

GALP ENERGIA

OIL & GAS

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COMPANY REPORT

6 JUNE 2011

Funding the growth

Capitalizing upstream in a challenging environment

Our recommendation for Galp Energia is buy with FY11 target price of **€17.08** per share, as we believe in the huge potential of the upstream.

After discussing the company goals for the **E&P** segment we estimated the capital expenditures and technical challenges relating to the development of recent oil discoveries. We identified great potential value, although we also noticed considerable sensitivity to the crude oil prices.

Conversion project aims to increase **refining margins** taking advantage of higher diesel crack spread and European diesel deficit. But there are concerns about increasing competition from the Asian and Middle East refiners.

Marketing of oil products activity remains stable despite sales contraction as result of the economic downturn in the Iberian Peninsula.

G&P is a source of stable cash flow through the regulated activity. New challenges are coming as the Iberian natural gas market is the liberalization.

At last after securing enough funds to meet up with it commitments in Brazil, the company will be able sustain an attractive growth.

Company description

Galp Energia is a Portuguese Oil & Gas company, which operational activity includes production, refining and marketing of oil. It also supply and distributes natural gas in the Iberian Peninsula.

Recommendation:	BUY
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Price Target FY11:	17.08 €
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Price (as of 6-Jun-11)	14.73 €
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Reuters: GALP.LP, Bloomberg: GALP PL

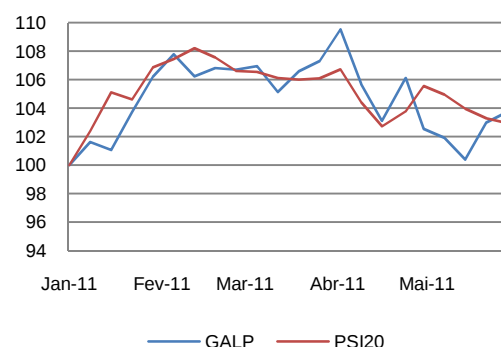
52-week range (€)	15.91-11.55
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Market Cap (€m)	12,214.860
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Outstanding Shares (m)	829.250
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Source: Bloomberg and analyst estimates

GALP ENERGIA VS PSI 20



Source: Bloomberg

(Values in € millions)	2010	2011E	2012F
Revenues	14,185	14,327	15,044
EBITDA	1,053	1,012	1,387
EBITDA margin	7%	7%	9%
Operating profit	630	578	916
Operating profit margin	4%	3%	5%
Net income	441	70	257
EPS	0.53	0.08	0.31

Source: Bloomberg and analyst estimates

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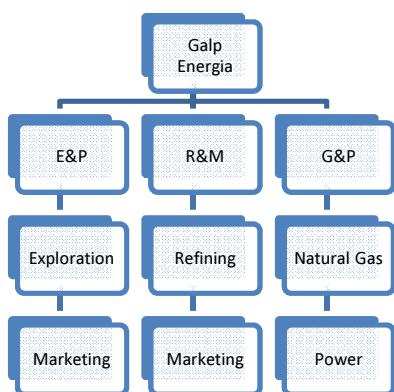
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Company overview

Company description

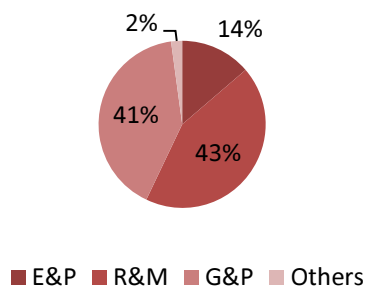
Figure 1: Galp Energia value chain



Source: Galp Energia

Upstream will deliver Galp Energia growth

Figure 2: Galp's 2010 operational profit



Source: Galp Energia

Oil and Gas industry is composed by many activities that involve very different processes and risks within its value chain. Nevertheless we can identify the upstream activity that is commonly used to refer to the searching for and the recovery and production of crude oil and natural gas, and downstream that characterize activities such as the refining of crude oil, and the selling and distribution of natural gas and products derived from crude oil.

Founded in April 1999 with the merger between Petróleos de Portugal (Petrogal) and Gás de Portugal (GDP) at the time as part of a restructuring of the Portuguese energy sector, Galp Energia is a major integrated company in the oil and gas sector, it is present in every part of the value chain of the industry. The company operations are divided in three business segments: Exploration and Production (E&P); Refining and Marketing (R&M); and Gas and Power (G&P).

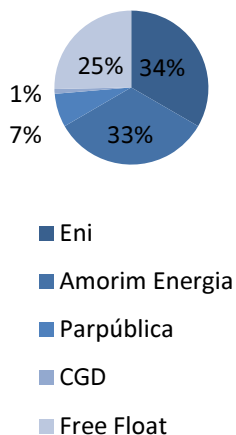
The company upstream activity takes place in the E&P segment, where it participates in projects that will be delivering most of the value of the company, in the coming years. Galp Energia downstream activity is made by the R&M and G&P segments. In R&M the company markets the crude oil product in the Iberian Peninsula transformed in its refineries, through its networks of service stations or wholesale. Finally in the G&P segment Galp's activity comprises the sourcing storage of Natural Gas, the supply, and regulated distribution through its subsidiaries. Regarding power activities are limited to the production and trading of electricity.

In 2010 Galp Energia had an operating profit of €454 millions up 58% from the previous year. The R&M segment was the biggest contributor of the operating profit with 46%, and then followed by G&P and E&P. Currently the main projects of the company are in the E&P and R&M segments. In the R&M segment the major project is the conversion of its refinery in Portugal, and in the E&P segment its largest project is Tômbua-Lândana project in Angola, and the TUPI project in Brasil.

Shareholder structure

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Figure 3: Galp's shareholder structure

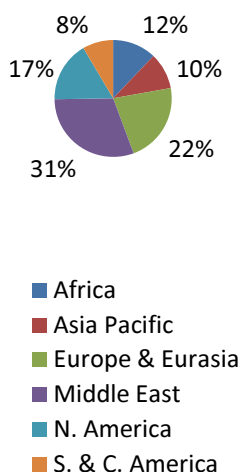


Source: Galp Energia

Galp Energia has two main shareholders that is Amorim Energia and Eni, each with 33.34% of the company's stocks. The second main shareholder is the portuguese state that controls 7% through Parpública and 1% indirectly through Caixa Geral dos Depósitos (CGD). The remaining capital is free float, in which 80% is controlled by institutional investors, from which 78% are international. It is important to remind that Angolan state-owned oil company (Sonangol) controls 45% of Amorim Energia's equity through a company called Esperanza Holding BV.

Amorim Energia, CGD and Eni are parties to an agreement that governs several issues regarding the transfer of the shares they own in Galp Energia, in which they must keep their holdings for a lock-in period up to and including 31 December 2010.

Figure 4: Production of oil by region (thousand barrels per day)



Source: BP statistical review of the world 2010

Until now there is not any a new agreement, partially due to the intention of selling its position announced by ENI. Also there are divergences between the shareholders over the renewal of the actual administration mandate, which already expired last year. Those facts led to the successive postponement of the shareholder general assembly that finally took place at May 30.

However the general assembly didn't deliberate anything about the administration of the company, since one of the main shareholder (Portuguese Government) wasn't in condition to assume any decision, because at that time it was a caretaker government.

The Segment

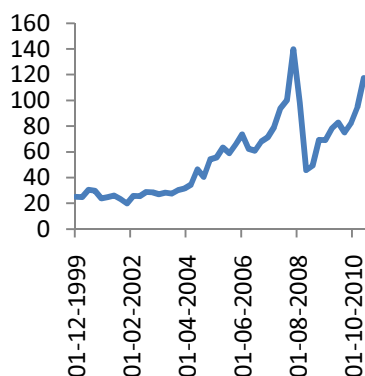
Exploration and Production

Market environment

Oil has been the world's most important source of energy for many years, meeting almost 35% of global energy needs in 2009. Since the beginning of this year the industry is being in turmoil, as result of the political and social unrest in North Africa and Middle East region. These regions in turmoil accounts for about 43% of the world oil supply. This outstanding threat to the supply of the crude to the market has caused, a rise of oil price putting *brent* in levels above \$120 per barrel.

Despite economic growth, oil demand growth is expected to slow in the coming years due to a continued structural shift away from oil in the OECD to other

Graph 1: Brent crude oil price



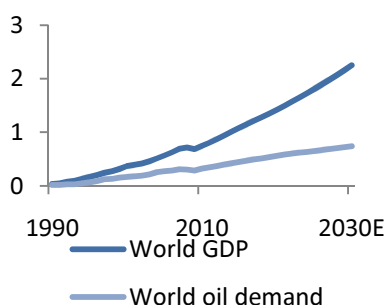
Source: Bloomberg

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source cleaner energy, and improving end-use efficiency. However increase of demand is expected to come by rising demand in emerging countries, mainly China, Brazil, India and the Middle East. Therefore we expect oil demand to rise from the level of 86.7 mbbbl/day in 2010, to around 122 mbbbl/day by the year of 2030.

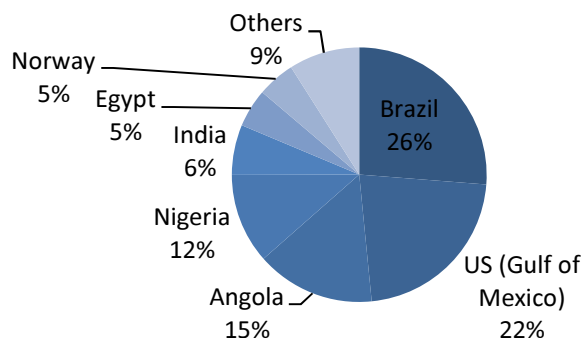
Over the last couple of decades, deepwater has rapidly become an important part of the world's oil supply, having risen from 2% in 2000 to 5% in 2009 of total world oil production, and is expected to be 25% of World supply in 2030. Since 2000, 40% of discovered reserves have been in deepwater, looking forward there is also significant future potential for deepwater production, mainly in Brazil and West Africa, where recently large reserves were find.

Graph 2: World and GDP and oil demand cumulative growth



Source: IMF, BP statistical review of the

Figure x: World oil deepwater production by contries



Source: OPEP World oil outlook 2010

Thought that the technical challenges concerning to deepwater development are numerous and range from simply having a rig able to hold its station in 2000m of water to ensure subsea valves, pumps, electrical and hydraulic equipment can work nonstop for more than 20 years at close to 0°C whilst under 3000psi of external pressure.

Although with the increased interest in developing deepwater resources, deepwater remains a very risky, complex end of the oil field development spectrum that could result in a disaster like last year USA, BP Deepwater Horizon drilling rig explosion and the subsequent oil spill, which economic effect in the industry is yet to be seen.

Nevertheless these effects are expected to assume terms, such as new regulations, improved emergency response measures, new business models and additional, which is hard to quantify at this moment, due to the uncertainty over the form the new regulation that will take place. Nonetheless we can anticipate that the impact on overall deepwater production will only be limited in the short-term. In the long-term, it can be anticipated that any new regulations will become

USA BP Deepwater Horizon accident will have implications in deepwater drilling

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routine practice, new technologies are expected continue to improve project economics and the oil and gas industry.

▪ Galp Energia in the upstream of the industry

Galp Energia ultimate objective in this segment is to produce around 200 kboepd¹, by the year of 2020. In order to achieve this objective the company counts with a portfolio of more than 40 projects all over the world. In 2010 Galp had 2,550 million barrels of oil equivalent in prospective resources².

Figure 5: Galp Energia's Exploration & Production portfolio



Source: Galp Energia

In spite of participating in more than 40 projects, the company is only taking its first steps as operator in two smaller-sized onshore projects. The company's production objectives will be sustained by the core areas, namely Angola and Brazil, where the Galp is effectively producing, and where its prospective resources are laid underneath.

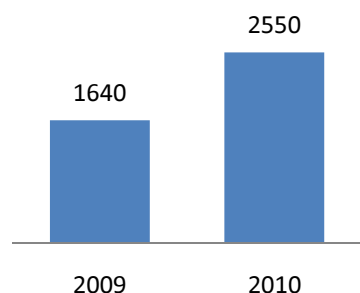
As for the areas in the rest of the countries there are in the phase of exploration, where the company is still acquiring and making the appraisal 2D and 3D seismic data, and performing drilling for further assessment. Which makes it very difficult to precise what value could be delivered from those areas, so our attention will be in the core areas, where actually there is potential value to be delivered.

▪ Angola

Galp Energia is present in Angola since 1982, where it made over 12 discoveries in Block 14, and 13 discoveries in Block 32 and Block 33. However Block 14 is the only producing block, with three producing fields namely Kuito (since 1999),

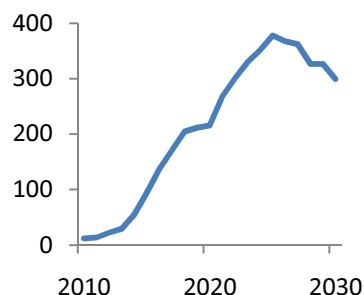
Galp Energia expected to produce 200 kboepd by 2020

Graph 3: Galp's prospective resources



Source: Galp Energia

Graph 4: Galp oil production estimates



Source: Galp Energia and Analyst estimates

Table 1: Galp Energia blocks in Angola

Block	% Galp Energia	Operator
14	9.00%	Chevron
14k	4.50%	Chevron
32	5.00%	Total
33	5.33%	Total

Source: Galp Energia

¹ Thousands barrels of oil equivalent per day

² Prospective resources mean estimate unrisks

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Tômbua-Lândana is one of the company largest projects

BBLT³ (since 2005) and Tômbua-Lândana (since 2009). Currently Galp Energia major project in Angola is Tômbua-Lândana, that is expect to achieve its peak of 100⁴ kpoepd in the current year, after Tômbua south subsea center is fully tied back to Tômbua-Lândana CPT⁵.

The future development plan for Block 14 and 14k, will take place in five areas: Malange, Gabela, Lucapa, Negageand and Lianzi. The plan for both Malange and Lucapa, will consist in construction of sub-sea centres in both areas and a subsequent tie-back to the operating BBLT CPT. Lucapa and Malange area are expected to have its contractual first oil in 2016. As for the remaining areas is not expected to take place before 2018.

As mentioned before there were 13 discoveries in the Block 32 and 33 areas, from which 12 potential development areas in the block 32 were identified and submitted to the concessionaire. Currently it is in the stage of pre-development with the concept of Kaombo “Split Hub”. The concept consists in the deployment of two FPSO⁶ to support six development areas with an aggregated capacity of 200 kboepd. The first oil date staged per FPSO is expected by 2016 and 2017.

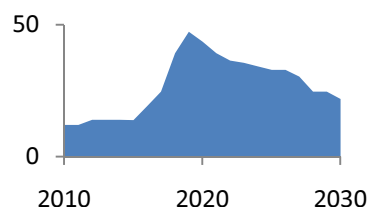
Finally we estimate that the company's production in Angola to increase from 2016 as major areas in Block 14 and 32 start producing, and achieve its peak at 2019, when production reaches 47 kboepd, to start declining slowly as currently producing field mature. Our estimate is presented in the *graph 5*.

■ **Brazil**

Brazilian assets accounted for 90% of contingent resources of Galp Energia at the end of 2010. In partnership with Brazilian oil operator Petrobras, Galp is participating in 22 projects, 17 offshore and five onshore spread over seven Brazilian basins. Most of the basins in which Galp operates are located offshore, excluding Sergipe Alagoas basin, Amazonas basin and 14 blocks in Potiguar basin that is located onshore.

Current most the company assets, with the exception of those in Santos basin and onshore are still in exploration and pre-exploration phase. So there are no estimates of the possible amount of recoverable oil if it is to exist. As result we'll only consider Santos basin projects in our valuation. We'll also be despising the

Graph 5: Galp Energia working interest production in Angola (kboepd)



Source: Galp Energia and analyst estimates

Table2: Galp Energia assets in Brazil

Basin:	Stake	Operator
Santos	-	Petrobras
Espírito Santo	20%	Petrobras
Potiguar	20%	Petrobras
Campos	15%	Petrobras
Pernambuco	20%	Petrobras
Sergipe Alagoas	50%	Galp
Amazonas	40%	Petrobras

Source: Galp Energia

Table 3: Galp's Santos basin assets

Block	% Galp Energia	Operator
BM-S-11	10%	Petrobras
BM-S-8	14%	Petrobras
BM-S-2	20%	Petrobras
BM-S-24	20%	Petrobras

Source: Galp Energia

³ Benguela, Belize, Lobito, and Tomboco

⁴ In working interest production of the consortium

⁵ Compliant Piled Tower

⁶ Floating Production Storage Offloading

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onshore projects that the company is engaged with the development, in our valuation due to the relevance of its size. Still it is important to remind that Galp is taking its first steps as operator in these projects, which is an important step in order to accumulate knowhow, so that it could become the operator in bigger projects.

Galp Energia has a concentrated portfolio of stakes in four blocks in the Santos basin that are located in the pre-salt of ultra-depth water. The company was within the firsts to make discovery in 2006, with the Tupi (now Lula) discovery.

So far 19 wells were drilled in four blocks with 100% success rate, one well in each block, excluding the block BM-S-11 where 16 wells were drilled. These wells confirmed the potential recoverable resources, of these blocks and delineated the areas in which development would take place.

Currently development and production is officially taking place in the block BM-S-11, namely in the Lula and Cernambi fields, where declaration of commerciality and field development program was submitted to ANP at December last year. The development of Lula and Cernambi fields will consist in the deployment of nine FPSO, and the drilling of about 160 wells totaling an installed capacity of around 1300 kboepd until 2020.

▪ Capital expenditures

According to our estimates Galp will have to spend around \$12 billion to develop its current projects in the next 30 years. Our estimates of capex are based in the amount of oil that could be recovered from a reservoir (see table 4) assuming an average life of 15 years for the reservoir, in order to estimate the needed installed capacity (approx. 490 kboepd).

With an average international cost of \$10,000 per barrel/day to build and install a FPSO unit, we estimated the cost of the production unit. However an FPSO unit needs to be connected to wells so that crude oil can be produced. There are two types of wells, injection and production. The injection well is used to pump water or gas into the reservoir, to drive up the crude oil through the production well. Due to the depth of the pre-salt reservoirs, it needs at least two injector wells to secure the flow in a production well.

Considering that the average flow of a producing well is 20 kboepd, and the number injectors that would be needed to sustain this flow, with installed capacity we estimated the number of wells necessary to be drilled in order to meet the capacity of the field. Taking into account that it costs \$66 millions to drill one well,

Table 4: Galp's Santos basin reserves

Block	Discovery	Reserves (mmboe)	First oil
BM-S-8	Bem-Te-Vi	112	2012
BM-S-11	Lula	650	2010
	Cernambi	180	2010
	Iara	350	2013
BM-S-21	Caramba	160	2015
BM-S-24	Jupiter	1400	2016

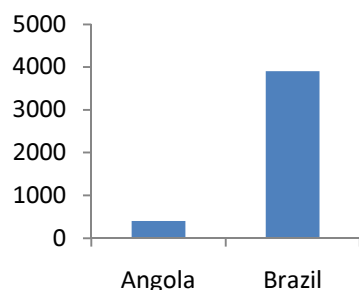
Source: Galp Energia and analyst estimates

Table 5: Investments need to develop current field

Block	Discovery	Capex (\$million)
Brasil:		
BM-S-8	Bem-Te-Vi	424
BM-S-11	All	5000
BM-S-21	Caramba	606
BM-S-24	Jupiter	5300
Angola:		
14, 14k, 32 and 33		374

Source: Galp Energia and analyst estimates

Graph 6: Capex 2011-2015



Source: Galp Energia and analyst estimates

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and a drilling success rate of 70%, we were able to precise the amount investment needed to develop each reservoir.

Ultimately we expect the company to invest approximately \$400 million in Angola and \$2400 million in Brazil, between 2011 and 2015.

Valuation

After estimating the value of the capital expenditures, we evaluated this segment by discounting the future cash flows of the projects, taking into account the timeline of first oil in each project.

Furthermore the length of our estimation is until the exhaustion of the reserves in each block. Concerning the operational variables we consider \$100/barrel as the long term price of crude oil in the international markets, as oil demand expected to grow and it's a value that generates among consensus OPEP member states. About the operational costs we considered the value of Petrobras lifting costs as Petrobras have large portfolio and experience in deepwater projects and more important it is the operator of the main projects of Galp Energia.

Finally for the tax we took into account the two different types of contracts, concession (Brazil) and production sharing agreement (Angola). The tax rate is 40% under concession regime and 50% on the working interest production under the production sharing agreement.

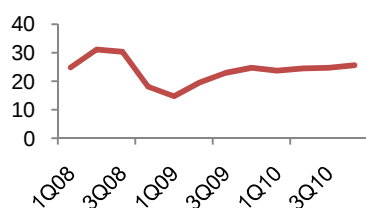
After all we value E&P segment at €9.42⁷ per share

Table 6: Valuation summary of E&P segment

	EV (€ millions)	€/Shares
Angola:		
Block 14	351	0.33
Rest of block 14, 14k, 32 and 33	686	0.64
Brazil:		
BM-S-11	4669	4.38
BM-S-8	2070	2.65
BM-S-21		
BM-S-24	2377	2.23
Total E&P	10154	9.52

Source: Analyst estimates

Graph 7: Petrobras operational costs per barrel



Source: Petrobras

More than 50% the Galp EV comes from the E&P segment

⁷ For discount rates and further information see Sum-Of-The Parts chapter

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▪ Sensitivity analyses

E&P segment very sensitive to crude oil prices

In this section we examine key factor that influence the value of this segment and consequently the company value. These main factors are oil prices and delays of investments in the projects.

Oil price is by far the most sensitive variable that affects directly the project cash flow through the revenue, reminding the capital intensive character of this industry.

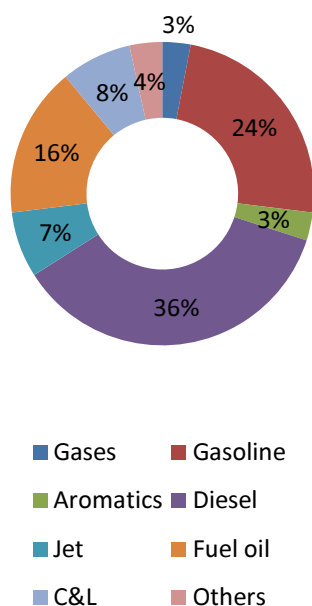
Table 7: Change in crude oil effect in our base case target price

oil price	-25%	-20%	-15%	-10%	-5%	Base	5%	10%	15%	20%	25%
	10.57	11.86	13.16	14.46	15.76	17.06	18.36	19.66	20.96	22.26	23.56

Source: Analyst estimates

As discussed above the decision of investment in the major projects is not in the hands of Galp Energia. Consequently delays or anticipation of investments and commercial production dates have an impact in the segment overall value as it can postpone future cash-flow, assuming all other variables maintain constant.

Figure 6: Galp Energia Production mix



Source: Galp Energia

Table 8: Project delays effect in our base case target price

Years	Base	1	2	3	4	5
	17.06	15.87	15.15	14.50	13.90	13.36

Source: Analyst estimates

Refining and Marketing

Galp Energia has two refineries Porto and Sines. The Porto refinery has the capacity to process around 90 kbb/d⁸. The refinery type is hydroskimming⁹, and it is equipped with atmospheric distillation, upgrades for naphta reforming and the necessary treating processes to meet the specifications of finished products. This processing type has to produce gasoline in order to have the hydrogen needed to produce diesel, which limits the possibilities to optimize gasoline and diesel production independently. These units generally do not contain catalytic conversion processes and therefore their product distribution reflects closely the composition of the crude oil processed.

⁸ Thousands of barrels per day

⁹ Hydroskimming unit upgrades naphta to gasoline and gasoil to diesel and heating oil.

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Porto refinery has an high NCI

Aromatics and solvents represents 10% of Porto refinery yield

As a simple refinery (also known as a skimmer or toppler) it is focused on crude oil distillation with very little investment in equipment to upgrade the distillate streams. In contrast a “complex” refinery refers to a refinery with secondary heavy oil upgrading units downstream of atmospheric distillation.

There are several measures of complexity. The most recognized is the Nelson Complexity Index (NCI)¹⁰ which represents a standard measure to ascertain refinery complexities. It captures the proportion of the secondary conversion unit capacities relative to primary distillation or topping capacity. It is an indicator of not only the investment intensity or cost index of the refinery but also the value addition potential of a refinery. The Porto refinery has a NCI of 9.4, which is quite high for a simple hydroskimming refinery (that has a NCI of around 2), fact that have to do with the specialization of the refinery in solvents and aromatic, that has the NCI assign factor of 15.

Aromatic and solvents represents 10% of Porto refinery output and generates higher margins than the other distillates. Despite earning higher margins it's influence in the over the refinery overall margin is limited, since it uses as raw material heavy naphtha produced with hydroskimming process, which is not upgraded to gasoline.

Sines is a cracking¹¹ refinery with a processing capacity of 220 kbbbl/d. It current processing configuration is oriented towards maximizing gasoline production from raw materials. For this purpose Sines refinery counts with two fabrication units that have within it, two vacuum distillation units, an fluid catalytic cracker (FCC)¹², a Visbreaker¹³ and two units for diesel hydrosulphuring. It also has a utilities factory and a cogeneration central. The ability of this refinery to change yields and reduce gasoline production is limited, since the proportion of gasoline and gasoil produced by an FCC refinery is relatively fixed.

Sines refinery has a NCI if 6.3, a value that is substantially lower than the Porto refinery. This fact is due to the fact that, despite having a more complex secondary conversion unit capacity, it still has inflexibility in the choice of product

Table 9: Iberian intalled refining capacity

1	Repsol	47.2%
2	Cepsa	26.4%
3	Galp	19.0%
4	BP	7.4%
	Spain	81.0%
	Portugal	19.0%

¹⁰ Nelson complexity index developed by Wilbur L Nelson in 1960, assigns a factor of one to the primary distillation unit. All other units are rated in terms of their costs relative to the primary distillation unit (atmospheric distillation unit).

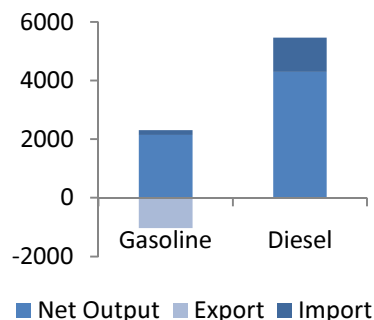
¹¹ Is the process whereby complex organic molecules such as kerogens or heavy hydrocarbons are broken down into simpler molecules such as light hydrocarbons, by the breaking of carbon-carbon bonds in the precursors

¹² Is a processing unit in oil refinery that uses catalysts and high temperature to crack/break down vacuum gasoil or residue into mainly gasoline and a small volume of (poor quality) gasoil

¹³ Is a processing unit in oil refinery that reduces the quantity of residual oil produced in the distillation of crude oil and to increase the yield of more valuable middle distillates (heating oil and diesel) by the refinery

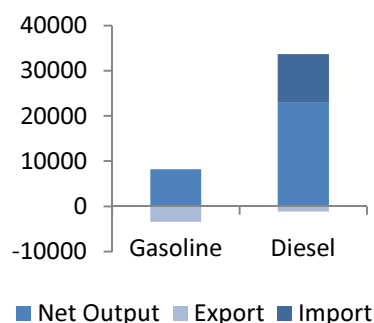
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Graph 8: Portugal's gasoline and diesel supply (2010) (unit -1000 tonnes)



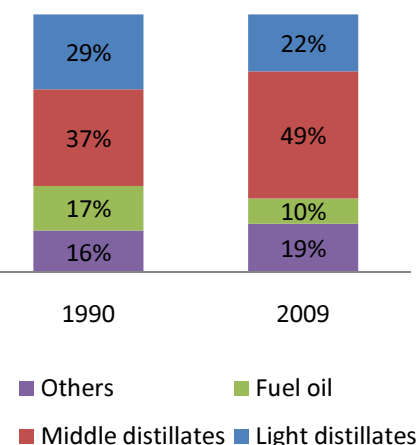
Source: Eurostat

Graph 9: Spain's gasoline and diesel supply (2010) (unit -1000 tonnes)



Source: Eurostat

Graph 10: EU demand mix



Source: BP statistical review 2010

yield, and the fact that aromatics, solvents and base oil productions are more investment intensive than the traditional fuel production.

Galp Energia in the Iberian Context

Carefully analyzing Galp Energia refining business in the Iberian context, we can see that Galp has about 19% of the Iberian refining installed capacity, which places it in the third place, when compared with other operating companies as we can see in the *table 9*. Although Galp has only 19% of the Iberian refining installed capacity it represents, approximately 114% of Portuguese 2009 crude oil consumption according to our estimates. On the other hand Spain according to our estimates Spanish installed refining capacity represented 89% of the Spanish 2009 crude oil consumption.

Despite having excess capacity, Portugal is still net importer of diesel as we can see in *graph 8*, where Portugal net imported approximately 20% of the diesel it consumed in the year of 2010. The same can be said of Spain (*graph 9*) that is net exporter of gasoline, but however it also had to import (net), approximately 29% of the diesel consumed in 2010.

European refining industry

The observed tendency is not limited to the Iberian Peninsula, but also in the entire Europe, as it is braced with the process of dieselization¹⁴ in the EU, where from 1990 to 2009, the share of middle distillates¹⁵ has increased from 37% to 49%, while the share of light distillates¹⁶ decreased from 29% to 22%. On the other hand this evolution of product demand mix is not being followed by the EU refineries that need more time and heavy investments to adjust their product yield to the demand. Meanwhile the EU is exporting the gasoline surplus, and importing the so needed diesel. However the current declining gasoline demand in the US, which is the largest recipient of gasoline from EU provides fewer outlets for Europe's gasoline surplus.

The European refiners are facing increasingly stringent standards for transportation fuels and their own lack of investment in upgrading and especially desulphurization capacity as a result of poor profitability (see appendix 2). The utilization rates of the refineries in the EU, historically from the year 2000 have

¹⁴ This process provides lower tax for diesel, comparatively gasoline as it is more environmental friendly

¹⁵ Middle distillates category includes, kerosene/Jet, and diesel

¹⁶ Light distillates category includes, LPG, gasoline and naphtha

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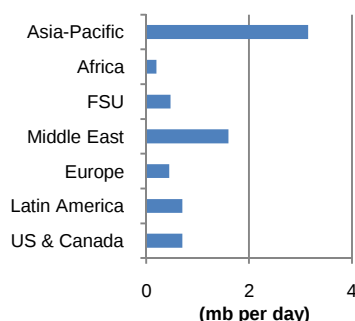
been the second highest, however mature markets such as the US, EU and Japan have registered falls in utilization rates in the more recent years as China has continued to increase, registering the highest utilization rate since 2008. But the tendency of the utilization rates has been downward, since in the year of 2008 in every region because of the *financial crisis* (graph 12).

The annual gap in demand of gasoil and jet fuel in the EU was 30 million tonnes in 2009. OPEC World oil outlook (WOO) estimates that Europe is expected to add 0.6 million barrel per day in conversion capacity until 2015. In which according to our estimates can only fill up to half of the deficit (see appendix 1).

Despite of the crisis Asia and the Middle East have added 2 million bbl/day of new crude distillation capacity since 2008, and further 5 million bbl/day, is expected to come at full steam until 2015.

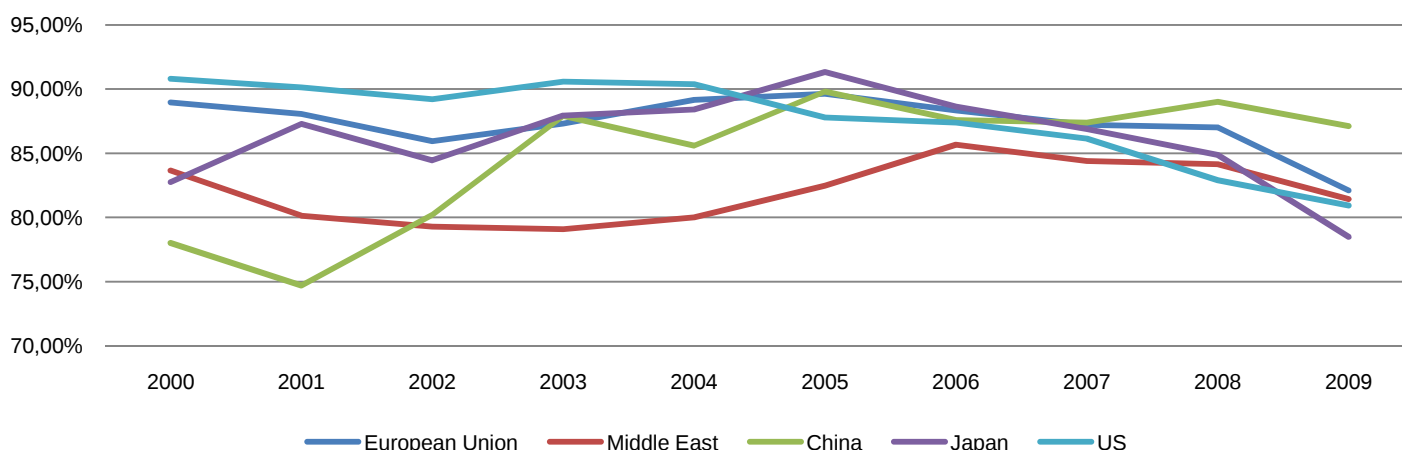
These Asian and Middle Eastern oil firms are already looking at the EU market, as a temporary outlet for excess production until local markets grow sufficiently to absorb production. In fact there have been acquisitions of number of refineries in the EU, by firms from that region (Stanlow in the UK by Essar Oil India and Cepsa by Abu Dhabi sovereign wealth fund) with the aim to close these refineries and turn them into import terminals.

Graph 11: Refining capacity additions from existing projects, including capacity creep (2010–2015)



Source: OPEC (WOO)

Graph 12: Refining utilization rates by region



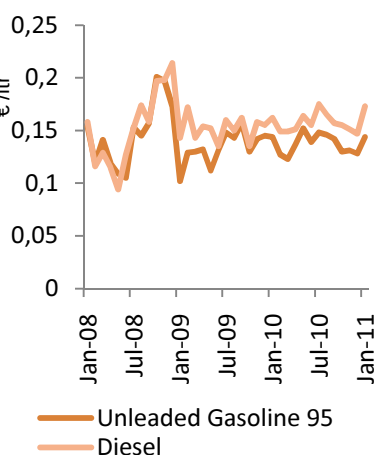
Source: BP statistical review of the world 2010

▪ Galp Energia refining margins

Comparing Galp Energia margins, with its European benchmarks, we find out that the companies on average as higher refining margins than its European peers (graph 14). Our estimates indicates that the main reason behind this

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Graph 13: Portuguese mainland pre-tax, ex-refinery fuel prices minus its European reference (FOB NWE)



advantage is that the prices practiced by Galp for fuel at the exit of its refineries without taxes are on average €0.15 per liter more expensive than its European references FOB NWE¹⁷ (graph 13).

Oil product are tradable goods, which means that ex-refinery prices not only the crude prices and refinery costs, but before that it depends on prices made by other refineries. However the competitive advantage of a refinery increase, as close the refinery is to the consuming centers, and the bigger is the logistic constrains associated with the import of the oil products.

In the Portuguese case, these associated logistic difficulties are mainly, availability of seaports and storage facilities to the imported fuel. To quantify how much of this constrain is reflected in the fuel price we will consider what is designated by, import parity price (IPP), which is the price of the products if it was bought abroad. It takes into account the prevailing international markets (FOB) for oil products, plus the costs of transportation, insurance, disembarkation and stock breaking during the transportation.

As we can see in the *table 10*, the logistic constrains related with the import of fuel like ports and storage facilities explains part of the differential which means that Portuguese refineries uses this competitive advantage, when making its prices.

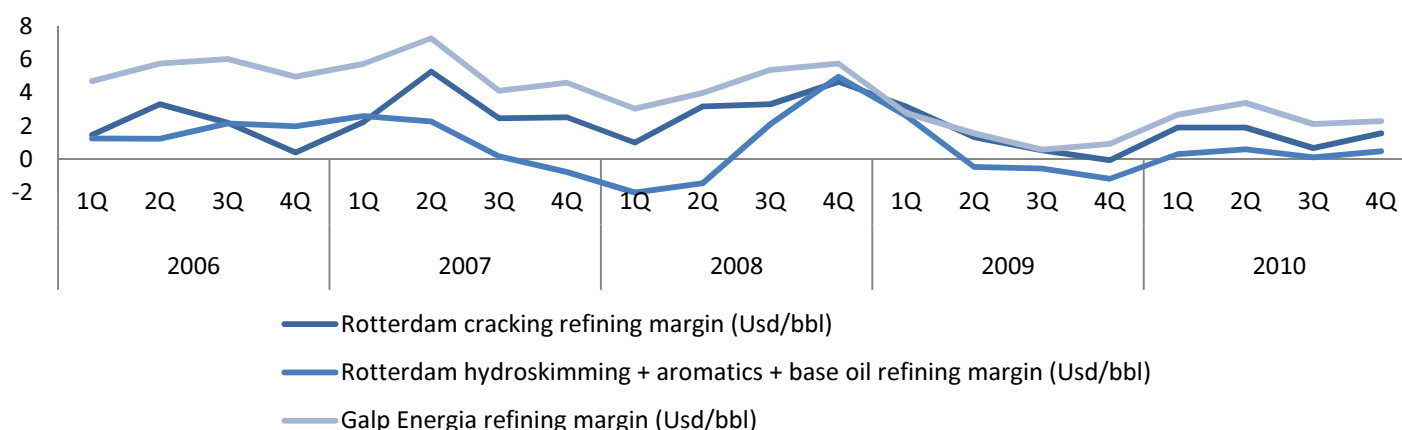
Source: European Commission and Platts

Table 10: IPP (Jan-11)
(Values in €/m3)

	Gasoline	Diesel
Freight	21.80	21.25
Disembarkation	1.61	1.49
Storck breaking	2.43	1.05
FOB NWE	486	527
IPP	511.84	550.79
Continental Portugal	630	694

Source: European Commission, Platts, companies, and analysts estimates

Graph 14: Refining margins



Source: Platts and Galp Energia

▪ Conversion project

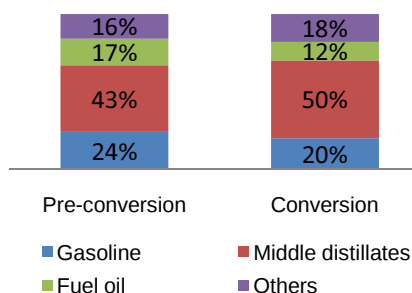
In order to meet market actual demand structure, Galp's refineries are going under heavy investment, in order to increase its conversion capacity, to add more

¹⁷ FOB NWE, means free on board in the northwest European zone, that serve as reference to Portugal

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After the conversion project both refineries will be operated has a single refinery

Graph 15: Galp Energia product mix



Source: Galp Energia and analyst estimates

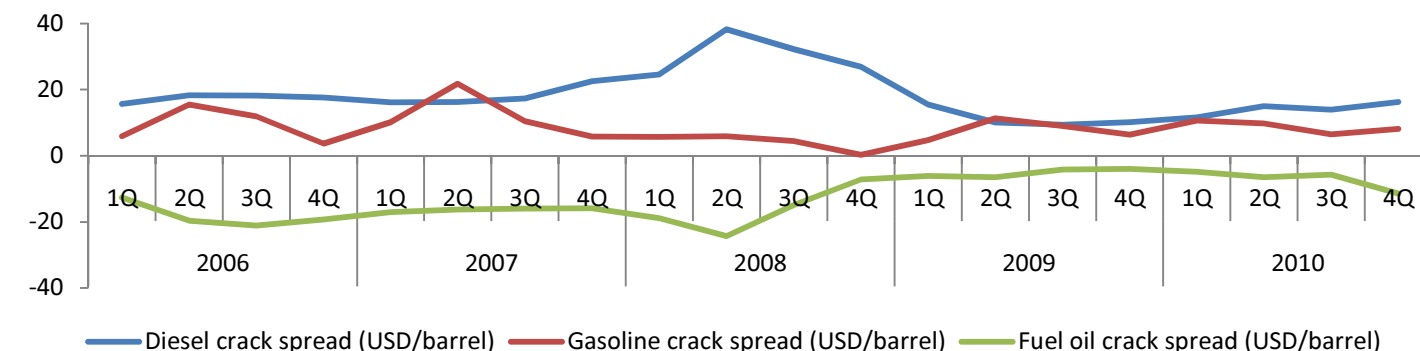
Galp Energia expected to increase its refining margin by \$2.4/barrel after the conclusion of the conversion project

flexibility to the product yield. The ongoing conversion project consists, in the construction of a new vacuum distillation unit in the Porto refinery, to process the atmospheric residues resulted atmospheric distillation for obtaining vacuum gasoil (VGO) and a visco-reduction unit for the soft thermal cracking of the resulting vacuum residue. And also of a new the hydrocracking unit in the Sines refinery will process vacuum diesel and heavy visbreaking diesel produced in the Porto refinery. Additionally the project includes a steam reforming unit that uses natural gas or naphta as raw material to produce the hydrogen required for the hydrocracking process that will be installed in the Sines refinery.

The company ultimate objective with conversion project is to increase the share of middle distillates in the product mix to 50%, reduce the production of fuel oil, and to take more advantage of heavy crude oil market discount by including more heavy crude in its diet.

Looking at the *graph 16* we can compare the different crack spreads¹⁸ of the main oil products. Considering the change of product mix after the conclusion of the conversion project we estimated an incremental margin of \$1 per barrel from this effect. Moreover the company is expected to be processing 70% medium and heavy crude oil from the actual 50%. The average heavy light crude oil discount is \$3.5/barrel, so we estimated that the company can save up to \$1.4/barrel, with the change of the crude diet. Finally higher utilization rate is expected as the refineries will be taking advantage of the Iberian and European diesel deficit, with its proximity to the consumer market.

Graph 16: Oil products crack spread



Source: Platts

The company will increase the refining capacity to 330 kbb/d

After the conclusion of project Galp's refinery will be linked and operated as a single refinery, and will have a refining capacity increase to 330 kbb/d. The NCI index of Porto and Sines will also increase to 10.7 and 7.7 respectively.

¹⁸ Is the market value of a barrel of the oil product minus the market value a barrel of crude oil

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▪ Iberian marketing activities

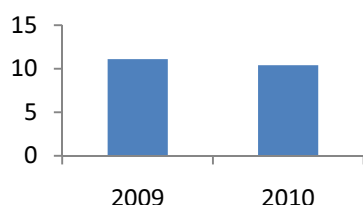
Marketing activity is less volatile than refining activity

Marketing or the wholesale and retail sale of fuel products activities, are considered to be the last part of value chain of the oil industry. Profits tend to be much less volatile than those of its refining activities, usually at a time of rising oil prices marketing margins are lower as the marketer takes time to push through increases in the cost of refined product. Similarly at times of falling oil prices, marketing prices tend to be very sticky, with margins expanding as input costs fall.

Location is the driver of marketing profitability

Furthermore there is little differentiation, between the products offered by these market suppliers, consequently margins per units in this activity tends to be very small. As result volumes and control of costs are key to the profitability of marketing activity. Given these features, we conclude that location is the main driver of the profitability of this activity, since companies can increase or decrease the volumes or margins, by changing prices depending on the location of the retail outlet. The marketing margin also depends on the decree of control of the supply chain, exercised by the company.

Graph 17: Sales to direct clients in Iberia (million tonnes)



Source: Galp Energia

Galp Energia sold 10.4 million tonnes to direct clients in 2010, down 6.3% from 2009. It controls 14% of the Iberian marketing activities, with its leadership of the Portuguese retail fuel market with a 34% market share and its 6% market share in Spain. The Iberian market for refined products has four main players Galp Energia, Repsol, BP, and Cepsa/Total. The remaining players in the market are independents and supermarkets. Typically independents have a much reduced margin to make price differentiation, with major oil companies, since they don't have the capacity buy the oil products at ex-refinery base. Finally the supermarkets are the main challenge to all of the companies in the retail market, because of its strategy that is to fix its price in such way that is the lowest at the influence area of their stores, so that they can attract people to their store.

The four main players of the Iberian market cooperate with each other by having swaps agreements for the exchange of product at Iberian level, due to the symmetry of relations between them. For instance Galp is the main supplier of oil product, at ex-refinery base to Repsol, BP and Cepsa in Portugal, while the same are the main supplier of Galp in Spain. This allows the involved companies to level their logistics costs base at the same denominator.

▪ Valuation

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Table 11: Key variables

Refining margin (Usd/bbl)	5
Refinery cash costs (Usd/bbl)	2.1
Whole sale margin	10
Retail margin	30
LPG margin	50
Others	70

Source: Analyst estimates

In the valuation of this segment, we separated the refining activity from the marketing activity. Despite being integrated, there are varying specific issues differing in those activities that needed to be treated separately, so that its value could be captured in the most appropriate form. In the valuation of the refining activity we used discounting cash flows method, where we considered as main the main indicators of a refinery performance that is refining margins, refinery cash costs, and utilization rates. Our assumptions about those indicators are:

- The refining margin is expected to increase from current \$2.6 to \$5 per barrel as result of the conversion project.
- The refining cash costs are expected to maintain at \$2.1 per barrel, as the other operational costs are expected to remain constant.
- The utilization rate is expected to increase to 95% as the company is going to take advantage of the European diesel deficit exporting its excess capacity.

For the valuation of the marketing activities we also consider discounted cash flows as the best approach to capture the value inherent to its activity. Aware of the fact that marketing of crude oil products takes place in many forms, which involves different margins like retail, wholesale, LPG, and others that includes lubricants, aromatics, solvents, we identified the value drivers of the marketing activity that are the realized margin in the sale of the products.

Finally we value the R&M segment at €4.11¹⁹ per share.

Table 12: Valuation summary of R&M segment

	EV (€ millions)	€/Shares
Refining	2282	2.14
Marketing	2707	2.54
Total R&M	4989	4.68

Source: Analyst estimates

▪ Sensitivity analyses

In this segment our sensitivity will focus on the refining activity since the marketing activity is considered to have stable margins, only being exposed to the level of economic activity. Therefore the main factors concerning the value of the refining activity in our valuation are the refinery capacity utilization and the

¹⁹ For discount rates and further information see Sum-Of-The Parts chapter

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refining margin, which in its turn depends on the product mix and the crack spread of the oil products.

Table 13: Refining margin decrease effect in the target price

Refining margin	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00
	17.06	16.58	16.09	15.61	15.13	14.64	14.16	13.67	13.19

Source: Analyst estimates

Thus we conclude that both refining margin and utilization rate have little impact in the company target price due to the increasing importance of the E&P segment in the company business activity.

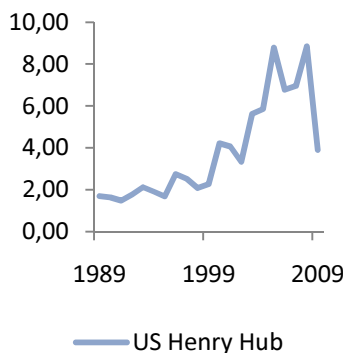
Table 14: Refining utilization rate decrease effect in the target price

Utilization rate %	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
	17.06	16.91	16.75	16.60	16.45	16.29	16.14	15.98	15.83	15.68

Source: Analyst estimates

Gas and Power

Graph 18: US Henry hub



Source: BP Statistical review 2010

Natural Gas markets are not competitive in continental Europe

Market environment

Natural Gas demand reached important levels in recent years. In 2009 it was the third largest source of primary energy in the world, with a share of 24% (3000 bcm) of total energy use in 2009. The increasing environmental pressures, instability in oil rich nations and favorable pricing provide strong incentives to both private industry and governments to favor gas over coal or oil as the source for energy generation.

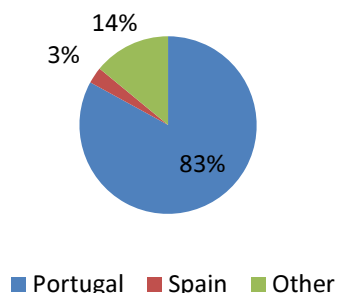
According to IEA, demand of natural gas is expected to grow by 43% until 2030. Unlike oil markets, natural gas markets are generally regional, due to the limitations of infrastructure and transportation. Despite deregulation, markets in Europe remain not competitive, with prices and competitive advantage of each company in the liberalized market still based on LT contracts²⁰ own by these companies. Only the US and the UK are transparent markets with active gas trading.

Although some gas trading hubs have established in continental Europe in recent years, a full efficient spot pricing in Europe is not possible in the short run. The main reason is that the majority of pipelines in Europe flow east to west (from

²⁰ Long term contracts are long term gas contracts that are indexed to a basket of oil product prices, generally lagged by between three to nine months. The contract nature means visibility on pricing is poor although, theoretically, prices should track those of crude.

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Figure 7: Galp Energia sales of NG



Source: Galp Energia

Table 15: Galp international pipelines

International Pipelines	Country	Capaci. (bcm / year)	Galp %
EMPL	Algeria, Morocco	12	27.4%
Al Andalus	Spain	7.8	33.0%
Extremadura	Spain	6.1	49.0%

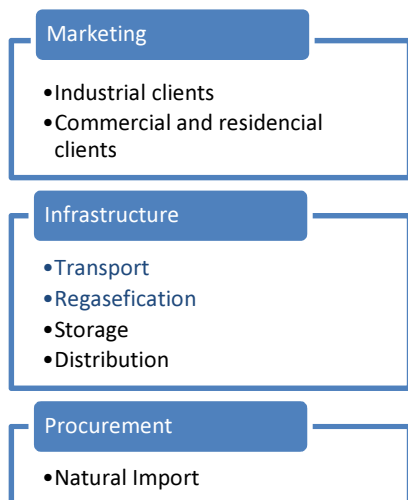
Source: Galp Energia

Table 16: Galp NG supply contracts

Contracts	Country	Contracted quantities (bcm/year)	Term
NLNG I (LNG)	Nigeria	0.42	2020
NLNG II (LNG)	Nigeria	1	2023
NLNG + (LNG)	Nigeria	2	2026
Sonatrach (NG)	Algeria	2.3	2020

Source: Galp Energia

Figure 8: Natural gas value chain



Source: Galp Energia

Norway/Russia to rest of Europe) and do not have the ability to reverse flow, on the other side the access to other sources of gas via LNG²¹ currently remains limited given the lack of regasification and storage facilities in Europe.

Though, as regasification capacity in Europe grows and as demand for gas increases, it is expected that trade on both spot and forward markets in Europe will also increase in the long term, so the competition and transparency of the market as well.

▪ Galp Energia in Natural Gas

Galp Energia natural gas business consists of the purchase of natural gas and marketing in the Iberian Peninsula. In 2010 the company sold 4.9 bcm²² of natural gas in which 83% was in Portugal and 3% in Spain. Its supply of natural gas (NG) is secured by an average 20 years LT contract of six bcm of NG and liquefied natural gas (LNG), through Sonatrach in Algeria, which is transported to Portugal through pipelines EMPL, Al Andalus and Extremadura, and Nigeria where LNG is purchased from NLNG and transported to the Sines LNG terminal. Some LNG is also bought on the spot market to take advantage of favorable pricing.

With the main of turning the Gas sector in the Iberian Peninsula more competitive, there was a major deregulation in the market. This deregulation generated a set of regulated and unregulated activities, ranging from free procurement and mixed, regulated and unregulated marketing through to fully regulated infrastructure. An example of how Galp Energia operations in the Portuguese natural gas market, was affected with the deregulation is described in the figure 8.

The market was divided in three parts, the procurement, infrastructure and marketing, in which might regulated or liberalized. The procurement activity is related with the activity of importing natural gas is a liberalized activity. However infrastructure activity is regulated and it is divided in four classes, transport, regasefication, storage and distribution. The transport and regasefication activity falls outside the scope of Galp Energia activities, although the storage and distribution activities are allowed to be within the company activity but is required to be judicially separated from the marketing activity. Finally marketing activity is both regulated and liberalized.

²¹ Liquefied Natural Gas

²² Billions cubic meters

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Figure 9: Calculation of permitted revenues for the regulated activity of natural gas distribution in Portugal

Allowed revenues

Cost of capital

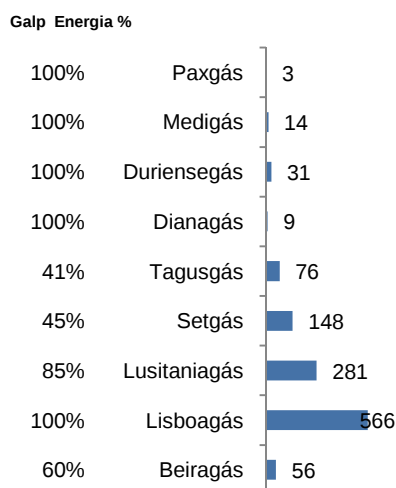
Tariff deviation

Operational costs

RAB x
Remuneration
base +
Depreciations

Source: Galp Energia

Graph 19: RAB of Galp Energia distributors



Iberian natural gas market will become more competitive

The regulated part of the distribution activity is remunerated according to the ERSE²³ rules specifying which permitted revenues shall be used for the calculation of tariffs. Regulated marketing activity is the last-resort supplier activity carried out by the distributor.

The allowed revenues are calculated at the beginning of a three years regulatory period (until June 2013) and it is equal to the sum of the cost of capital, operating expenses and the tariff gap. The cost of capital is calculated as the product of the RAB²⁴ by the rate of return set by regulator that is 9% (until June 2013) in the case of distribution and 8% in the case of underground storage, plus depreciation charges. The tariff gap is the difference between estimated allowed revenues and actual revenues for year n-2.

The last-resort retailing marketing activities, for the sales to final customers in the first five regulatory periods (until 30 June 2022), remunerates an amount equal to the product of €4/client/year by the number of clients at the start of each regulatory period.

Under the new regulatory framework distribution of natural gas in Portugal is provided by six distributors and four so-called autonomous distribution units (ADU). Galp Energia owns stakes in five of the distributors and in the four ADU with a total RAB of €1184 millions. The distributors operate through concession contracts has been awarded for a period of 40 years, and the ADU operates under 20-year license.

Galp Energia underground storage activity has a RAB of € 19 millions and operates under concession awarded for a period of 40 years. In addition, it has explicitly been awarded the right to expand its storage activity.

Still the Iberian Peninsula is not yet a competitive natural gas market, because of operational constraints. For instance there Portugal has only two operational natural gas pipeline interconnection with Spain (Campo Maior and Valença), that due to geographical position cannot transfer natural gas between Portuguese and Spanish major underground storage facility (Carriço (Portugal) and Yela (Spain)). However there is a project sponsored by REN²⁵ and its Spanish counterpart to connect Carriço and Yela with a new pipeline and interconnection

²³ Portuguese energy market regulator

²⁴ Regulatory Asset Base

²⁵ Rede Electrica Nacional, SA, is the concessionaire of the activity of transportation and regasification of natural gas in Portugal

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(Zamora) with reverse flow capacity. When concluded it is expected to increase competition in the Iberian market.

▪ Power

This is the smallest business unit within Galp Energia portfolio, although the company has the ambition of developing a competitive portfolio of power generation that includes cogenerations, CCGT plants and wind power. Moreover as provider of integrated energy solutions, Galp Energia created a department for trading electricity, with the intention of promoting development of the market for electricity with a view to safeguarding the natural gas client base in an unregulated market environment.

Table 17: Installed capacity (2010)

EDP	10033 GW
Galp Energia:	
Cogeneration	
Carriço, Powercer and Energin	80 MW
Sines	80 MW
Matozinhos (start in 2011)	80MW
Wind	
Vale Grande (start in 2011)	12 MW
Total	252 MW
(1 GW=1000 MW)	

Source: Companies

Galp Energia current cogeneration capacity is 160 megawatts (MW), this capacity is expected to increase by 80 MW until the end of the year, when matosinhos cogenerations come in service. The new plants are expected to increase the annual demand for natural gas, which will further integrate the natural gas and power businesses.

Carriço, Powercer and Energin, are three cogeneration plants, which are partly owned by Galp Energia (65%, 35% and 70%, respectively), have a joint capacity of 80 MW.

The company also holds 49% of Ventinveste, S.A. (Ventinveste), a company, in which the installation of generation capacity of 400 megawatts in six wind farms has been awarded, Construction of the 12MW Vale Grande wind farm, which started in the fourth quarter of 2010, is scheduled for completion in 2011.

Both cogeneration plants and the wind farms are the source of electric power generation under special regime that has priority access to the grid and sale at a regulated tariff.

In 2010, negotiations continued over the proposals presented by the bidders for the engineering, procurement and construction of the Sines combined cycle plant, which will have installed capacity of 800 megawatts for the production of electricity under market regime.

▪ Valuation

Our valuation is based on DCF, for the liberalized gas activity and the power. Finally for the regulated activity as described below it is constantly remunerated with a fixed percentage of RAB established by ERSE. Hence the value underlying value will be the difference between the regulated remuneration with

Table 18: Rates

	Rate	Diference
Distribution	9,00%	3,68%
Storage	8,00%	2,68%
G&P	5,32%	

Source: Analyst estimates

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our discount rate to compute the EV. Thus we value the R&M segment at €4.11²⁶ per share.

Table 19: Valuation summary of G&P segment

	EV (€ millions)	€/Shares
Gas:		
Regulated activities	1712	1.60
Liberalized activities	1350	1.26
Power	130	0.12
Total G&P	3062	2.87

Source: Analyst estimates

▪ Sensitivity analyses

In our vision the main risk associated with this activity is regulatory. As the rules for the calculation of the remuneration of the regulated activities can be change by the regulatory authority. Our sensitivity analyses for this segment will be based on the effect in the target price of an eventual change of the capital cost set by the regulatory authority.

Regulatory risk associated with the activity

Table 20: Cost of capital change effect in the target price

Remuneration base	8%	7.5%	7.0%	6.5%	6.0%
	17.06	16.96	16.86	16.76	16.66

Source: Analyst estimates

Sum-Of-The-Parts

Our valuation is based on Sum-Of-The Parts (SOTP), since different business risks means different forms of valuation. Furthermore we will be using discounted cash flow (DCF), for the valuation methodology for every business segment of the company. About the forecast period, for R&M and G&P segment our forecast compromise 5 years and a terminal value. As for the E&P segment we discounted its cash flows until the exhaustion of the reservoirs.

²⁶ For discount rates and further information see Sum-Of-The Parts chapter

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Table 21: Risk free and tax rate

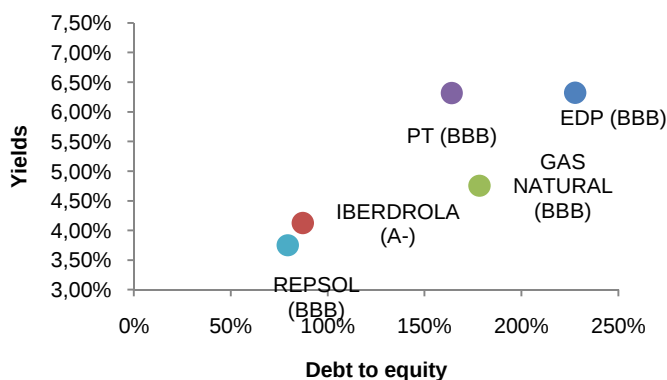
10y German bond	4,38%
10y US treasury bond	3,21%
Effective tax rate	27.10%

Source: Bloomberg

Moreover we used weighted average cost of capital (WACC) as discount rate. We computed the cost of equity adjusted for country risk to each segment using capital asset pricing model (CAPM) after setting a number of comparables weighted on the exposure within the industry value chain to find the unlevered betas for the segments. Furthermore we considered 6% market excess reflecting market's historical return in accordance the financial literature. Also as risk free 10 year German bonds for the R&M and G&P segment, and finally 10 year US treasury bonds for the E&P segments.

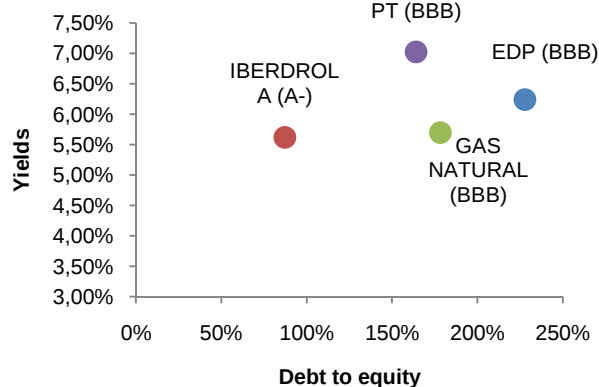
Galp Energia does not have credit rating or market valued bond, so in order to estimate its market cost of debt we evaluated the costs of comparable companies with main operation based in the Iberian Peninsula (see graph 20 and 21). Thus for the R&M and the G&P segment given the market environment it would be unlikely for the company to have a debt cost lower than its similar size Portuguese companies (EDP and PT) we considered a market cost of debt of 6.32% for Galp in our valuation.

Graph 20: Companies 5 years bond yield



Source: Bloomberg

Graph 21: Companies 10 years bond yield



Source: Bloomberg

E&P segment do not have debt tax shield

At the end for the tax shield of the debt we used Galp Energia effective tax rate in the R&M and G&P. As the nature of the E&P segment production agreement tax exclusively the profit resulted from the operational activity, regardless of the financial expense we do not consider any tax shield effect for this segment. Finally, the capital structure considered was the market average leverage ratio of each activity.

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Table 22: Vauation assumptions

		Market premium	Beta levered	Cost of equity	Cost of debt	D/E	WACC	Terminal value
E&P	Angola	6%	1.27	14.00%	4.00%	20%	12.00%	0%
	Brazil	6%	1.17	13.25%	4.00%	20%	11.40%	0%
R&M	Refining	6%	0.93	9.59%	6.32%	80%	5.60%	0%
	Marketing	6%	0.93	9.59%	6.32%	80%	5.60%	1%
G&P	Regulated activity	6%	0.49	6.95%	6.32%	95%	4.72%	0%
	Liberalized activity	6%	0.49	6.95%	6.32%	95%	4.72%	1%
	Power	6%	0.49	6.95%	6.32%	95%	4.72%	1%

Source: Analyst estimates

Finally here we present our sum-of-the parts value of the company in the table below:

Table 23: SoTP valuation

	Value (€ million)	Share
Exploration & Production	10154	56%
Refining & Marketing	4989	27%
Gas and Power	3062	17%
Enterprise value YE2011	18205	100%
Net debt (4Q2011)	-3807	
Pension fund and healthcare deficit	-250	
Target price YE2011	17.06	

Source: Analyst estimates

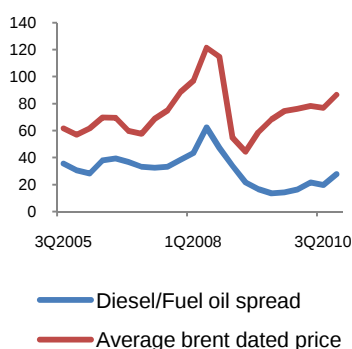
▪ Sensitivity analyses

External shocks can affect differently parts of the oil and gas industry value chain. As Galp Energia is present in every part of the industry, in this chapter we will discuss the dynamics and the effect of an external shock in the company as an all.

As presented above, crude oil price is the external factor that affects more significantly the value of the company. An increase of crude oil price can affect both positively the E&P projects and negatively the refining activity on the through the refining margins and oil products demand.

Nevertheless at high oil prices refiners like Galp (after the conversion project) with a great conversion capacity, can increase the margin because of the differential between transport fuels (diesel and gasoline) and heavy fuel oil. The lack of effective substitutes for transport fuels makes prices evolve according to the crude oil. While on the other hand the demand for fuel oil is largely limited as

Graph 22: Diesel/Fuel oil spread vs average brent price



Source: Platts and Bloomberg

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it comes mostly from power generation, which can resort to cheaper substitutes such as coal and natural gas.

Still the company can be exposed to a decrease of oil demand that affects the refinery utilization capacity. Therefore we present the table below with the value of the company in case such event takes place.

Table 24: Sensibility analyses

		Crude oil price % change										
		-25%	-20%	-15%	-10%	-5%	0%	5%	10%	15%	20%	25%
Utilization rate	95%	10.57	11.86	13.16	14.46	15.76	17.06	18.36	19.66	20.96	22.26	23.56
	90%	10.41	11.71	13.01	14.31	15.61	16.91	18.21	19.51	20.81	22.10	23.40
	85%	10.26	11.56	12.86	14.16	15.45	16.75	18.05	19.35	20.65	21.95	23.25
	80%	10.10	11.40	12.70	14.00	15.30	16.60	17.90	19.20	20.50	21.80	23.10
	75%	9.95	11.25	12.55	13.85	15.15	16.45	17.75	19.04	20.34	21.64	22.94
	70%	9.80	11.10	12.39	13.69	14.99	16.29	17.59	18.89	20.19	21.49	22.79
	65%	9.64	10.94	12.24	13.54	14.84	16.14	17.44	18.74	20.04	21.34	22.63
	60%	9.49	10.79	12.09	13.39	14.68	15.98	17.28	18.58	19.88	21.18	22.48
	55%	9.33	10.63	11.93	13.23	14.53	15.83	17.13	18.43	19.73	21.03	22.33
	50%	9.18	10.48	11.78	13.08	14.38	15.68	16.98	18.27	19.57	20.87	22.17

Source: Analyst estimates

Finally the future €/ \$ exchange rates is also considered a key variable as the currency of E&P projects and the refining activity cash-flows are US dollars, the company earning could worth less in Euros. So we will evaluate how exposed is the company to the EUR/USD exchange rates.

Table 25: EUR/USD exchange rate % change effect in the target price

EUR/USD	-25%	-20%	-15%	-10%	-5%	0%	5%	10%	15%	20%	25%
	20.94	19.97	19.12	18.36	17.67	17.06	16.45	15.77	15.01	14.15	13.18

Source: Analyst estimates

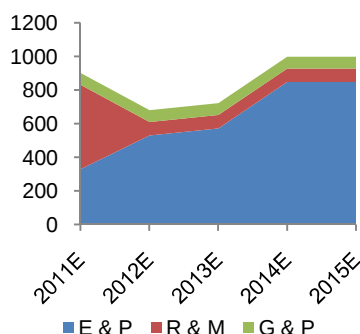
As a result we can conclude that company is considerable exposed to the €/ \$ exchange rate.

Financials

We estimate that the company has to invest an approximate amount of € 4.3 billion between 2011 and 2015, in which all most will be channeled to be upstream segment for the development of the reservoir discovered at Santos

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Graph 23: Capex (2011-2015)

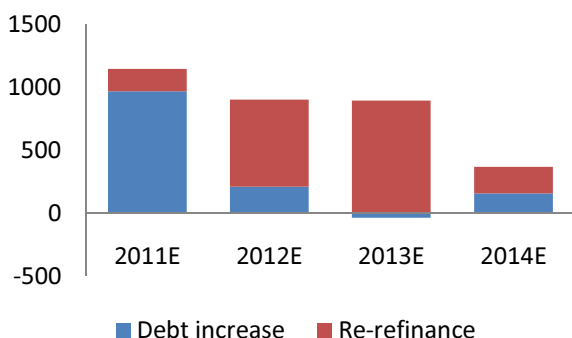


Source: Galp Energia and analyst estimates

basin. The financial strategy of the company was to finance the development of the E&P segment with the cash flow resulting from the downstream activities and the ongoing upstream projects. However investment decisions are in the hands of the operator of the consortium, so participating companies such as Galp Energia are subject to the decisions of the operators. Like in December previous year, when Petrobras communicated its partners that it wants to accelerate production of oil and gas in the region of Lula (ex-Tupi), forced Galp to present a new strategic plan in March this year.

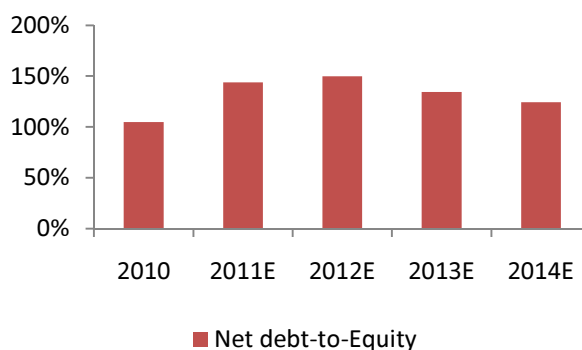
Looking at the future funding needs of the company we estimate that the company will need to secure up to € 1 billion of debt this year alone and approximately € 900 millions in the next 2 years.

Graph 24: Galp Energia financial needs



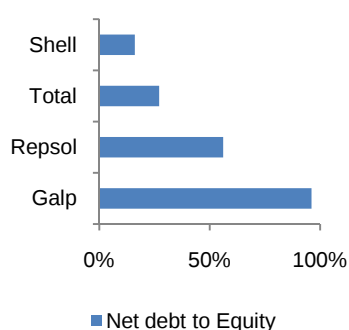
Source: Galp Energia and analyst estimates

Graph 25: Galp Energia net debt-to-Equity book value ratio



Source: Galp Energia and analyst estimates

Graph 26: Companies net debt to Equity



Source: Companies

The company capital structure of the company is already very dependent in debt, when considering a risky industry like oil and gas. Moreover the current sovereign debt crisis faced by Portugal further limit the access of Portuguese companies to credit. As a result the company needs to reduce its financial risk so that it doesn't jeopardize the execution of future projects.

The company is already considering a funding solution with the goal of securing funding for its projects and to bring its net debt to equity ratio below 50% according to the new strategic plan. Moreover we estimated that the company would need to raise at least €2.5 billion in order to achieve this goal.

According to publicly information made available by the company it is considering selling parts of the regulated assets of natural gas and increase the capital of Petrogal Brazil. Furthermore the company it already packing some of its natural gas distribution subsidiaries namely Lisboaagás, Lusitaniagás and Setgás inside a new company so that it can sell 49% of its stake. Finally Galp recently expressed

Galp Energia putting assets for sale

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that it wants to increase the capital of Petrogal Brazil by € 2 billion through a private placement of its shares.

Our concern with these transactions is sustained with the fact that the value of the company could be affected through the value of the sale, because if the transaction is valued below the asset value there would be value destruction. As a result we computed the value of the assets to be put for sale, with the aim of determining the value the company if a different price is paid for these assets.

The value we estimated for 49% the natural gas is €723 millions, assuming it has no debt. In *table 27* we present the effect of the sale in the company value if the sale price above or below our estimate.

Table 26: Regulated natural gas assets transaction

Sale price (million €)	400	500	600	723	800	900
Target price (€)	16.67	16.79	16.91	17.06	17.15	17.28

Source: Analyst estimates

Nonetheless we can foresee that with the current crisis in the Portuguese credit market it is unlikely that the company would make this transaction with a price above our estimate.

On the other hand we foresee a more likely possibility for the increase Petrogal Brazil capital to be priced above our estimated. We based our assumption in a similar transaction in the pre-salt (santos basin) that occurred last year, where at the view of most of the analyst Sinopec paid Repsol YPF a premium on its assets. According to our valuation €2 billion represents 21.94% of Petrogal Brazil, assuming it has no debt. So any abdicate of participation different from 21.94% for the same price the value is affected (*table 27*).

Table 27: Petrogal Brasil transaction

Participation	10.00%	15.00%	20.00%	21.94%	24.00%	25.00%	30.00%
Target price (€)	18.37	17.82	17.27	17.06	16.83	16.72	16.18

Source: Analyst estimates

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Financial Statements

Income Statement

(million €)	2009	2010	2011E	2012E	2013E	2014E	2015E
Turnover	12,102	14,185	14,327	15,044	15,796	16,586	17,415
Operating Expenses	(11,283)	(13,132)	(13,315)	(13,656)	(14,289)	(14,733)	(15,032)
EBITDA	819	1,053	1,012	1,387	1,507	1,853	2,383
D&A e provisions	(360)	(423)	(434)	(471)	(488)	(507)	(546)
Operating profit	459	630	578	916	1,019	1,346	1,837
Net profit from associated companies	70	79	80	80	80	80	80
Net interest expenses	(76)	(98)	(254)	(268)	(267)	(277)	(270)
Profit before tax and minority interest	452	611	404	728	832	1,148	1,647
Income tax	(99)	(165)	(329)	(465)	(510)	(646)	(855)
Minority interest	(6)	(5)	(5)	(5)	(5)	(5)	(5)
Net profit	347	441	70	257	317	498	787

Source: Galp Energia and analyst estimates

Balance Sheet

(million €)	2009	2010	2011E	2012E	2013E	2014E	2015E
Fixed assets	4,379	5,426	5,893	6,102	6,337	6,828	7,280
Strategic stock	575	792	792	792	792	792	792
Other assets (liabilities)	(333)	(333)	(333)	(333)	(333)	(333)	(333)
Working capital	(305)	(333)	101	139	151	185	238
	4,316	5,552	6,452	6,700	6,946	7,472	7,977
Short term debt	424	616	1,466	1,582	1,713	1,729	2,777
Long term debt	1,747	2,412	2,390	2,662	2,506	2,659	1,500
Total debt	2,171	3,028	4,022	4,244	4,219	4,388	4,277
Cash	244	188	215	226	237	249	261
Total net debt	1,927	2,840	3,807	4,018	3,982	4,139	4,016
Total shareholders' equity	2,389	2,711	2,645	2,682	2,964	3,333	3,961
Capital employed	4,316	5,552	6,452	6,700	6,946	7,472	7,977

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Source: Galp Energia and analyst estimates

Cash Flow

(million €)	2009	2010	2011E	2012E	2013E	2014E	2015E
Operating profit	459	630	578	916	1,019	1,346	1,837
Non cash costs	297	423	434	471	488	507	546
Change in working capital	277	28	(434)	(38)	(12)	(35)	(53)
Net interest expenses	(76)	(99)	(254)	(268)	(267)	(277)	(270)
Taxes	(99)	(286)	(329)	(465)	(510)	(646)	(855)
Cash flow from operating activities	857	696	(5)	616	718	895	1,205
Net capital expenditures and disposals	(800)	(1,228)	(901)	(681)	(722)	(998)	(998)
Dividends paid / received	(127)	(136)	(221)	(35)	(129)	(158)	(249)
Others	7	7	7	7	7	7	7
Total	(63)	(662)	(1,119)	(93)	(126)	(255)	(35)

Source: Galp Energia and analyst estimates

Appendix

Appendix 1: Estimation of secondary process additions from existing projects (2010-2015)

(mb/day)	Conversion	Desulphurization
US & Canada	0.8	0.6
Latin America	0.3	0.8
Africa	0.2	0.1
Europe	0.6	0.4
FSU	0.5	0.3
Middle East	0.6	1.9
Asia-Pacific	1.3	2

Source: OPEC (WOO)

Appendix 2: Historical and expected* regional on-road gasoline and diesel sulphur content (ppm)

	Gasoline			Diesel		
	2005	2010	2015*	2005	2010	2015*
US & Canada	70	30	30	330	15	15
Latin America	500	680	260	2000	1270	460
Europe	30	15	10	40	15	10
Middle East	500	690	180	1800	1820	460
FSU	200	430	110	280	490	130
Africa	500	840	440	1500	3260	2210
Asia-Pacific	220	220	120	1400	480	260

Source: OPEC (WOO)

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Buy	Expected total return (including dividends) of more than 15% over a 12-month period.
Hold	Expected total return (including dividends) between 0% and 15% over a 12-month period.
Sell	Expected negative total return (including dividends) over a 12-month period.

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