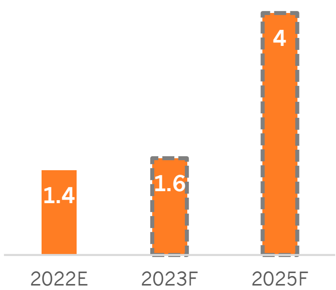
Renewables & New Business| Galp´s gross renewable energy generation pipeline increased 91% to 9.0 GigaWatt (GW) in 2022 (including 7.4 GW under development), located in Portugal, Spain, and Brazil. By 2025, Galp´s expects to have a gross operating capacity of 4 GW (figure 8).

Key drivers of profitability

WIP and reserves | Galp´s sales are highly correlated with the WI production and reserves. In 2022, Galp´s reserves decreased by 10 % YoY, as consequence of the divestment in Angola. However, the Bacalhau project is expected to be on a plateau by 2026.

Commodity price | Commodity prices are another key factor and one of the main risks of Galp, even though Galp hedges its position to reduce risk exposure. Most oil and gas companies have benefited from the price increase, driven by the Ukraine war that began in February 2022. Nonetheless, Galp will be affected by the gas price increase, as it will have to sourced mostly from third parties and its main supplier may have issues with floods which restricted the supply.

Figure 8 - Gross operating capacity (GW)

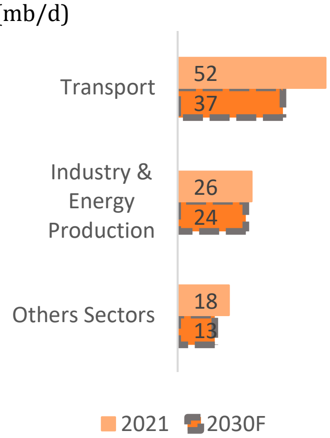


Source: Company Data

Company Strategy

Galp's overall strategy aims to build a long-term value for its stakeholders by transitioning to a more diversified and sustainable energy company, enhancing operational efficiency, and promoting sustainability in all its operations. Galp is committed to the energy transition towards a low-carbon economy. To go through with this energy transition, Galp waits for transformation of the Sines' refinery into a green energy hub and, additionally, it is expected a joint venture with Northvolt to develop a lithium conversion facility in Europe. Galp is diversifying its portfolio of businesses to reduce its reliance on oil and gas and expand into new areas.

Figure 9 - Oil Demand by sector (mb/d)



Source: IEA

3. Industry Overview and Competitive Positioning

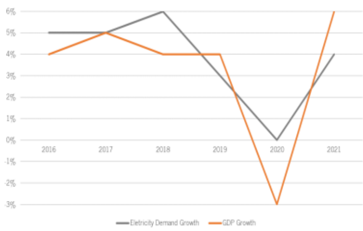
In 2022, the oil & gas industry is among the largest sectors in the world, generating a global revenue of $4 trillion in 2022 (Reuters, 2023). This industry has several stages that go from discovery to transportation and then to the final transformation into ready for sale product.

Demand Drivers

The energy sector is facing volatile times, with the increased effort to decarbonize. The 2023 world oil demand was set to increase to a record 101.9 mb/d YoY (IEA, 2023) due to the highest consumption of China specially after the clearance of the constraints imposed by COVID19. We highlight two key demand drivers: a) Energy transition, b) GDP and world population.

<u>Energy transition</u>: Governments worldwide are implementing policies to cut greenhouse gas emissions and promote renewable energy sources. These

Figure 10 - Electricity demand and real GDP growth



Source: IEA

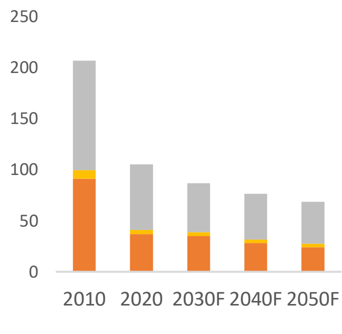
policies can have an impact on the demand for oil and gas, especially in developed countries, where the shift to renewable energy sources can reduce the demand for fossil fuels. The electricity and hydrogen final consumption is expected to account for 50% by 2050 (McKinsey, 2022). Based on the International Energy Agency (2022), the oil demand must peak in the next five years, mainly driven by the slow-down in demand in the transportation sector (figure 9). The demand for li-ion batteries is projected to surge over the next decade, rising from approximately 700GWh in 2022 to around 4.7 TWh in 2030 (Mckinsey, 2022). This substantial growth is primarily influenced by regulatory initiatives aimed at sustainability, notably Europe's "Fit for 55" program. These efforts reflect a shift towards greener energy and transportation solutions, driving the need for advanced and efficient battery technologies.

GDP and world population: Higher inflation and thus tightening global economic conditions triggered by the Covid-19 pandemic and the war in Ukraine are leading global growth to slow. Based on the International Monetary Fund (2022) forecasts, it is expected to have an annual growth of only 2.7% in 2023, which is expected to increase to approximately 3.3% in 2027. The world population was projected to increase from 7,9 billion, referring number to 2021, to 9,7 billion, by 2050 (United Nations, 2022). Overall, the combination of population growth and GDP growth can lead to an increase in oil and gas demand (figure 10).

Supply Drivers

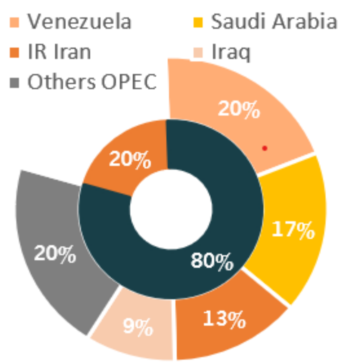
According to the OPEC 2021 annual report, the world's liquids supply rose by 1,39 mb/d to 95,06 mb/d in 2021, mostly driven by an increase in oil demand and higher oil prices. In early 2022, supply continued to grow, although it decelerated in Q4 2022 and the same trend is expected for 2023, due to OPEC's decision to cut production.

Figure 11 - Fossil Fuel price (€)



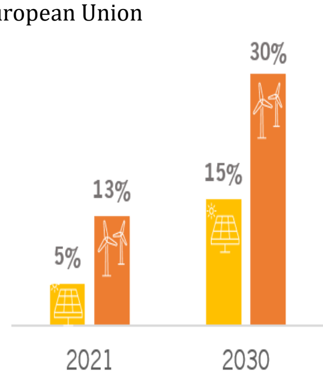
Source: IEA, Own Analysis

Figure 12 - OPEC share of world crude oil reserves (2021)



Source: OPEC

Figure 13 - Electricity generation European Union



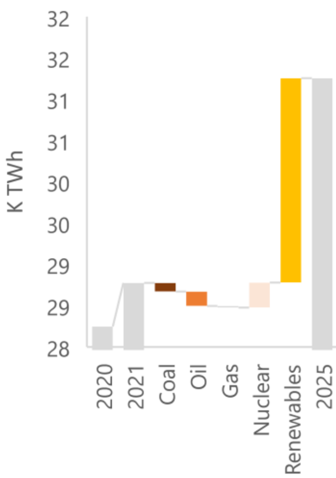
Source: IEA

Fossil fuel price volatility: the price of fossil fuels has always been volatile nevertheless the geopolitical tensions in Ukraine and other factors, such as COVID-19, have triggered significant peaks in crude oil and NG prices, leading us to the current situation of high uncertainty. In the future and taking into consideration the emergence of renewable energies, the price of oil is expected to decrease as it demands declines, slowly dropping to $25/bbl in 2050 (IEA, 2021), as others fossil fuels (Figure 11).

OPEC and non-OPEC production decisions: The Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC countries, like Russia, have a significant amount of control over the global oil supply, and their production decisions can impact prices. For instance, a decision by OPEC to reduce production could reduce the global supply and lead to higher prices. In 2022, OPEC estimated that its member countries accounted for approximately 80% of the world´s crude oil reserves (OPEC, 2022) (figure 12).

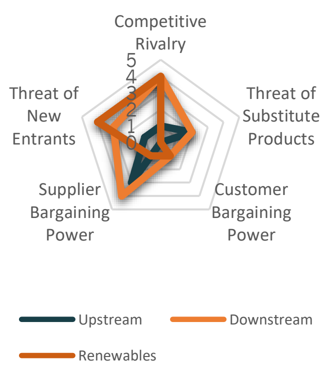
Pathway to net zero emissions: Renewables and nuclear energy will lead the growth of the global electricity generation, where China accounts for 45% of the growth in renewables generation until 2025. The European Union wants to reduce the reliance on fossil fuels to avoid energy crises like the one we are experiencing now. Based in IEA (2022), the wind and solar PV respectively accounts for almost 30% and 15% of electricity generation by 2030 in European union (figure 13). By 2050, the global energy mix will increase from 26,800 terawatt-hours (TWh) in 2020 to 50,000 TWh (IEA, 2022) (Figure 14).

Figure 14 - Global Electricity Generation by source



Source: IEA

Figure 15 - Porter´s Five Forces



Source: Own Analysis

Competitive Analysis

Customer bargaining power – Low| The bargaining power of customers is low since the prices are established by the market and customers are dependent on oil by-products such as electricity. Except in the commercial segments, where it faces high competition, so customers may easily switch to other suppliers.

Competitive rivalry - High| In the upstream segment and due to the high risk and expense in the exploration and extraction phase, companies usually make a consortium to execute the project, so it doesn´t exist much competition. The commercial segment operates in perfect competition, while the renewables & new energies segment is yet small, and the competition is intensifying. The company's competitive advantage relies on its established position in Portugal and Brazil and on its diversification strategy.

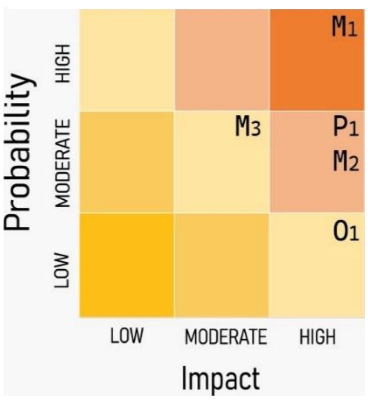
The threat of new entrants - Medium| Galp doesn´t face a high threat due to the high capital investment needs and to the knowledge requirement. The company has established itself as a leading player in the industry and has a strong market position in Portugal and Brazil, which makes it difficult for new entrants to compete. However, the renewables business is riskier, as Galp don´t have much expertise in the field. Nonetheless, Galp has a high capacity to grow as it is an established company with the necessary capital.

Supplier bargaining power - Medium| Galp has a disadvantage when compared with national oil companies (NOC), which will stay with a high percentage of the reserves in their own country. The bargaining power of suppliers is moderate, as Galp buys oil and gas in the open market and the high demand for specialized equipment and services can give some suppliers a certain degree of pricing power.

The threat of substitute products - Low| In the short-medium term, it is expected that oil and gas products will remain the main player in the energy sector. Perhaps fossil fuel-based energy is seen by the countries as a nonviable solution. There is a growing need for decarbonization hence Europe is very committed to this transition, into meeting the Paris agreement and into being energetically independent. Galp is already investing in renewable energy to diversify its portfolio and mitigate the threat of substitutes.

To summarize, it is expected the demand for energy to increase in the future with the energy transition being one of the main focus of the sector but at the same time it can´t be ignored the fact that one of the sector's biggest problems is the shortage of supply which must be handled in a short term (figure 15).

Figure 16 - Risk Matrix



Source: Own Analysis

4. Investment Risk

We identified the three main investment risks for Galp (figure 16).

Operational Risks

O1. Efficient portfolio: It is essential for Galp to correctly manage its portfolio to strengthen its competitive position mainly on the upstream segment, where operations are subject to exploration and production risks, including the possibility of dry wells, cost overruns, and delays. To mitigate the risk of uncommercial reserves, Galp operates in already-known locations and uses high-level technologies.

Political Risks

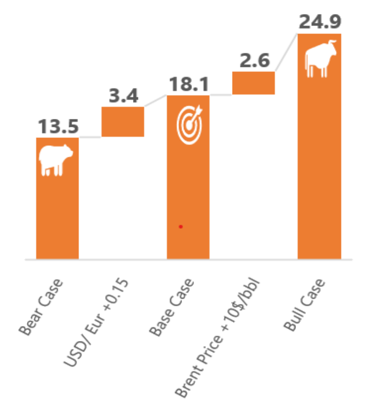
Table 2 - Scenario Analysis

FCFF DCF (SoP)	Bear	Base	Bull
Upstream Production	5%	10%	15%
Brent Price	65	75	85
Taxes	40%	34%	25%
USD/EUR	1.3	1.15	1
Price Target	**13**	**18**	**23**
Upside (Downside)	-23%	0%	34%

Source: Own Analysis

P1. Regulatory risks: The oil and gas companies are heavily regulated, so changes in government policies and regulations may have a significant impact on Galp operations and its financial performance. Our bear scenario demonstrates the impact of increased taxes on the costs, with the Oil Income Tax (Angola) and Special Participation Tax (SPT) increased to 40%, reaching a price of €17.3 (4% downside from target price).

Figure 17 - Share Price Drivers (€)



Source: Own Analysis

Figure 18 - Sensitivity Analysis

	Change in WACC					
		-2.0%	-1.0%	0.0%	1.0%	2.0%
g	1.1%	26.10 €	20.28 €	16.88 €	14.54 €	12.78 €
	1.3%	28.13 €	21.21 €	17.44 €	14.92 €	13.06 €
	1.6%	30.80 €	22.29 €	18.06 €	15.33 €	13.36 €
	1.8%	34.55 €	23.57 €	18.75 €	15.78 €	13.67 €
	2.1%	40.43 €	25.13 €	19.53 €	16.27 €	14.01 €

Source: Own Analysis

Market Risks

M1. Commodities prices: Being oil and gas company, Galp's earnings are highly dependent on the price of crude oil and NG. Commodity price fluctuations can have a major impact on Galp's profitability and cash flow. However, Galp can mitigate this risk is through derivative instruments. A 13% increase in brent price results in a share price of 20.7€ (15% upside from target price).

M2. Transition risk: Galp is in transition to a more diversified and sustainable energy company, which entails considerable investment in renewable energy and digital technologies. Such investments can be costly and may take time to generate significant returns and there is the risk of failure in the transition.

M3. Exchange rate risk: Galp is highly exposed to exchange rate variation, mostly to USD. Our sensitivity analysis shows that the variation of EUR/USD of 0.15 (to 1.30) downwards our recommendation to 16.9€ (7% downside from target price). Nonetheless, as in the commodities price, Galp could mitigate this risk using derivative instruments.

Scenario Analysis

We conducted a scenario analysis to assess the key drivers of Galp's share price. In this analysis, we built three cases of study: the bear case, the base case, and the bull case (table 2). Both our bull (€23) and bear (€13) prices reinforce our BUY recommendation (figure 17).

Sensitivity Analysis

We also conducted a sensitivity analysis to test our recommendation (Figure 18). In all situations, I maintain my recommendation to buy Galp stock. However, a change in WACC could have a significant impact on the price, ranging from 30.8€ to 13.4€, while maintaining the terminal growth at 1.6%.

5. Environmental, Social & Governance

Table 3 - Galp´s Refinitiv rating (2021)

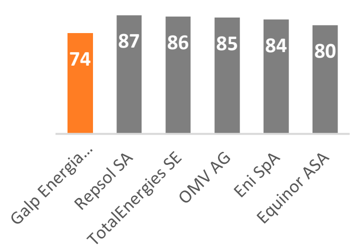
	Rating	Industry
Galp	**74**	**48**
Environment	74	40
Social	91	48
Governance	42	59

Source: Refinitiv

Galp is the first Portuguese company to join the World Economic Forum's ESG metrics which is focused on delivering sustainable value creation and responding to the most critical challenges of modern societies. Based on Refinitiv, Galp is performing well in the social aspect, with a higher score compared to other companies in the same industry. However, it is not faring as well in terms of governance (table 3). Galp is well scored when compared with a bunch of companies in oil and gas sector, but its worst when compared with certain peers (figure 19).

Environment

Figure 19 - Galp and peers ESG rating



Source: Refinitiv

Galp pledged to reach Net Zero Emissions by 2050, including not only direct emissions from operations but also indirect emissions from the acquired electricity and the value chain activities. Compared to 2017, Galp experienced a 26% reduction of absolute emissions and a reduction of 13% production-based intensity. Additionally, Galp has committed to producing 10GW of renewable energy by 2030, which would represent a significant increase from its current capacity.

In the subsequent years, Galp intends to allocate 40% of the planned average annual investment in capturing opportunities in relation to the energy transition and until 2025 the company aims to invest up to €181m in R&D in the attempt to answer for their commitment and for their products and operations (Galp Annual Report, 2021).

Social

The governance practices of Galp seek continuous improvement, promoting the creation of value and highlighting its long-term component. Galp focuses on issues such as diversity and inclusion, employee healthcare and safety, and community engagement. One of Galp’s goals is the acceleration of gender parity until 2030 and all the Galp universe with human rights assessment completed. To keep high-quality cooperation with stakeholders, Galp established a code of ethics and conduct.

Figure 20 - Governance Structure

Source: Galp

Governance

Mr. Andry Brown ceased his mandate as Chief Executive Officer (CEO) on December 31, 2022, which took over in April 2021. Galp´s new CEO is Mr. Filipe Silva, who was previously a member of the board of directors and Chief Financial Officer (CFO). Ms. Paula Amorim has been the chairperson since 2016, representing the fourth working generation in this group.

Galp Energia's governance structure included a Board of Directors overseeing management and strategy, an Executive Committee managing day-to-day operations, a General Meeting of Shareholders for major decisions, committees for audit, control, and nomination and an statutory auditor ensured financial integrity (figure20).

Board of directors (BoD): Galp's Board of Directors (BoD) comprises 18 members, with four being executives and seven serving as independent directors. The board has an extensive expertise across various crucial domains. However, the company recognizes the significance of a diversified board and is actively working towards achieving this goal. Galp has set targets to enhance the representation of international and women directors on the board to foster broader perspectives and inclusive decision-making. Presently, women constitute only 27% of the board, but Galp is determined to make strides in improving this figure and achieving a more balanced and representative board composition (appendix 4). By embracing diversity, Galp aims to strengthen its corporate governance and adapt effectively to the challenges and opportunities in the energy industry.

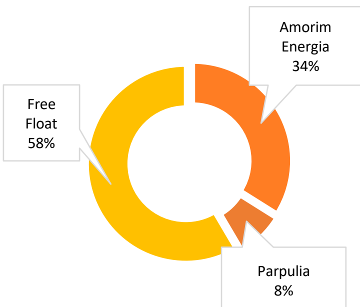
Table 4 - Executive Committee

Name	Position
Mr. Filipe Quintin Silva	CEO &CFO
Mr. Thore Ernst Kristiansen	COO Production & Operations
Ms. Teresa Abecasis	COO Comercial
Mr. Georgios Papadimitriou	COO Renewables & New Business

Source: Galp

Executive Committee: Galp's Executive Committee is composed of four highly skilled members, each possessing expertise in their respective fields. This diverse committee brings in-depth knowledge and experience in areas such as finance, engineering, renewables, and other critical domains (table 4).

Figure 21 - Shareholder Structure



Source: Galp

Shareholders: Galp has 93% of its social capital listed on Euronext Lisbon, with 815m shares outstanding. The company's free float accounts for 58% of social capital and the remaining 8% is indirectly held by the Portuguese state through Parpública (figure 21). Amorim Energia holds a significant portion of 34%, which is a concern to Galp stakeholders because of the potential conflicts of interest, given that members of the Amorim family also hold positions on Galp's board of directors. Galp has taken measures to address these concerns, such as appointing independent directors and implementing governance measures to ensure that decisions are made in the best interests of all shareholders.

Remuneration: Galp's remuneration policy differentiates between non-executive and executive members. Non-executive members receive a fixed remuneration that isn't linked to company performance. In contrast, executive remuneration consists of both fixed and variable components, with the variable part contingent on the annual and three-year performance of the group (appendix 5). This comprehensive approach aims to foster responsible and sustainable corporate governance by ensuring that executive interests are closely aligned with those of the shareholders. By incentivizing long-term value creation, the remuneration policy encourages executives to prioritize the company's continued success and growth, reinforcing Galp's commitment to delivering value to all stakeholders.

Figure 22 - Company Awards

Source: Galp

On a global level, Galp's commitment to ESG issues is reflected in its presence in several sustainability indices, such as the Dow Jones Sustainability Index and the FTSE4Good Index (figure 22). However, the Company has also faced some criticism from some stakeholders regarding its continued investment in fossil fuels, due to the pressing urgency of addressing the climate change.

6. Valuation

Table 5 - SoP Valuation

FCFF SoP		
	Model	**€m**
Upstream	FCFF	9,704
Industrial & EM	FCFF	3,436
Commercial	FCFF	3,372
Renewables	EV/EBITDA	1,962
Enterprise Value		**18,473**
Angola Divestment		830
Other long term asset		72
Net Debt		-1,555
Non-controlling interest		-958
Other financial instruments		-460
Post-employment liabilities		-252
Provisions		-1,430
Adjustments		**-3,753**
Equity Value		**14,720**
Shares outstanding		815
Price target		**18.1**

Source: Own Analysis

A Sum-of-the-Parts Approach (SoP)

We value GALP through a Sum of the Parts (SoP) valuation, using different methods. The company operates in different regions and businesses, which makes its valuation more complex, as it must be sensitive to the various risks and growth characteristics (Damodaran, 2009), so there is a need for a separate valuation by segment. To value the upstream, industrial & energy management and the commercial segment we use the Discounted Cash Flow (DCF) method, while the renewables & new energies segment is valued considering multiple methods, namely the EV/EBITDA multiple. This approach yields a 2023 YE price target of €18.1/sh (table 5).

Upstream| The main drivers of sales in the upstream segment are the brent price and WIP. The projected production from 2022 to 2027F is expected to reach 175 kboepd, with an anticipated compound annual growth rate (CAGR) of 5%. However, the divestment of upstream assets in Angola will lead to a decline in WIP to 110 kboepd by 2024. With the startup of Bacalhau project in 2025, production is expected to increase. The forecast for brent crude price indicates a decline in 2023 due to weakening global economic conditions. We anticipate a downward trend in brent prices in the upcoming years due to bearish sentiment in the market and the deteriorating macroeconomic environment. The sales of the upstream reach €3.7bn in 2027, yielding a 9,8% CAGR 2023F-2027F.

I&EM| In 2022, the ASP (average selling price) increased due to the increase in the brent price. We expect the refining margin to increase compared with historical value, averaging 7 USD/boe 2023F-2027F.

Commercial| The sales of the commercial segment are related to the Iberian demand, which in turn relies on GDP growth. We expect the sales of the commercial segment to growth 1.7% CAGR 2023F-2027F.

WACC

Table 6 - WACC Computation

Cost of debt	
Debt Ratio	35%
Cost of Debt	1.98%
WACC	
Upstream	13.32%
I&EM	6.00%
Commercial	4.76%
GALP	**6.22%**

Source: Own Analysis

We estimate three different WACC rates to better capture the risk of each segment (table 6). The cost of debt is obtained by adding the default spread to the risk-free rate (10-year German government bond). As Galp is not rated by any agency, we calculate the interest coverage ratio of 13.2x, arriving at a 0.69% spread, which is equivalent to an AAA rating, based on the Damodaran database. The cost of equity is calculated with the CAPM formula, reflecting the German government bond yield, the re-levered beta of industry peers, and the equity risk premium of Portugal or Brazil. We consider a market D/E ratio of 35%.

Terminal Growth Rate

Our terminal growth rate assumption is of 1.6%, which is computed based on the weighted average of each region´s GDP and their respective weight on revenues (appendix 19).

Table 7 - Relative Valuation

Galp IOC Peers	
Repsol SA	
Eni SpA	
TotalEnergies SE	
Equinor ASA	
OMV AG	
Relative Valution	
P/E ratio	9.9 €
Upside (Downside)	-5.3%
EV/Ebitda	10.5 €
Upside (Downside)	0.3%

Source: Own Analysis

Peer group

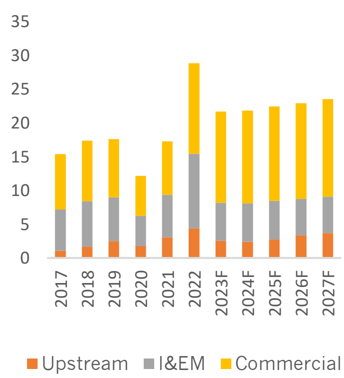
In our selection process, we carefully chose two distinct groups for evaluation: one focused on the renewable energy segment and the other representing Galp as a whole (appendix 2). Additionally, we factored in key financial metrics to provide a comprehensive analysis.

Relative Valuation

To complement the SoP valuation, we conduct multiple valuations using similar companies to Galp. We construct one peer group, where we only considered European Integrated Oil Companies (IOC). We obtained an implied target price for EV/EBITDA of €10.5, which does not support our buy recommendation. In addition, we also applied the P/E multiple, which is also not in line with our recommendation (table 7). The decision to use the EV/EBITDA multiple in our valuation analysis was driven by three key reasons. Firstly, the EV component considers both the company's debt and equity, providing a comprehensive view of its overall financial position. Secondly, EBITDA, by excluding depreciation, amortization, and financing-related expenses, offers a clearer representation of the company's operational performance and cash generation capability. Lastly, the EV/EBITDA multiple proves to be a valuable tool when comparing companies with diverse capital structures, allowing for a more meaningful and accurate comparison across the industry. The P/E was also calculated as a complementary metric to value Galp.

7. Financial analysis

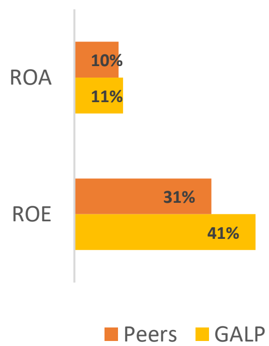
Figure 23 - Revenue Projections (€bn)



Source: Own Analysis

Scaling revenues| We estimate a revenue CAGR of 2% over 6 years (figure 23). Given Galp's business structure, we separately forecast the revenue for its segments. The production is expected to increase for 2022-2027F up to 175 kboepd, with an expected CAGR of 6%. The WI production is expected to decline to 110 kboepd until 2024, due to the divestment of upstream assets in Angola. From then on, production is expected to increase with Bacalhau's start-up. In industrial & energy management, we expect that from 2021 onwards the revenues will decrease because of a decreasing brent price and maintained works in the refinery. Nonetheless, even with the expected increase in revenue in the following 6 years, the future of Galp will depend on how it will be able to evolve in the renewables industry. In the next years, we expect the EBITDA margin to be constant as Galp is a mature company. The exception is for the upstream segment where the EBITDA margin is expected to improve from 67% in 2021 to 73% in 2027 as economies of scale materialize. The company achieved a net margin of 6% in 2022, mainly driven by rising brent prices. However, in the subsequent years, it is anticipated to decrease, averaging 2% from 2023F to 2027F due to reduced gains from derivatives.

Figure 24 - Profitability to peers



Source: Own Analysis, Refinitiv

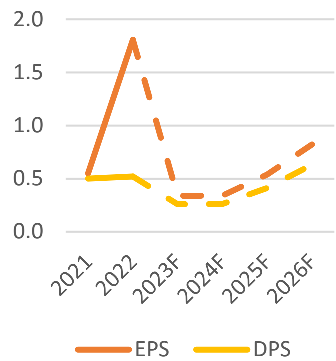
Profitability| In 2022, Galp achieved a remarkable ROE of 41% compared to its peers' average of 31%, and a ROA of 11% compared to the industry average of 10% (figure 24). However, it's important to note that this exceptional performance was influenced by the supply shortages caused by the war in Ukraine during that year.

Galp's impressive ROE demonstrates its ability to generate higher profits for its shareholders relative to their investments when compared to its industry peers. Looking ahead, we anticipate a gradual decrease in Galp's ROE and ROA, with projected averages of 13% and 4% respectively, for the period 2022-2027F. This projection considers various factors that may affect the company's financial performance over the coming years.

A mature industry with stable efficiency hereafter| Due to the mature nature of the upstream and downstream segments we expect the working capital requirements to follow the trend of the past years. In 2022, Galp presented an asset turnover ratio of 1.67 and we forecast that it will slightly decrease in the next years. This ratio is expected to continue to be above the peer's average, demonstrating the higher efficiency of Galp operations.

Deleveraging capital and liquidity under control| In 2022, the book D/E ratio of Galp was 0.78 compared with peers' average of 0.59, so we don´t expect Galp to take much debt. However, despite this, Galp is expected to maintain a substantial debt capacity due to the high capital investments. The projected debt-to-equity ratio is 0.69 by 2027. Galp presents a current ratio of 1.63 which is higher than that of its peers' average of 1.43. We expect a current ratio of 1.62 by 2027, demonstrating that Galp has sufficient current assets to cover its current liabilities, indicating good short-term liquidity and a lower risk of defaulting on short-term obligations. Galp's Free Cash Flow to Firm (FCFF) is projected to grow at a Compound Annual Growth Rate (CAGR)

Figure 25 - Galp's EPS and DPS



Source: Own Analysis

of 10.5% during the period from 2022 to 2027F, thanks to robust and consistent operational performance. This growth is expected to lead to increased returns for shareholders, with Galp delivering an impressive 26% CAGR in Earnings Per Share (EPS) from 2023F to 2027F (figure 25). As a result, the company is anticipated to distribute this surplus return to shareholders in the form of dividends, unlike in 2022. The projected payout ratio until 2027 is expected to be 77%.

Rising CAPEX to decarbonize| Galp´s FCFF will stabilize after 2024, even with aggressive CAPEX plans. We expect CAPEX to remain flat until 2027F, around €1.2bn, which will be financed by the cash flow from operations. The company intends to reinforce investment in the renewable energy segment as part of its commitment to decarbonization and diversification efforts. The renewables are expected to represent 50% of total capex in 2027.

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Appendices

Appendix 1 - Business Model

Galp Energia is a Portuguese company that operates in the oil and gas industry. Its business is divided into 4 segments, which are upstream, industrial & energy management, commercial and renewables & new energies.

Upstream| The upstream segment is responsible for discovering reservoirs, drilling them and extract oil and gas reserves. Exploration requires permission and lease to drill the land. This is often called Exploration & Production segment (E&P). This includes performing geological studies, drilling wells and operating production facilities. This segment requires high capital investment and is risky because the reservoirs could be dried up, being classified as dry holes. The company aims to secure some reserves to meet demand and optimize the portfolio.

Galp's offshore portfolio includes a share in the prolific Santos basin. The Santos Basin, located off the coast of Brazil, is indeed one of the largest and most significant oil discoveries in the world, especially known for its pre-salt reserves. The pre-salt reservoirs in the Santos Basin have proven to be highly prolific and have transformed Brazil into a major player in the global oil and gas industry. One of the mains projects here are:

- Lula/Iracema Project (Brazil): Galp holds a share in the Lula and Iracema oil fields, located in the Santos Basin offshore Brazil. The project involves the development and production of significant oil and gas reserves in this region.

- Bacalhau I: this FPSO is in two licenses, the BM-S-8 e Carcará north. This will be one of Brazil's largest FPSOs with a production capacity of 220,000 barrels per day. Galp holds a stake of 20%.

Besides the projects in Brazil, Galp also has projects in other locations. One of the most important is the Coral South Floating Liquefied Natural Gas (FLNG) Project in Mozambique, which aims to extract natural gas from the Coral field offshore Mozambique and process it into LNG for export.

Industrial & energy management| This segment transports the crude oil and NG to refining, being characterized by shipping, pipelines, and storage of raw material. This process transforms raw material into petroleum products for daily usage such as gasoline, jet fuel, heating oil among others.

Commercial| It operates a network of service stations and convenience stores. Galp uses this retail operations to distribute refined products and other types of electricity to end consumers. This branch holds a strong position in Iberia and in a selection of African countries.

Renewables & new energies| This is a new segment at Galp as the company is increasingly focusing on renewable energy sources, such as wind, solar, and biomass. This segment focuses on the development of a diversified and supports the transition to a low-carbon future. One of the main projects of galp in this segment is the deal with other renewable energy company, his segment hasn´t had yet much impact on Galp' results since it still at a premature stage.

Overall, Galp Energia's business model revolves around the exploration, production, refining, distribution and commercialization of oil, gas, and renewable energy sources, both domestically and internationally.

Appendix 2 - Peers Analysis

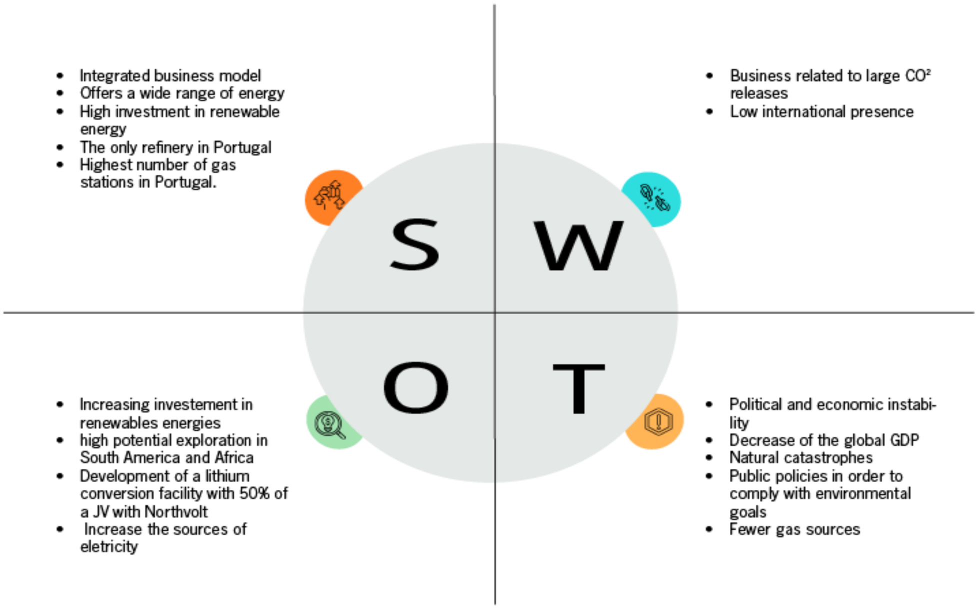
In the process of conducting a multiple valuation for Galp, the first step was to identify a relevant peer group. This involved selecting companies within the energy sector that share similarities with Galp's operations, specifically in oil and gas exploration, production, refining, and distribution. Since Galp operates as an integrated oil company and primarily operates in Europe, we further refine our selection to focus solely on companies exhibiting these characteristics.

Once the initial peer group is established, we proceed to choose the most appropriate companies for the comparison. To accomplish this, we employ various key financial metrics, including the EBITDA margin, return on equity (ROE), return on assets (ROA), debt-to-equity ratio (D/E), among others.

The EBITDA margin provides insight into a company's operational efficiency and profitability, while ROE and ROA measure the effectiveness of its capital utilization and asset management, respectively. Additionally, evaluating the D/E ratio helps understand the company's financial leverage and risk exposure.

Company	Market cap (million)	Current Ratio	EBITDA Margin	Asset Turnover	ROE	ROA	D/E ratio
Galp Energia SGPS SA	7,963	1.60	14%	1.67	41%	11%	0.78
Repsol SA	17,440	1.46	14%	1.25	17%	7%	0.53
TotalEnergies SE	137,466	1.18	24%	0.87	19%	7%	0.51
Equinor ASA	82,008	1.49	57%	0.94	53%	18%	0.60
Eni SpA	47,407	1.09	18%	0.87	26%	9%	0.58
OMV AG	13,661	1.76	21%	1.10	31%	9%	0.54
Average	50,991	1.43	24%	1.12	31%	10%	0.59
Median	32,424	1.48	19%	1.02	28%	9%	0.56

Appendix 3 - SWOT Analysis



Strengths| Galp is an integrated oil company involved in oil and gas exploration, production, refining, distribution, and renewable energy. The fact that Galp has a diversified portfolio helps mitigate risks and capture opportunities. The company has already established a strong position in Portugal in the downstream segment. Galp is also increasing its investment in renewable energy, particularly in solar and wind, in Spain and Portugal, with expectations to expand to Brazil.

Weaknesses| Despite Galp's increasing investment in renewable energy, its core business remains associated with fossil fuels, making it susceptible to public scrutiny and environmental regulations. While Galp has a strong presence in Portugal, its international reach is relatively low compared to some of its global competitors. This limited international footprint can expose Galp to risks associated with overreliance on specific markets and regional economic fluctuations.

Opportunities| The decarbonization of Galp's operations presents an opportunity for the company to expand its clean energy portfolio and diversify revenue streams. One of Galp's future investments is in the development of a lithium conversion facility with Northvolt to meet consumer demand in the coming years.

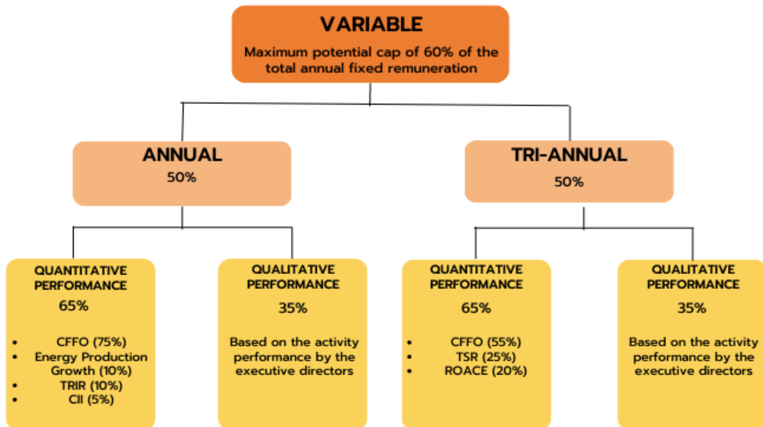
Threats| Regulations and energy policies, particularly related to emissions reduction and climate goals, can impact Galp's operations, mainly because it is a company with significant CO_2 emissions. Additionally, Galp is subject to geopolitical instability in the regions where it operates, which may influence the company's operations and supply chain.

In summary, Galp demonstrates strengths through its diverse operations and strong market presence. However, challenges arise from its vulnerability to oil price fluctuations and environmental issues. To seize opportunities, Galp should strategically invest in renewable energy and adapt to the evolving energy landscape, all while effectively managing competition and regulatory dynamics. By doing so, the company can enhance its sustainability, competitiveness, and long-term growth prospects in the energy industry.

Appendix 4 - Overview of board members

Name	Position	Independent?	Resident	Total Compensation[1] (€)
Ms. Paula Fernanda Ramos Amorim	Chairperson	No	Portugal	-
Dr. Miguel Athayde Marques	Vice-chairman	Yes	Portugal	102 000
Mr. Filipe Quintin Silva	Vice-chairman	No	Portugal	609 000
Mr. Thore Ernst Kristiansen	Member	No	Norway	804 871
Ms. Teresa Abecasis	Member	No	Portugal	239 012
Mr. Georgios Papadimitriou	Member	No	Grécia	-
Mr. Luis Manuel Pego Todo Bom	Member	Yes	Portugal	90 000
Mr. Adolfo Nunes	Member	Yes	Portugal	84 000
Ms. Cristina Fonseca	Member	Yes	Portugal	145 900
Mr. Edmar De Almeida	Member	Yes	Brasil	84 000
Dr. Javier Camino	Member	Yes	Espanha	3 387
Mr. Diogo Mendonca Rodrigues Tavares	Member	No	Portugal	84 000
Mr. Rui Paulo da Costa Cunha e Silva Goncalves	Member	No	Portugal	84 000
Mr. Jorge Manuel Seabra De Freitas	Member	No	Portugal	84 000
Mr. Francisco Vahia de Castro Teixeira Rego	Member	No		42 000
Ms. Marta Claudia Ramos Amorim Barroca de Oliveira	Member	No	Portugal	42 000
Mr. Carlos Pinto	Member	No	Brasil	84 000
Ms. Claudia Silva	Member	Yes	Brasil	-

Appendix 5 - Renumeration Policy



Appendix 6 - Statement of Financial Position

	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
Tangible Asset	€m	4,573	5,052	5,216	5,910	5,193	5,333	6,838	5,880	6,248	6,816	6,444	6,142	5,896	5,691	5,517
Intangible Asset	€m	1,545	1,447	1,401	266	491	547	577	532	645	672	731	794	863	939	1,022
Long term Investments	€m	542	811	1,140	1,461	1,483	1,332	1,039	836	835	673	542	437	352	284	229
Others receivables	€m	936	383	322	247	257	298	259	266	293	263	287	246	276	272	286
Others	€m	504	589	601	423	382	451	454	643	683	631	704	792	897	1,021	1,166
Non-current assets	**€m**	**8,101**	**8,282**	**8,681**	**8,307**	**7,806**	**7,961**	**9,167**	**8,157**	**8,704**	**9,055**	**8,708**	**8,412**	**8,285**	**8,207**	**8,220**
Inventory	€m	1,846	1,210	873	869	970	1,171	1,055	708	1,007	1,361	932	940	953	953	966
Receivables	€m	2,226	2,463	2,033	2,143	2,012	1,848	1,915	1,759	2,267	2,409	2,896	2,929	3,025	3,112	3,209
Cash and cash equivalents	€m	1,505	1,144	1,131	1,033	1,221	1,508	1,503	1,720	1,942	2,432	1,259	1,929	2,450	3,047	3,602
Other current assets	€m	41	116	76	87	42	199	130	148	992	839	839	839	839	839	839
Current assets	**€m**	**5,617**	**4,933**	**4,112**	**4,132**	**4,245**	**4,726**	**4,603**	**4,335**	**6,208**	**7,041**	**5,925**	**6,637**	**7,266**	**7,951**	**8,616**
Assets	**€m**	**13,717**	**13,215**	**12,793**	**12,439**	**12,051**	**12,687**	**13,770**	**12,492**	**14,912**	**16,096**	**14,633**	**15,049**	**15,551**	**16,158**	**16,836**
						-636										
Share Capital & Share premium	€m	911	911	911	911	911	911	911	911	911	897	815	815	815	815	815
Reserves & Retained earning	€m	4,250	4,093	3,861	4,069	3,433	3,676	3,509	2,249	2,141	3,263	3,371	3,480	3,648	3,901	4,209
Non- controlling interests	€m	1,255	1,420	1,416	1,563	1,435	1,460	1,237	940	918	958	1,043	1,128	1,250	1,426	1,637
Equity	**€m**	**6,416**	**6,424**	**6,188**	**6,543**	**5,779**	**6,047**	**5,657**	**4,100**	**3,970**	**5,118**	**5,229**	**5,424**	**5,714**	**6,142**	**6,661**
Leases	€m	0	0	0	0	0	0	1,042	923	1,015	1,095	1,019	1,019	1,019	1,019	1,019
Financial Debt	€m	3,304	3,361	3,060	2,578	2,532	2,686	2,616	3,204	2,995	3,187	3,515	3,621	3,729	3,841	3,956
Provisions	€m	154	185	429	429	619	658	819	1,008	1,209	1,430	1,025	1,098	1,154	1,183	1,178
Others	€m	1,013	1,089	1,085	731	691	662	757	1,009	1,184	953	1,150	1,162	1,174	1,186	1,198
Non-current liabilities	**€m**	**4,471**	**4,635**	**4,573**	**3,738**	**3,842**	**4,006**	**5,234**	**6,144**	**6,403**	**6,665**	**5,690**	**5,881**	**6,057**	**6,210**	**6,333**
Leases	€m	0	0	0	0	0	0	182	166	164	182	182	182	182	182	182
Debt	€m	374	303	493	325	551	559	278	539	1,305	800	591	609	627	646	666
Accounts Payable	€m	1,510	898	656	850	889	933	852	650	811	1,005	797	810	827	834	851
Others	€m	947	955	883	982	990	1,142	1,567	893	2,259	2,326	2,326	2,326	2,326	2,326	2,326
Current liabilities	**€m**	**2,831**	**2,156**	**2,032**	**2,157**	**2,430**	**2,634**	**2,879**	**2,248**	**4,539**	**4,313**	**3,714**	**3,745**	**3,781**	**3,806**	**3,843**
Liabilities	**€m**	**7,302**	**6,791**	**6,606**	**5,895**	**6,272**	**6,640**	**8,113**	**8,392**	**10,942**	**10,978**	**9,404**	**9,626**	**9,837**	**10,016**	**10,175**
Equity & Liabilities	**€m**	**13,718**	**13,215**	**12,794**	**12,438**	**12,051**	**12,687**	**13,770**	**12,492**	**14,912**	**16,096**	**14,633**	**15,049**	**15,551**	**16,158**	**16,836**

Appendix 7 - Common-size Statement of Financial Position

	2017	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
Tangible Asset	43%	42%	50%	47%	42%	42%	44%	41%	38%	35%	33%
Intangible Asset	4%	4%	4%	4%	4%	4%	5%	5%	6%	6%	6%
Long term Investments	12%	10%	8%	7%	6%	4%	4%	3%	2%	2%	1%
Others receivables	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Others	3%	4%	3%	5%	5%	4%	5%	5%	6%	6%	7%
Non-current assets	65%	63%	67%	65%	58%	56%	60%	56%	53%	51%	49%
Inventory	8%	9%	8%	6%	7%	8%	6%	6%	6%	6%	6%
Receivables	17%	15%	14%	14%	15%	15%	20%	19%	19%	19%	19%
Cash and cash equivalents	10%	12%	11%	14%	13%	15%	9%	13%	16%	19%	21%
Other current assets	0%	2%	1%	1%	7%	5%	6%	6%	5%	5%	5%
Current assets	35%	37%	33%	35%	42%	44%	40%	44%	47%	49%	51%
Assets	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Share Capital & Share premium	8%	7%	7%	7%	6%	6%	6%	5%	5%	5%	5%
Reserves & Retained earning	28%	29%	25%	18%	14%	20%	23%	23%	23%	24%	25%
Non- controlling interests	12%	12%	9%	8%	6%	6%	7%	7%	8%	9%	10%
Equity	**48%**	**48%**	**41%**	**33%**	**27%**	**32%**	**36%**	**36%**	**37%**	**38%**	**40%**
Leases	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Financial Debt	5%	4%	2%	4%	9%	5%	4%	4%	4%	4%	4%
Provisions	7%	7%	6%	5%	5%	6%	5%	5%	5%	5%	5%
Others	8%	9%	11%	7%	15%	14%	16%	15%	15%	14%	14%
Non-current liabilities	20%	21%	21%	18%	30%	27%	25%	25%	24%	24%	23%
Leases	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Debt	5%	4%	2%	4%	9%	5%	4%	4%	4%	4%	4%
Accounts Payable	7%	7%	6%	5%	5%	6%	5%	5%	5%	5%	5%
Others	8%	9%	11%	7%	15%	14%	16%	15%	15%	14%	14%
Current liabilities	**20%**	**21%**	**21%**	**18%**	**30%**	**27%**	**25%**	**25%**	**24%**	**24%**	**23%**
Liabilities	**52%**	**52%**	**59%**	**67%**	**73%**	**68%**	**64%**	**64%**	**63%**	**62%**	**60%**
Equity & Liabilities	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Appendix 8 - Income Statement

	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
Sales and services rendered	€m	**19,622**	**18,021**	**15,503**	**13,119**	**15,202**	**17,182**	**16,570**	**11,381**	**16,117**	**26,917**	**20,525**	**20,732**	**21,378**	**21,958**	**22,612**
Upstream	€m	554	696	617	852	1,044	1,687	2,475	1,768	3,058	4,401	2,531	2,382	2,740	3,339	3,673
Industrial & Energy Management	€m	8,382	7,654	6,590	5,570	6,155	6,735	6,487	4,453	6,298	11,000	5,624	5,704	5,704	5,382	5,382
Commercial	€m	11,147	10,179	8,764	7,408	8,185	8,957	8,627	5,922	7,917	13,410	13,504	13,733	13,967	14,204	14,446
Renewables and New Business	€m	0	0	0	0	0	0	0	33	50	190	228	274	328	394	473
Others	€m	22	21	25	27	-158	-170	-992	-795	-1,205	-2,084	-1,361	-1,361	-1,361	-1,361	-1361
Other Operating Income	€m	143	105	101	121	105	141	368	187	324	0	161	161	161	161	161
Total Operating Income	€m	19,765	18,126	15,604	13,240	15,307	17,323	16,938	11,568	16,441	26,917	20,687	20,894	21,539	22,119	22,773
Cost of sales & Production Cost	€m	**19,061**	**17,724**	**14,820**	**12,465**	**13,244**	**14,898**	**14,376**	**10,268**	**13,419**	**23,069**	**18,243**	**18,502**	**18,845**	**18,949**	**19,292**
Upstream	€m	158	253	269	371	132	247	923	591	1,011	1,318	758	713	793	933	990
Industrial & Energy Management	€m	8,112	7,498	6,245	5,191	5,709	6,375	6,210	4,849	5,889	10,549	5,455	5,503	5,503	5,192	5192
Commercial	€m	10,788	9,971	8,305	6,903	7,592	8,478	8,259	5,602	7,623	13,112	13,204	13,428	13,657	13,889	14125
Renewables and New Business	€m	0	0	0	0	0	0	0	42	63	140	166	196	232	275	325
Others	€m	4	2	0	0	-188	-201	-1,017	-816	-1,167	-2,050	-1,339	-1,339	-1,339	-1,339	-1339
Other Operating Expense		82	54	45	76	58	111	109	133	89	0	75	75	75	75	75
EBITDA IFRS	€m	1,043	830	1,180	699	1,980	2,311	2,219	1,113	2,698	3,848	2,368	2,317	2,619	3,095	3,406
Upstream	€m	396	443	348	481	912	1,440	1,552	1,177	2,047	3,083	1,860	1,755	2,033	2,492	2,769
Industrial & Energy Management	€m	270	156	345	379	446	361	276	-396	409	451	169	201	201	190	190
Commercial	€m	359	208	459	504	594	480	368	320	294	298	300	305	310	316	321
Renewables and New Business	€m	0	0	0	0	0	0	0	-9	-13	50	62	77	96	119	148
Others	€m	18	19	25	27	30	31	25	21	-38	-34	-22	-22	-22	-22	-22
D&A	€m	**586**	**613**	**720**	**835**	**762**	**691**	**979**	**1,289**	**961**	**1,380**	**1,516**	**1,453**	**1,404**	**1,368**	**1342**
Provisions & Impairments	€m	**56**	**37**	**37**	**13**	**22**	**-9**	**6**	**267**	**74**	**124**	**56**	**69**	**76**	**83**	**94**
EBIT IFRS	€m	401	180	423	-149	1,196	1,629	1,234	-443	1,663	2,344	796	795	1,138	1,644	1,970
Upstream	€m	123	176	-46	8	518	1,116	992	325	1,404	2,211	880	858	1,163	1,643	1930
Industrial & Energy Management	€m	113	-7	191	221	281	209	96	-971	148	15	-124	-79	-69	-74	-69
Commercial	€m	150	-9	254	293	373	278	128	207	180	148	62	77	90	100	110
Renewables and New Business	€m	0	0	0	0	0	0	0	-9	-14	20	27	29	43	61	84
Others	€m	15	15	21	22	26	27	20	5	-54	-49	-49	-22	-22	-22	-22
Financial Result	€m	**-26**	**-116**	**-51**	**-10**	**131**	**60**	**46**	**33**	**-827**	**902**	**-95**	**-93**	**-93**	**-95**	**-95**
Profit Before taxes		375	64	372	-159	1,327	1,689	1,280	-410	836	3,246	701	702	1,046	1,548	1,874
Income Taxes	€m	-136	-185	-218	-328	-560	-796	-800	-287	-693	-1,521	-221	-221	-329	-488	-590
SPT&IRP	€m										0	-299	-292	-396	-559	-656
Net Income		239	-121	154	-487	767	893	480	-697	143	1,725	181	189	321	502	628
Non-controlling Interest	€m	-50	-55	-32	-29	-88	-151	-90	-16	-146	-251	-85	-85	-122	-176	-211
Net Income to common shareholders		189	-176	122	-516	679	742	390	-713	-3	1,474	96	104	199	326	417

Appendix 9 - Common-size Income Statement

	2017	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
Sales and services rendered	**99.31%**	**99.19%**	**97.83%**	**98.38%**	**98.03%**	**100.00%**	**99.22%**	**99.23%**	**99.25%**	**99.27%**	**99.29%**
Upstream	6.87%	9.82%	14.94%	15.53%	18.97%	16.35%	12.33%	11.49%	12.82%	15.21%	16.24%
Industrial & Energy Management	40.49%	39.20%	39.15%	39.13%	39.08%	40.87%	27.40%	27.51%	26.68%	24.51%	23.80%
Commercial	53.84%	52.13%	52.06%	52.03%	49.12%	49.82%	65.79%	66.24%	65.33%	64.69%	63.89%
Renewables and New Business	0.00%	0.00%	0.00%	0.29%	0.31%	0.71%	1.11%	1.32%	1.54%	1.79%	2.09%
Others	-1.04%	-0.99%	-5.99%	-6.99%	-7.48%	-7.74%	-6.63%	-6.57%	-6.37%	-6.20%	-6.02%
Other Operating Income	0.69%	0.82%	2.22%	1.64%	2.01%	0.00%	0.79%	0.78%	0.75%	0.73%	0.71%
Total Operating Income	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of sales & Production Cost	**86.53%**	**86.00%**	**84.87%**	**88.76%**	**81.62%**	**85.70%**	**88.19%**	**88.55%**	**87.49%**	**85.67%**	**84.71%**
Upstream	1.00%	1.66%	6.42%	5.76%	7.53%	5.71%	4.16%	3.86%	4.21%	4.92%	5.13%
Industrial & Energy Management	43.10%	42.79%	43.20%	47.22%	43.89%	45.73%	29.90%	29.74%	29.20%	27.40%	26.91%
Commercial	57.32%	56.90%	57.45%	54.56%	56.81%	56.84%	72.38%	72.58%	72.47%	73.30%	73.22%
Renewables and New Business	0.00%	0.00%	0.00%	0.41%	0.47%	0.61%	0.91%	1.06%	1.23%	1.45%	1.68%
Others	-1.42%	-1.35%	-7.07%	-7.95%	-8.70%	-8.89%	-7.34%	-7.24%	-7.11%	-7.07%	-6.94%
Other Operating Expense	0.38%	0.64%	0.64%	1.15%	0.54%	0.00%	0.36%	0.36%	0.35%	0.34%	0.33%
EBITDA IFRS	12.94%	13.34%	13.10%	9.62%	16.41%	14.30%	11.45%	11.09%	12.16%	13.99%	14.96%
Upstream	5.96%	8.31%	9.16%	10.17%	12.45%	11.45%	8.99%	8.40%	9.44%	11.27%	12.16%
Industrial & Energy Management	2.92%	2.08%	1.63%	-3.42%	2.49%	1.68%	0.82%	0.96%	0.93%	0.86%	0.83%
Commercial	3.88%	2.77%	2.17%	2.77%	1.79%	1.11%	1.45%	1.46%	1.44%	1.43%	1.41%
Renewables and New Business	0.00%	0.00%	0.00%	-0.08%	-0.08%	0.19%	0.30%	0.37%	0.45%	0.54%	0.65%
Others	0.20%	0.18%	0.15%	0.18%	-0.23%	-0.13%	-0.11%	-0.11%	-0.10%	-0.10%	-0.10%
D&A	**38.48%**	**29.90%**	**44.12%**	**115.81%**	**35.62%**	**35.86%**	**64.01%**	**62.69%**	**53.63%**	**44.22%**	**39.41%**
Provisions & Impairments	**1.11%**	**-0.39%**	**0.27%**	**23.99%**	**2.74%**	**3.22%**	**2.36%**	**2.98%**	**2.91%**	**2.68%**	**2.77%**
EBIT IFRS	7.81%	9.40%	7.29%	-3.83%	10.11%	8.71%	3.85%	3.81%	5.28%	7.43%	8.65%
Upstream	3.39%	6.44%	5.86%	2.81%	8.54%	8.21%	4.25%	4.11%	5.40%	7.43%	8.48%
Industrial & Energy Management	1.83%	1.21%	0.57%	-8.39%	0.90%	0.06%	-0.60%	-0.38%	-0.32%	-0.33%	-0.30%
Commercial	2.44%	1.60%	0.76%	1.79%	1.09%	0.55%	0.30%	0.37%	0.42%	0.45%	0.48%
Renewables and New Business	0.00%	0.00%	0.00%	-0.08%	-0.09%	0.07%	0.13%	0.14%	0.20%	0.27%	0.37%
Others	0.17%	0.16%	0.12%	0.05%	-0.33%	-0.18%	-0.23%	-0.11%	-0.10%	-0.10%	-0.10%
Interest Expenses	-0.76%	-0.53%	-0.96%	-1.46%	-0.77%	-0.46%	-0.63%	-0.64%	-0.64%	-0.64%	-0.64%
Net financial investment	0.67%	0.47%	0.63%	0.94%	0.57%	0.14%	0.18%	0.18%	0.18%	0.17%	0.17%
Exchange gains/losses & derivatives	-0.12%	-0.34%	0.42%	-0.41%	-4.88%	3.72%	0.05%	0.08%	0.09%	0.10%	0.11%
Operating leases interest (IFRS 16)	0.00%	0.00%	-0.53%	-0.69%	-0.46%	-0.05%	-0.06%	-0.06%	-0.06%	-0.06%	-0.06%
Results from financial investments	1.06%	0.74%	0.71%	1.90%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Financial Result	**0.86%**	**0.35%**	**0.27%**	**0.29%**	**-5.03%**	**3.35%**	**-0.46%**	**-0.44%**	**-0.43%**	**-0.43%**	**-0.42%**
Profit Before taxes	8.67%	9.75%	7.56%	-3.54%	5.08%	12.06%	3.39%	3.36%	4.85%	7.00%	8.23%
Income Taxes	-3.66%	-4.60%	-4.72%	-2.48%	-4.22%	-5.65%	-1.07%	-1.06%	-1.53%	-2.20%	-2.59%
SPT&IRP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-1.45%	-1.40%	-1.84%	-2.53%	-2.88%
Net Income	5.01%	5.15%	2.83%	-6.03%	0.87%	6.41%	0.88%	0.91%	1.49%	2.27%	2.76%
Non-controlling Interest	-0.57%	-0.87%	-0.53%	-0.14%	-0.89%	-0.93%	-0.41%	-0.41%	-0.57%	-0.80%	-0.93%
Net Income to common shareholders	4.44%	4.28%	2.30%	-6.16%	-0.02%	5.48%	0.46%	0.50%	0.92%	1.47%	1.83%

Appendix 10 - Cash Flow Statement

	Unit	2017	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
EBITDA	€m	1,980	2,311	2,219	1,113	2,698	3,848	2,368	2,317	2,619	3,095	3,406
Income Tax	€m	-560	-796	-800	-287	-693	-1,521	-520	-513	-725	-1,046	-1,247
(-) var. Net Working Capital	€m	246	-48	759	-99	249	-136	-1,784	-1	-167	-166	-250
CFFO		**1,666**	**1,467**	**2,178**	**727**	**2,254**	**2,191**	**65**	**1,803**	**1,727**	**1,883**	**1,910**
Net Investment	€m	-258	-777	-2,232	-397	-1,579	-1,811	-1,116	-1,168	-1,210	-1,247	-1,285
FCFF		**1,408**	**690**	**-54**	**330**	**675**	**380**	**-1,051**	**634**	**517**	**636**	**625**
Variação Debt	€m	180	162	-351	849	557	-313	120	123	127	131	135
Leases Payment		0	0	1,224	-135	90	98	-76	0	0	0	0
Other financial investement	€m	-1,531	-625	-870	-860	-273	-577	-70	5	-31	-74	-109
Financial Results	€m	131	60	46	33	-827	902	-95	-93	-93	-95	-95
FCFE		**188**	**287**	**-5**	**217**	**222**	**490**	**-1,173**	**670**	**521**	**598**	**555**
Dividendos a minorities	€m	-88	-151	-90	-16	-146	-251	-85	-85	-122	-176	-211
Variação Cash		**100**	**136**	**-95**	**201**	**76**	**239**	**-1,258**	**585**	**399**	**422**	**344**
Balance BoP	€m	1,033	1,221	1,508	1,503	1,720	1,942	2,432	1,259	1,929	2,450	3,047
Balance EoP		**1,222**	**1,508**	**1,503**	**1,720**	**1,942**	**2,432**	**1,259**	**1,929**	**2,450**	**3,047**	**3,602**

Appendix 11 - Balance Sheet Assumptions

	2023F	2024F	2025F	2026F	2027F	Note
Non-current assets						
Tangible Asset	44%	41%	38%	35%	33%	Tangible asset t = Tangible t-1 + CAPEX -D&A
Intangible Asset	5%	5%	6%	6%	6%	Intangible asset t = Intangible t-1 + CAPEX -D&A
Long term Investments	-19%	-19%	-19%	-19%	-19%	1-Year average
Others receivables	2.0%	1.6%	1.8%	1.7%	1.7%	2Y average of % over asset
Others	704	792	897	1,021	1,166	Keep Same Value. To difficult to predict.
Current assets						
Inventory	18.6	18.5	18.5	18.4	18.3	We estimate that the inventory turnover will decrease slighlty over time due to increase in production.
Receivables	51.5	51.6	51.6	51.7	51.8	Trade receivables increased 0.15% every year.
Other current assets	839	839	839	839	839	Assumed constant. To difficult to predict.
Non-current liabilities						
Leases	10.8%	10.6%	10.4%	10.2%	10.0%	4Y average
Financial Debt	86%	86%	86%	86%	86%	Historical percentage of Total Debt
Provisions	1,025	1,098	1,154	1,183	1,178	5Y moving average
Others	1,150	1,162	1,174	1,186	1,198	Assumed constant (less the deferred income tax).
Current liabilities						
Leases	182	182	182	182	182	Assumed constant.
Debt	14%	14%	14%	14%	14%	Historical percentage of Total Debt
Accounts Payable	15.94	15.98	16.02	16.06	16.10	Payable period increased 0.25% every year.
Others	2,326	2,326	2,326	2,326	2,326	Assumed constant. To difficult to predict.

Appendix 12 - Income Statement Assumptions

	2023F	2024F	2025F	2026F	2027F	Note
Sales and services rendered			**Sum of Segments**			
Upstream	2,531	2,382	2,740	3,339	3,673	See Appendix 13
Industrial & Energy Management	5,624	5,704	5,704	5,382	5,382	See Appendix 15
Commercial	13,504	13,733	13,967	14,204	14,446	See Appendix 14
Renewables and New Business	228	274	328	394	473	New segment at Galp which is expected to grows at a constant rate.
Others	-1,361	-1,361	-1,361	-1,361	-1361	Historical average.
Other Operating Income	161	161	161	161	161	
EBITDA IFRS			**Sum of Segments**			
Upstream	8.99%	8.40%	9.44%	11.27%	12.16%	See Appendix 13
Industrial & Energy Management	0.82%	0.96%	0.93%	0.86%	0.83%	See Appendix 15
Commercial	1.45%	1.46%	1.44%	1.43%	1.41%	See Appendix 14
Renewables and New Business	0.30%	0.37%	0.45%	0.54%	0.65%	Slighty increase over the years
Others	-34.68%	0.00%	0.00%	0.00%	0.00%	Assumed constant.
D&A, Provisions and Impairments	8%	7%	7%	7%	6%	See Appendix 16
Interest Expenses	3%	3%	3%	3%	3%	Historical cost of financial debt.
Net financial investment	38	38	38	38	38	Assumed constant. To difficult to predict.
Exchange gains/losses & derivatives	16	20	21	26	0	6Y average.
Operating leases interest (IFRS 16)	-13	-13	-13	-13	-13	Assumed constant. To difficult to predict.
Income Taxes	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	Based on the effective tax rate released by Galp
SPT&IRP	-34%	-34%	-34%	-34%	-34%	Based on the effective tax rate released by Galp. This rate is only applied to the upstream segment.
Non-controlling Interest	-11%	-11%	-11%	-11%	-11%	Based on historical data.

Appendix 13 - Sales & EBITDA for upstream

	Unit	2022	2023F	2024F	2025F	2026F	2027F
Revenue	**m€**	**4,401**	**2,531**	**2,382**	**2,740**	**3,339**	**3,673**
WI Production	kboepd	127	110	110	127	165	181
Net entitlement production		125.5	109	109	126	163	180
Oil	kbpd	112.2	98	98	113	147	161
Gas	kboepd	13.3	11	11	13	17	18
Oil Realisation	kbpd	98.9	77	72	72	68	68
Gas Realisation	kboepd	52.7	43	40	40	38	38

Our calculation of the revenue of the upstream segment was based on the production, brent price and oil & gas outcomes. The production is expected to increase for 2022E-2027E up to 175 kboepd, with an expected CAGR of 5%. Although the WIP is expected to decline to 110 kboepd until 2024, due to the divestment of upstream asset in Angola. We calculated the oil and gas realizations based on historical percentage, attributing 90% for oil and 50% for gas. Production is expected to remain flat until Bacalhau start up, which is expected in 2025. Brent crude price was expected to decline in 2023 as global economic conditions weaken. The IEA (2022) expected global oil demand to outpace global oil supply, forecasting an average brent crude oil price of $98/b for 2023. We are expecting a decline in brent price in the coming years related to the bearish skew in the sentiment market and the deteriorating macroeconomic environment.

Appendix 14 - Sales & EBITDA for Commercial

	Unit	2022	2023F	2024F	2025F	2026F	2027F
Commercial							
Revenue	m€	13,410	13,504	13,733	13,967	14,204	14,446
Portuguese GDP Growth	%		1%	2%	2%	2%	2%

The sales of the commercial are expected to increase in the next years reflecting the recovery in the demand for oil and gas products, mainly impacted by the B2B side (marine and aviation sector). The growth of sales will depend on the Portuguese GDP growth. We expect the EBITDA margin to remain constant as in the last year I hasn´t change a lot and it is a mature segment at Galp.

Appendix 15 - Sales & EBITDA for I&EM

		2022	2023F	2024F	2025F	2026F	2027F
I&EM							
Revenue	m€	11,000	5,624	5,704	5,704	5,382	5,382
Refining Cost	USD/boe	2	4	2	2	2	2
Refining Margin	USD/boe	12	9	6	6	6	6
ASP	USD/boe	115	98	88	88	83	83
Raw material processed	kboe	78,210	65,992	74,241	74,241	74,241	74,241
Used Capacity	%	1	1	1	1	1	1
Installed Capacity	kpboe	226	226	226	226	226	226
EBITDA	m€	451	169	201	201	190	190

Concerning the raw material processed, we forecasted that it would be the same in 2021 because that year only the Sines refinery was under operation and the installed capacity of Galp decreased to approximately 226kbpd. Nonetheless, as released by Galp, in 2023, it was expected significant maintenance plans, so that the refining cost should increase. From then on, the margin is expected to equal the historical value.

Appendix 16 - Galp D&A and Capex

D&A| The depreciation and amortization (D&A) rates for right-of-use assets and property, plant, and equipment (PP&E) were determined using historical data.

D&A	Unit	2023F	2024F	2025F	2026F	2027F
D&A	€m	1,516	1,453	1,404	1,368	1,342
% of tangible & Intangible asset	%	20%	20%	20%	20%	20%

Capex| Based on the historical data and company´s CAPEX expectations, we expect the capex to be almost flat, with an increased investment in renewable energy. The Company expects to allocate more than 50% of the Group's annual net capex estimate between 2022 and 2025 to the development of its renewable power generation portfolio.

CAPEX	Unit	2023F	2024F	2025F	2026F	2027F
Upstream	€m	554	505	455	403	351
Industrial & Energy Management	€m	62	57	51	46	40
Commercial	€m	122	139	156	173	190
Renewables and New Business	€m	430	483	537	592	648
Others	€m	34	31	29	26	23
Capital expenditure	€m	1,203	1,215	1,227	1,239	1,252

Appendix 17 - WACC Computation

WACC Calculation

Inputs	Upstream	Industrial & EM	Commercial
Risk free rate	2,20%	2,20%	2,20%
Cost of debt	2,89%	2,89%	2,89%
Default Spread	0,69%	0,69%	0,69%
Effetive tax rate	31,5%	31,5%	31,5%
After-tax cost of debt	1,98%	1,98%	1,98%
Beta	1,44	0,78	0,53
Equity risk premium	10,45%	6,63%	6,63%
Cost of equity	17,26%	7,40%	5,73%
D/E	0,35	0,35	0,35
WACC	13,32%	6,00%	4,76%

Cost of debt: We considered as risk free rate the 10-year Germany Government bond of 2,2%. By adding the Galp’s default spread to the risk-free rate and subtracting taxes, we arrive with the after-tax cost of debt.

Cost of Equity: We re-levered the beta of peers by segment to come up with the Galp´s levered beta. Using the CAPM formula, we use the equity risk premium by industry based on Damodaran data and a long-term market D/E of 35%.

Appendix 18 - Beta Computation

In our valuation analysis, we employ the pure play method to compute betas for each of Galp's company segments. To begin, we calculate the levered beta of peer companies, and then we delever them based on the industry's capital structure (using Damodaran data) and the respective tax rates of each peer. After obtaining the unlevered betas of the peers, we determine the simple average of these values to estimate Galp's unlevered beta for each segment. Finally, to incorporate Galp's specific financial structure and tax rate, we lever the beta of each segment accordingly. By following this rigorous process, we ensure a more accurate assessment of Galp's systematic risk in each business segment, providing valuable insights for our comprehensive valuation of the company.

D/E	Tax rate
0.28	31.5%

	# of companies	β Levered (average)	D/E Industry	β Unlevered (average)	Galp levered Beta
Upstream	3	1.38	21%	1.21	1.44
I&EM	4	0.68	12%	0.66	0.78
Commercial	3	0.56	33%	0.45	0.53

Appendix 19 - Terminal Growth Rate

Galp's growth rate for 2028 was calculated using a weighted average approach, considering the expected growth rate (g) of each region and its corresponding weight on revenues. These projections provide valuable insights into the company's growth prospects for the upcoming years.

Western Europe	Brazil	Sub-Saharan Africa	Terminal Growth
1.4%	2.0%	4.3%	1.6%

Appendix 20 - SoP Valuation

This company operates in different regions and businesses, which makes its valuation more complex, as it must be sensitive to the various risks and growth characteristics (Damodaran, 2009). In this case we will apply mainly the DCF and relative methods, with the goal of obtaining a value for Galp SGPS, SA. To come up with the equity value, some adjustments were made. The Angola divestment was considered as an asset for the company as it could generate cash thought 2023.

FCFF SoP		
	Model	**€m**
Upstream	FCFF	9,704
Industrial & EM	FCFF	3,436
Commercial	FCFF	3,372
Renewables	EV/EBITDA	1,962
Enterprise Value		**18,473**
Angola Divestment		830
Other long term asset		72
Net Debt		-1,555
Non-controlling interest		-958
Other financial instruments		-460
Post-employment liabilities		-252
Provisions		-1,430
Adjustments		**-3,753**
Equity Value		**14,720**
Shares outstanding		815
Price target		**18.1**

Appendix 21 - FCFF Valuation - Upstream

Upstream	2023F	2024F	2025F	2026F	2027F	VR
Revenue	**2,531**	**2,382**	**2,740**	**3,339**	**3,673**	
EBITDA	**1,860**	**1,755**	**2,033**	**2,492**	**2,769**	
D&A	924	828	794	766	745	
EBIT	**880**	**858**	**1,163**	**1,643**	**1,930**	
Taxes	-543	-530	-732	-1,046	-1,235	
Capex	554	505	455	403	351	
Change in NWC	-1,970	-1	-171	-166	-245	
FCFF	**2,677**	**652**	**941**	**1,125**	**1,334**	**11,279**

Enterprise Value	**9,704**

Appendix 22 - FCFF Valuation – Industrial & Energy Management

I&EM	2023F	2024F	2025F	2026F	2027F	VR
Revenue	**5,624**	**5,704**	**5,704**	**5,382**	**5,382**	
EBITDA	**169**	**201**	**201**	**190**	**190**	
D&A	292	280	271	264	259	
EBIT	**-124**	**-79**	**-69**	**-74**	**-69**	
Taxes	34	22	20	22	21	
Capex	62	57	51	46	40	
Change in NWC	277	0	10	7	9	
FCFF	**-136**	**166**	**160**	**159**	**162**	**3,635**

Enterprise Value	**3,436**

Appendix 23 - FCFF Valuation – Commercial

Commercial	2023F	2024F	2025F	2026F	2027F	VR
Revenue	**13,504**	**13,733**	**13,967**	**14,204**	**14,446**	
EBITDA	**300**	**305**	**310**	**316**	**321**	
D&A	238	228	221	215	211	
EBIT	**62**	**77**	**90**	**100**	**110**	
Taxes	-17	-21	-26	-30	-33	
Capex	122	139	156	173	190	
Change in NWC	-138	0	-13	-10	-14	
FCFF	**299**	**145**	**142**	**123**	**112**	**3,500**

Enterprise Value	**3,372**

Appendix 24 - Financial Ratios

	Unit	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
Efficiency Ratio										
Total Asset Turnover	x	1,20	0,91	1,08	1,67	1,40	1,38	1,37	1,36	1,34
Collection Period	Days	42,18	56,41	51,34	32,67	51,49	51,57	51,65	51,73	51,80
Days in inventory	Days	28,26	31,33	23,32	18,73	22,93	18,46	18,33	18,36	18,15
Payables period	Days	21,63	23,11	22,06	15,90	15,94	15,98	16,02	16,06	16,10
Solvency Ratio										
Long- and short term Debt ratio	%	21%	30%	29%	25%	28%	28%	28%	28%	28%
Debt to equity ratio	x	0,51	0,91	1,08	0,78	0,79	0,78	0,76	0,73	0,69
Equity Multiplier	x	2,43	3,05	3,76	3,14	2,80	2,77	2,72	2,63	2,53
Debt to EBITDA	x	1,30	3,36	1,59	1,04	1,73	1,83	1,66	1,45	1,36
Liquidity Ratio										
Current Ratio	x	1,60	1,93	1,37	1,63	1,60	1,77	1,92	2,09	2,24
Profitability Ratio										
EBITDA Margin	%	13%	10%	17%	14%	12%	11%	12%	14%	15%
EBIT Margin	%	7%	-4%	10%	9%	4%	4%	5%	7%	9%
ROA	%	3%	-6%	1%	11%	1%	1%	2%	3%	4%
ROCE	%	-2%	17%	22%	16%	-5%	19%	27%	9%	9%
ROE	%	11%	-22%	5%	41%	4%	4%	7%	11%	12%

Appendix 25 – Risk Matrix

Here are some other risks to which Galp may be subject:

O2. Supply Chain Risk: Galp relies heavily on the availability of crude oil and other raw materials for its refining and production processes. Any disruptions in the supply of these raw materials due to geopolitical events, trade disputes, accidents, or natural disasters can have significant consequences on the company's ability to meet its production targets. In 2022, Galp faced these risks during the floods in Nigeria and the war in Ukraine, which caused constraints to its operations.

M4. Interest rate risk: Galp may be exposed to interest rate fluctuations, especially if it carries a substantial amount of debt or investments. Changes in interest rates can impact on borrowing costs and investment income. However, the increasing investments in renewable energy could potentially lead to more favorable financing terms and lower interest rates when seeking debt financing for both renewable and non-renewable projects. This could occur if Galp strengthens its financial stability and creditworthiness through its renewable ventures.

P2. Geopolitical tensions: Galp operations are around the world, and possibles political tensions may influence the operational results of Galp and impacts the company´s financial results.