22 September 2009



**Oil & Gas** Poland

Current price	PLN 24.05
Target price	PLN 25.8
Market cap	PLN 3.1bn
Free float	PLN 1.1bn
Avg daily trading volume (3M)	PLN 13.69m

#### Shareholder Structure

State Treasury	63 97%	tł
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36 03%

### Others

### Sector Outlook

In the recent months, the environment has been unfavorable for the refining business, both in terms of margins and the Urals/Brent spread. There are signals, however, that this is changing. If the current revival in the global fuel market continues, the sentiment in the sector should go up.

### **Company Profile**

Grupa Lotos is the second largest refining group in Poland, with 6m tons of annual capacity and an excellent location by the sea. The company also runs the second largest chain of fuel stations in Poland (around 350), and holds a majority stake in Petrobalitc, which mines crude oil from the Baltic Sea shelf.

#### Important dates

16.11 - Q3'09 report



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Lotos.wa; LTS.PW

# Accumulate

(Reiterated)

# Awaiting the Strategic Reserve Bill

Given the recent share placement to the Treasury in exchange for shares in Petrobaltic, and the refining margins, which remain low, we have reduced our valuation of Lotos to PLN 25.8 per share. We believe the stock may get a considerable boost if the issue of mandatory reserves is resolved in a way that is advantageous to Lotos. For now, we have not factored the impact of these potential legal changes into our model, but it may exceed PLN 2bn, i.e. PLN 15 per share. It seems that the market is not discounting such a scenario; therefore, if the government opts for another solution, the downside risk for the stock is limited. The stock should also be boosted by the expected high bottom line in Q3, coupled with a significant improvement in Upstream earnings, thanks to higher crude oil prices and increased processing of Petrobalic's oil at the refinery. We are reiterating an accumulate rating.

#### Q2'09: Downtime, F/X Gains

In Q2'09, despite maintenance downtime (-PLN 79m), the Refinery generated a loss that was PLN 50m lower than we expected. Another positive surprise were the high operating cash flows (PLN 450m), although this level will not be repeated in the ensuing quarters (a considerable portion was freed from working capital). F/X gains (PLN 763m) were in line with expectations.

### H2'09: No Downtimes, Higher Petroleum Prices

In H1'09, Lotos's earnings were by and large determined by the cost of downtime at the refinery, estimated by the Management at PLN 135m. In the last two quarters of the year, the plant should work at full capacity, but the unfavorable margins and Urals/Brent spread will only make a limited LIFO improvement possible. In turn, we do expect important contribution from Upstream, which should generate PLN 90-100m in operating income (at the consolidated level), thanks to higher crude oil prices and increased throughput of Petrobalic's petroleum (156,000 tons vs. 36,000 tons in H1'09). F/X gains and gains on hedging valuations will give a strong boost to the bottom line (perhaps in excess of PLN 500m).

#### Strategic Reserve Laws

We still do not know whether mandatory reserves will be bought by the State. The market appears skeptical about this optimistic scenario, but signals coming from fuel producers and the Ministry of the Economy suggest this is in fact quite likely. The final decision should come in the next 2-3 weeks. If the government opts for the variant under which reserves are taken over by a state agency, Lotos's net debt will fall by ca. PLN 1.7bn, and it will not be necessary to add reserves worth a further PLN 700m (at today's prices) in 2012, when the 10+ line is launched.

(PLN m)	2007	2008	2009F	2010F	2011F
Revenues	13125.1	16294.7	12977.1	17350.8	23932.5
EBITDA	1019.9	169.2	662.5	808.6	1781.3
EBITDA margin	7.8%	1.0%	5.1%	4.7%	7.4%
EBIT	713.7	-145.8	333.5	399.6	980.3
Net income	777.2	-453.9	603.3	242.0	793.0
DPS	0.36	0.00	0.00	0.00	0.00
P/E	3.5	-	5.2	12.9	3.9
P/CE	2.5	-19.7	3.4	4.8	2.0
P/BV	0.5	0.5	0.5	0.5	0.4
EV/EBITDA	3.4	37.5	13.3	12.5	6.0
DYield	1.5%	0.0%	0.0%	0.0%	0.0%

BRE Bank Securities does not rule out offering brokerage services to an issuer of securities being the subject of a recommendation. Information concerning a conflict of interest arising in connection with issuing a recommendation (should such a conflict exist) is located on the final page of this report.



## Q2'09: Inventory Revaluation, F/X Gains

Lotos reported better-than-expected net profit and EBIT results for Q2'09. EBIT amounted to PLN 151m, which included a PLN 176m EBIT generated by the Refining segment (we expected PLN 130m). The LIFO effect was in line (PLN 239m vs. PLN 240m), and the adjusted EBIT loss of the Refining segment was lower than our forecasted PLN 110m at PLN 63m. It was not a consequence of lower downtime expenses (at PLN 79m these were slightly above expectations), but most likely due to the segment's increased efficiency at the time of increasing crude oil prices and the PLN 13m y/y improvement in retail earnings. The Upstream segment's Q2'09 EBIT of PLN 10m marked a considerable year-on-year drop from PLN 88m (adjusted for the changed accounting approach to this data introduced in Q1'09, the EBIT would show a PLN 9m loss vs. our expected PLN 4m profit). Such weak performance was a consequence of a weak refinery output on Petrobaltic-produced crude oil (mining output was 57.6KT, compared to a refinery output of just 0.3KT), which means that these earnings will be postponed. The EBIT loss from other operations increased to PLN 16m from PLN 5m in Q2'08.

### Consolidated second-quarter results

(PLN m)	Q2 2009	Q2 2008	Change	Q1 09F	Actuals vs. Forecasts	Consensus Estimates	Actuals vs. Consensus	H1 2009	H1 2008	Change
Revenues	3 447.9	4 217.9	-18.3%	3 035.7	13.6%	3 247.0	6.2%	6 164.5	7 779.4	-20.8%
EBITDA	225.6	463.9	-51.4%	222.1	1.6%	344.0	-34.4%	300.6	638.2	-52.9%
EBITDA margin	6.5%	11.0%	-	7.31%	-	10.6%	-	4.88%	8.20%	-
EBIT	151.3	385.7	-60.8%	133.9	13.1%	227.0	-33.3%	153.1	480.4	-68.1%
Pre-tax income	914.3	522.8	74.9%	884.1	3.4%	-	-	124.5	872.9	-85.7%
Net income	739.3	398.0	85.8%	713.0	3.7%	683.0	8.2%	80.4	665.9	-87.9%

Source: Lotos, forecasts by BRE Bank Securities, PAP consensus

Lotos posted a finance gain of PLN 763m (in line with our forecasted PLN 750m), owed to FCY credit revaluations (PLN 496m gain vs. forecasted PLN 427m), PLN 179m FX risk hedging gains (incl. PLN 58m vs. our expected PLN 220m from closed hedging positions), PLN 80m interest-rate hedging gains (we expected PLN 60m), and a PLN 32m crack-spread risk hedging charge (we expected a zero impact). Lotos's open EUR/USD hedging positions for the third quarter amount to EUR 246m (vs. EUR 347m in the quarter before), and USD/PLN hedges are a negative USD 62m (vs. - USD 293m before).

### Open currency hedges

	Volume (m)	Hedged ranges	Exchange rate at end of period	Current exchange rate
	as of 31 March 2009	9		
EUR/USD	347.7	1.25-1.36	1.33	-
EUR/PLN	-26.5	4.57-4.72	4.70	-
USD/PLN	-293.0	2.68-3.77	3.54	-
	as of 30 June 2009	)		
EUR/USD	245.9	1.25-1.42	1.41	1.45
EUR/PLN	-22.5	4.43-4.70	4.47	4.12
USD/PLN	-62.7	3.10-3.69	3.17	2.84

Source: Lotos, estimates by BRE Bank Securities

### Open interest rate hedges

	Volume (USD m)	Start	End	Interest rate
		as of 31 March 200	9	
FRA	200.0	15.07.2009	15.01.2010	1.315%
IRS	1380.0	15.10.2008-15.07.2011	30.06.2011-15.01.2018	3.33%-4.33%
		as of 30 June 2009	)	
FRA	200.0	15.07.2009	15.01.2010	1.315%
IRS	1280.0	15.10.2008-15.07.2011	30.06.2011-15.01.2018	3.33%-4.33%

Source: Lotos, estimates by BRE Bank Securities



# Refinery

The situation in the global market for fuels remains impacted by the ongoing economic crisis. Demand has declined primarily in OECD countries, including the world's biggest fuel market, USA. According to the June data from the International Energy Agency, the US fuel consumption fell by the staggering 7.5% y/y. Declines have been observed in practically speaking all refining categories, although the situation was at its worse in case of middle distillates (as much as -20% y/y during the summer). In the other developed economies, the situation is somewhat better, but a significant reduction in the demand for fuels is being observed in both Europe (-3.4%) and Asia (-3.6%, including -8.2% in Japan). The picture looks much better in developing countries such as China or India, where total fuel consumption is expected to rise by 2.8% and 3.8%, respectively, in 2009. With growth in excess of 1%, Poland is in this category as well (and growth approaches 4.6% in case of transportation fuels). For now, however, these countries do not account for a big enough share of the global demand to change the overall picture.





\* Due to data availability limitations, the charts above show regions providing 69% of total fuel consumption in the world Source: forecasts by IEA, estimates by BRE Bank Securities

A detailed analysis of fuel consumption indicates that the highest y/y declines are being observed for diesel and aircraft fuel, which is quite understandable when industrial output and international trade are both falling, reducing freight traffic. In case of gasoline, whose consumption is affected by the situation of consumers, the downward trend in OECD countries is much less strong (thanks to the decline in end-user prices by 15-18% y/y in Europe, 30% y/y in Japan, 37% y/y in the US); in case of the developing countries, growth is in fact continuing. The automotive boom in China (with car sales increasing by 48% y/y thanks to state subsidies and tax incentives) and in India (by 26% in August) should, according to IEA, increase gasoline consumption in these countries in 2009 by 7% and 12%, respectively. These diverging trends in the core fuel categories are reflected by inventory trends. While gasoline reserves in OECD countries are at levels comparable to those seen in the past three years, in case of middle distillates we are observing a clear increase in stored volumes. In Europe, middle distillate reserves are 14% above the average level for the last three years (which is equivalent to 39 days of consumption, while the average is 30 days) and 30% in the USA (47 days of consumption vs. the average of 30 days).





Source: EIA, estimates by BRE Bank Securities



Source: Bloomberg, BP, estimates by BRE Bank Securities

**BRE Bank Securities** 

The tendencies in the fuel market, as outlined above, have a direct impact on capacity utilization in refining, and on its profitability. The decline in demand has led to reduced production levels and a reduction in the capacity utilization ratio to 81.7% (which includes the new plant in India), a level that has not been observed since 1999. In the developed countries, refineries reacted to the breakdown in demand and in margins by cutting their capacity utilization by more than 4% y/y. An important factor for the sector is the structure of this decline in consumption, which is mostly affecting middle distillates. This has led to a drastic reduction in crack spreads on diesel and JET fuel (to USD 70-80 per ton vs. USD 230 per ton in 2008 and a 5Y average of USD 150 per ton); with lower negative crack spreads on heavy fuel oils (-USD 90 per ton vs. -USD 196 per ton in 2008 and 5Y average of -USD 170 per ton - most likely because the decline in demand for this fuel was less profound than in the case of diesel and because its supply has been reduced sharply as the supply of heavy crude declined), this has sharply reduced the premium for comprehensive refineries with higher output of white products (ca. USD 2-3 per Bbl for Brent crude, vs. up to USD 7-8 per Bbl last year). The steadying demand for gasoline and the rebound in crack spreads on this fuel (USD 160 per ton vs. USD 127 per ton in 2008 and 5Y average of USD 144 per ton) was only enough to moderate the decline in benchmark margins, which returned to their 2003 levels (NWE Brent USD 2.5 per Bbl vs. USD 6.7 per Bbl in 2008). For Polish refineries, we saw similar tendencies, which were further strengthened by the continuing climb of crude oil prices, which reduced their energy efficiency (own consumption at their CHPs).



#### Global fuel demand forecast, 2010

#### Source: IEA

In the upcoming months, the key factor affecting crack spreads will be further data concerning US demand for gasoline (which allow market trends to be monitored on a weekly basis) as well as trends in petroleum pricing. Should positive changes in demand continue, in particular in the area of middle distillates (3% growth was observed in the past 4 weeks), crack spreads on these products should, in our opinion, improve, perhaps convincing the IEA to upgrade its fuel consumption forecast for North America from the current +0.8%. We believe that similar tendencies should also be noted in the other key economies of the world, as industrial production is expected to start growing again under the optimistic scenario. Profitability should BRE Bank Securities

rebound also if petroleum prices reach an equilibrium above USD 70/Bbl – with the current level of crack spreads, this would guarantee satisfactory margins (adjusted for own consumption). The first few weeks of September suggest that such a scenario is possible; this is why we take it into account in our forecasts.



### Orlen's and Lotos's crack spreads vs. benchmark, forecasts for 2010

NWE Brent crack spread Lotos's crack spread Orlen's crack spread

For Polish refiners, another factor which is as important as the margins is the price discount between the variety of petroleum they use and Brent crude, which has narrowed down considerably over the past few quarters. Contrary to our previous expectations, the improvement in the ratio of Russian export duties and crude oil prices strengthened the differential only for a while (late March and early April). It seems therefore that the reduction in the differential between the price of heavier and lighter varieties of crude oil is a global phenomenon, whose roots lie in the reduced supply of heavy crude due to OPEC's output cuts. Since September 2008, the cartel has cut production by 12%, with much deeper cuts in heavy sour varieties (our estimates for three leading OPEC exporters are shown below), although they comprise only 25-35% of these producers' total output. This decision was, of course, economically motivated. Just as in 2001-2002, the objective was achieved. Under this interpretation, this tendency is not structural in nature and it is not a consequence of Russia's purposeful actions (Russia did state multiple times that it was going to attempt to reduce the pricing differential between the Urals and Brent varieties). Thus, we cannot expect the differential to be sustained at USD 0.5/Bbl in a longer term; the situation should start improving once the next economic cycle in the global economy begins, leading to an increase in OPEC's output. Our forecast that the discount will return to above USD 2/Bbl within two years appears absolutely realistic.

# Pricing differentials on heavy crude varieties vs. OPEC output and exports by variety (Venezuela, Iran, Saudi Arabia)\*



\*These countries jointly account for 54% of OPEC's total output Source: Bloomberg, estimates by BRE Bank Securities

Source: BP, Bloomberg, estimates by BRE Bank Securities



In H1'09, Lotos Refinery generated an operating loss of PLN 152m under LIFO accounting, which was largely due to the comprehensive maintenance program in late March and early April. According to the Management, its impact can be estimated at –PLN 135m. In addition, in Q1'09, the Company recorded F/X losses due to the volatility of the forex market, estimated at as much as PLN 134m. In H2'09, there should be no one-offs like that in the refinery's earnings. Unfortunately, however, the negative tendencies in the Urals/Brent spread and crack spreads outlined above may significantly reduce earnings improvement. According to our estimates, in Q3'09 the segment will perform at around the break even point. It will take the expected LIFO gains of PLN 60-65m to put the EBIT in the black. In the final quarter, margins should improve, but we believe the Company will see a LIFO loss in this segment in FY2009. Next year, regardless of inventory revaluation, Lotos should generate ca. PLN 140m higher refinery profit, mostly because this time there will be no maintenance costs of the kind seen this year.



### Refinery earnings and the macroeconomic environment

In H2'09, we expect good Upstream earnings, because crude oil prices will be higher and because the Lotos refinery will process more Petrobaltic crude, which determines the Upstream margin at the consolidated level. According to our estimates, this volume will increase from 36,000 tons in H1'09 to 156,000 tons. All in all, the FY09 upstream EBIT should amount to ca. PLN 100m. The fact that there will be no production from the Yme fields has no impact on our forecasts, seeing that we do not take the Norwegian fields into account (they are included in our valuation at the price of purchase).



### Lotos Upstream earnings vs. Petrobaltic crude output, processing

Source: Bloomberg, estimates by BRE Bank Securities

Source: Bloomberg, Lotos, estimates by BRE Bank Securities



### **Mandatory Reserves**

The Ministry of the Economy has prepared the guidelines for a new bill on mandatory fuel reserves, which is supposed to align the Polish regulations with the new EU directive. The Ministry's proposal was prepared by a group of experts in consultation with the fuel industry and the Finance Ministry. It foresees a change in the crude oil and fuel mandatory reserve system, shifting the responsibility onto a governmental agency that will be created for this purpose. The Ministry's proposals include several variants, including proposals as to how to finance the potential purchase of the existing stockpiles from Orlen (PLN 5.6bn, i.e. PLN 13.1 per share), Lotos (PLN 1.7bn, i.e. PLN 13 per share) and the other players. In additions, solutions have been developed concerning fees for the maintenance of these reserves and infrastructural leases, including objects owned by the Polish refineries (in the case of Orlen, which has the most infrastructure, potential fees paid to the new agency should be fully offset with rental revenues for storage units). At present, the government is looking into the proposals. Most likely, in late September or early November we will learn which approach will be pursued. One of the most likely ones is a bond offering carried out by the state-owned BGK bank, with the creation of a special purpose fund resembling the National Road Fund. Recently, reports have appeared in the press concerning talks allegedly conducted with a commercial banks. No details have been revealed, but we believe the underlying idea might be to create derivatives to be sold by an investment bank on the basis of the mandatory reserves, which would convert them into a financial asset capable of generating a steady profit, which could be used to service the abovementioned bonds. These are merely speculations for now, however, and it is too early to discount this positive scenario. If the government does make a decision along these lines, however, the share price of Orlen and Lotos might go north, as this would reduce their net debt and working capital (at Lotos in particular, where a considerable increase in volumes is planned after the 10+ program ends).



# **Macroeconomic Assumptions**

	The table below lists our macroeconomic assumptions for the DCF model.													
\$/Bbl	2005	2006	2007	2008	2009F	2010F	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F
Brent crude	54.5	65.4	72.8	98.0	60.6	70.0	80.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
Urals crude	50.4	61.2	69.5	95.1	59.6	68.2	78.0	87.6	87.7	87.7	87.7	87.8	87.8	87.8
Urals-Brent spread	4.1	4.2	3.3	2.9	1.0	1.8	2.0	2.4	2.3	2.3	2.3	2.2	2.2	2.2
Lotos's product margin	6.5	5.2	6.2	8.0	4.4	4.8	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
'000 tons														
Throughput	4 837	6 099	6 157	6 204	5 700	8 000	10 500	10 500	10 500	10 500	10 500	10 500	10 500	10 500
Petrobaltic's output	233	264	187	258	190	189	191	646	750	1000	1000	1000	1000	1000

	2005	2006	2007	2008	2009F	2010F	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F
USD/PLN exchange rate	3.23	3.11	2.77	2.42	3.12	2.96	2.80	2.69	2.69	2.69	2.69	2.69	2.69	2.69
EUR/PLN exchange rate	4.02	3.90	3.78	3.48	4.30	3.91	3.80	3.50	3.50	3.50	3.50	3.50	3.50	3.50
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Source: Bloomberg, estimates by BRE Bank Securities

# Petrobaltic

We made the following assumptions when calculating the value of Petrobaltic:

- We are taking into account the Management's growth strategy for the Polish Baltic Sea shelf. We are not taking into account the planned purchase of Norwegian shelf assets, nor their estimated production capacity. We assume that their impact on Lotos's value will be neutral (price equal to NPV). The Yme field, already bought, is factored into our final valuation at book value.
- In the long term, Lotos will invest in prospecting new deposits as the B3 and B8 reserves run out, so as to keep the upstream business running. Due to a noticeable seasonality of cash flows, we took average CAPEX and D&A expenses estimated for the years 2009 through 2018 to calculate the terminal value.
- Free cash flows were discounted as of 31 August 2009. Equity value was determined based on net debt at year-end 2008.

	BRE Bank	Securities
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### **DCF** analysis of Petrobaltic

(PLN m)	2009F	2010F	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2018+
Price of Brent crude	60.6	70.0	80.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	
Crude output ('000 tons)	190	189	191	646	750	1 000	1 000	1 000	1 000	1 000	
Revenue	273.8	270.6	293.0	1 074.8	1 283.5	1 711.3	1 711.3	1 711.3	1 711.3	1 711.3	
change	-28.1%	-7.8%	8.3%	266.9%	19.4%	33.3%	0.0%	0.0%	0.0%	0.0%	
EBITDA	153.0	167.0	194.1	715.5	866.4	1 155.5	1 155.5	1 155.5	1 155.4	1 155.4	1 155,4
EBITDA margin	55.9%	61.7%	66.2%	66.6%	67.5%	67.5%	67.5%	67.5%	67.5%	67.5%	67,5%
Amortization and depreciation	51.3	59.3	79.3	209.3	207.5	201.4	203.0	212.5	217.1	217.1	217,1
EBIT	101.7	107.7	114.8	506.2	658.9	954.1	952.5	943.0	938.3	938.3	938,3
EBIT margin	37.1%	39.8%	39.2%	47.1%	51.3%	55.8%	55.7%	55.1%	54.8%	54.8%	54,8%
Tax rate on EBIT	19.3	20.5	21.8	96.2	125.2	181.3	181.0	179.2	178.3	178.3	178,3
NOPLAT	82.4	87.3	93.0	410.0	533.7	772.8	771.5	763.8	760.1	760.0	760,0
CAPEX	-465.3	-916.2	-1 233.2	-774.3	-292.4	-292.4	-292.4	-292.4	-292.4	-292.4	-570,1
Working capital	1.8	0.1	-0.4	-12.9	-3.4	-7.1	0.0	0.0	0.0	0.0	0,0
Capital investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0,0
FCF	-329.8	-769.6	-1 061.3	-167.9	445.4	674.8	682.1	683.9	684.8	684.7	407,0
WACC	10.9%	9.1%	8.1%	8.4%	9.2%	10.4%	11.5%	11.5%	11.5%	11.5%	11,5%
discount factor	94.1%	86.3%	79.8%	73.6%	67.4%	61.1%	54.8%	49.1%	44.1%	39.5%	39,5%
PV FCF	-310.5	-664.1	-847.4	-123.6	300.3	412.2	373.7	336.0	301.7	270.5	160,8
WACC	10.9%	9.1%	8.1%	8.4%	<b>9.2%</b>	10.4%	11.5%	11.5%	11.5%	11.5%	11,5%
Cost of debt	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7,2%
Risk-free rate	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6,15%
Risk premium	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1,0%
Effective tax rate	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19,0%
Net debt / EV	19.2%	48.4%	64.0%	58.7%	45.9%	27.9%	10.5%	10.0%	10.0%	10.0%	10,0%
Cost of Equity	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12,2%
Risk premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5,0%
Beta	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1,2
FCF growth after the forecast he	orizon			0.0%							
Terminal value				3 535.0							
Present value of the terminal va	lue (PV T	V)		1 396.7							
Present value of FCF in the fore	ecast horiz	on		48.8							
Equity value (EV)				1 445.5							
Net debt				-95.7							
Equity value				1 541.2							
Number of shares (millions)				129.9							
Equity in the earnings of Petrob	altic			99%							

1 063.4

11.8

Value of Lotos's stake in Petrobaltic

Per-share value of Lotos's stake (PLN)



# **Earnings Forecast and Valuation**

Our DCF analysis produced a per-share price target of PLN 25.8, prompting a recommendation to accumulate at the current price level.

### DCF Analysis

### **Model Assumptions**

- 1. We based our DCF model calculations on cash flows generated by the Lotos group excluding Petrobaltic, which we valued separately.
- 2. Cash flows were discounted as of 31 August 2009. Equity value was calculated based on net debt at 31 December 2008.
- 3. The macroeconomic assumptions are as laid out above.
- 4. We increased the equity value by the value of Lotos's stake in Petrobaltic and they Yme field.
- 5. The depreciation and amortization expense projected for FY2018 is higher than CAPEX, which is unsustainable over the long term, prompting us to revise the D&A expense to PLN 410 million when calculating the terminal value.
- 6. When calculating FCF<sub>TV</sub>, we based terminal value calculations on the sales growth rate and EBITDA margins projected for 2018.
- 7. We assume that FCF after FY2018 will grow at a rate of 1%. The risk-free rate is 6.15%, and beta is 1.

	BRE Bank	Securities
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### **DCF** analysis of Lotos

(PLN m)	2009F	2010F	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2018+
Revenue	12 977	17 351	23 933	25 805	25 933	26 066	26 207	26 354	26 508	26 678	26 850
change	-20.4%	33.7%	37.9%	7.8%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%
EBITDA	509.5	641.6	1 587.2	1 803.2	1 557.5	1 536.9	1 475.2	1 426.8	1 404.7	1 391.7	1 400.6
EBITDA margin	3.9%	3.7%	6.6%	7.0%	6.0%	5.9%	5.6%	5.4%	5.3%	5.2%	5.2%
Amortization and	077 7	040 7	701.0	001.0	010 4	500.0	504.0	500.0		E 41 0	410.0
	2//./	349.7	/21.8 965 5	691.3	010.4	532.0	524.9	538.6	544.5	541.6	410.0
	231.0	291.9	0.000	1 111.9	941.0	1 005.0	950.3	000.2	000.2	0.000	990.0
	1.8%	1.7% EE E	3.6%	4.3%	3.6%	3.9%	3.6%	3.4%	3.2%	3.2%	3.7%
	44.0	00.0	704.4	211.3	70.0	190.9	160.5	100.0	163.4	C.101	100.2
NOPLAI	187.7	236.4	701.0	900.7	762.2	814.0	/69./	/19.4	696.8	688.6	802.4
CAPEX	-2 865	-899	-402	-410	-410	-410	-410	-410	-410	-410	-410
				-1							
Working capital	-54.1	-127.8	-596.9	295.6	-16.1	-22.7	-16.5	-17.4	-18.3	-19.2	-18.3
Capital investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	-2										
FCF	454.0	-440.4	423.9	-113.6	952.6	913.3	868.1	830.7	812.9	801.0	784.1
WACC	8.5%	8.4%	8.6%	8.7%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%	9.5%
discount factor	97.3%	89.8%	82.7%	76.0%	69.9%	64.3%	59.1%	54.3%	49.9%	45.9%	45.9%
	-2	005 5	050.4	00.4	000 4	500.0	540 7	450.0	105.0	007.4	
PVFCF	388.4	-395.5	350.4	-86.4	666.1	586.8	512.7	450.9	405.6	367.4	
WACC	8.5%	8.4%	8.6%	8.7%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%	9.5%
Cost of debt	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%
Bisk-free rate	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%
Bisk premium	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Effective tax rate	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%
Net debt / EV	50.2%	51.8%	47.0%	45.5%	44 7%	43.4%	43.7%	44 0%	44.2%	44.3%	30.0%
	50.270	01.070		10.070	/0	10.170	.0.770		,	,	00.070
Cost of Equity	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%
Risk premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

FCF growth after the forecast horizon	1.0%	Sensitivity analy	vsis				
Terminal value	9 178.3	FCF growth in perpetuity					
Present value of the terminal value (PV TV)	4 210.3		0.0%	1.0%	2.0%	3.0%	4.0%
Present value of FCF in the forecast horizon	469.6	WACC +1.0pp	19.1	22.1	25.8	30.4	36.5
Equity value (EV)	4 679.9	WACC +0.5pp	20.5	23.8	28.0	33.2	40.3
Net debt	3 302.5	WACC	22.1	25.8	30.4	36.5	44.8
Equity value	1 377.4	WACC -0.5pp	23.8	28.0	33.2	40.3	50.1
Number of shares (millions)	129.9	WACC -1.0pp	25.8	30.4	36.5	44.8	56.7
Equity value per share (PLN) (excl. Petrobaltic)	10.6						
Per-share value of the Petrobaltic stake	11.8						
Per-share value of the Yme field	1.4						
Per-share value of Lotos	23.8						
Nine-month cost of capital	8.3%						
Target Price	25.8						
EV/EBITDA('09) for the target price	10.6						
P/E('09) for the target price	5.5						
TV to EV (refinery)	90%						



### **Relative valuation**

		P/E				EV/EBITDA			
	Frice	2008	2009F	2010F	2011F	2008	2009F	2010F	2011F
MOL	14550.0	7.6	17.4	9.6	7.8	5.4	6.1	5.1	4.3
OMV	28.4	4.5	10.9	7.1	5.8	3.4	4.9	3.9	3.4
PKN	27.5	-4.7	11.8	9.3	8.3	21.7	5.0	4.5	3.9
Tupras	25.3	7.2	10.2	8.6	7.8	4.0	6.7	5.9	5.0
Hellenic	7.3	8.6	12.3	11.2	9.3	6.9	8.7	8.1	6.8
Unipetrol (CZK)	140.7	25.1	38.7	12.4	9.7	5.0	6.1	4.7	4.0
SNP Petrom	0.3	7.1	11.4	9.0	6.7	3.6	4.7	3.5	3.0
ERG	10.0	12.8	-68.4	17.6	13.1	3.1	12.9	4.5	3.8
Neste	11.3	6.4	20.8	14.0	8.7	4.4	8.3	6.4	4.8
Motor Oil	9.9	7.9	9.8	8.8	8.1	6.9	8.1	7.4	7.1
INA	1531.1	16.7	18.5	9.7	6.4	7.5	7.5	5.1	3.9
Maximum		25.1	38.7	17.6	13.1	21.7	12.9	8.1	7.1
Minimum		-4.7	-68.4	7.1	5.8	3.1	4.7	3.5	3.0
Median		7.6	11.8	9.6	8.1	5.0	6.7	5.1	4.0
Lotos*	24.1	-	5.2	12.9	3.9	37.7	13.3	12.5	6.0
(premium / discount)		-190.3%	-56.3%	34.5%	-51.6%	660.6%	99.9%	145.6%	51.4%
Implied price									
Median		7.6	11.8	9.6	8.1	5.0	6.7	5.1	4.0
Multiple weight			50.0	%			50.0	)%	
Year weight		0.0%	33.3%	33.3%	33.3%	0.0%	33.3%	33.3%	33.3%
Equity value per share (PLN)		34.5							

EV/EBITDA based on net debt at year-end 2008

\*Orlen's net debt adjusted for the value of the stake in Polkomtel and mandatory reserves (Orlen: PLN 5.6bn, Lotos: PLN 1.7bn).

\* Lotos's multiples were estimated based on net debt from 2007-2010, valuation based on adjusted net debt from 2008.



### **Income Statement**

(PLN m)	2006	2007	2008	2009F	2010F	2011F	2011F
Revenue	12 798.1	13 125.1	16 294.7	12 977.1	17 350.8	23 932.5	25 805.0
change	32.7%	2.6%	24.1%	-20.4%	33.7%	37.9%	7.8%
EBIT	798.3	713.7	-145.8	333.5	399.6	980.3	1 618.1
Refinery	627.0	617.0	-339.0	258.3	317.5	876.9	1 104.6
including LIFO	-133.0	393.3	-612.1	335.3	97.4	55.7	242.1
Upstream	201.0	134.0	194.0	101.7	107.7	114.8	506.2
Retail	-37.0	-50.0	-17.0	9.1	11.9	13.2	18.6
Other	7.3	12.7	16.2	-35.6	-37.6	-24.7	-11.2
EBIT (LIFO ACCOUNTING)	931.3	320.4	466.3	-1.9	302.2	924.6	1 376.0
FBIT	798.3	713.7	-145.8	333.5	399.6	980.3	1 618 1
change	-22.8%	-10.6%	-120.4%	-328.7%	19.8%	145.3%	65.1%
FBIT marain	6.2%	5.4%	-0.9%	2.6%	2.3%	4.1%	6.3%
	0.270	0	01070	2.070	2.070		0.070
Profit on financing activity	91.7	268.6	-384.4	421.2	-100.3	-0.7	-229.4
Extraordinary gains/losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	25.8	22.3	26.0	0.0	0.0	0.0	0.0
Pre-tax income	915.9	1 004.5	-504.2	754.6	299.3	979.6	1 388.8
Tax	181.2	190.3	-114.3	150.9	56.9	186.1	263.9
Minority interests	54.7	37.0	64.0	0.4	0.4	0.4	2.0
Net income	670.0	777 2	-//53 0	603 3	2/2 0	703.0	1 122 0
change	-22 7%	14.3%	-158 4%	-232.9%	-59.9%	227.7%	41.6%
margin	5 3%	5.9%	-2.8%	4.6%	1 4%	3.3%	41.070
maight	5.576	5.576	-2.078	4.070	1.470	0.076	4.470
Amortization and depreciation	297.4	306.2	315.0	329.0	409.0	801.0	900.6
EBITDA	1 095.7	1 019.9	169.2	662.5	808.6	1 781.3	2 518.7
change	-15.6%	-6.9%	-83.4%	291.6%	22.1%	120.3%	41.4%
EBITDA margin	8.6%	7.8%	1.0%	5.1%	4.7%	7.4%	9.8%
Shares at year-end (millions)	113.7	113.7	113.7	129.9	129.9	129.9	129.9
EPS	6.0	6.8	-4.0	4.6	1.9	6.1	8.6
CEPS	8.6	9.5	-1.2	7.2	5.0	12.3	15.6
ROAE	14.1%	14.2%	-8.1%	10.3%	3.7%	11.3%	14.1%
ROAA	9.2%	8.9%	-4.1%	4.3%	1.4%	4.0%	5.1%



### **Balance Sheet**

(PLN m)	2006	2007	2008	2009F	2010F	2011F	2011F
ASSETS	7 763.5	9 720.4	12 202.0	15 750.4	18 241.5	21 210.7	23 214.7
Fixed assets	3 781.8	4 508.1	7 093.8	10 095.4	11 501.3	12 335.5	12 619.1
Property, plant and equipment	3 484.9	4 253.0	6 733.3	9 590.3	10 934.1	11 797.5	12 098.0
Intangible assets	55.9	65.0	55.9	200.5	262.6	233.4	216.5
Equity value	67.1	58.2	45.6	45.6	45.6	45.6	45.6
Long-term investments	111.9	73.5	104.9	104.9	104.9	104.9	104.9
Other fixed assets	62.2	58.4	154.1	154.1	154.1	154.1	154.1
Current assets	3 981.7	5 212.3	5 108.2	5 654.9	6 740.2	8 875.2	10 595.6
Inventories	1 707.4	2 589.3	2 447.2	2 887.2	3 255.6	4 214.2	5 599.8
Short-term receivables	1 276.5	1 542.5	1 564.9	1 816.8	2 342.4	3 230.9	3 483.7
Other current assets	225.4	155.5	383.3	383.3	383.3	383.3	383.3
Cash and cash equivalents	772.4	925.0	712.8	567.7	759.0	1 046.9	1 128.8

	2006	2007	2008	2009F	2010F	2011F	2011F
LIABILITIES	7 763.5	9 720.4	12 202.0	15 750.4	18 241.5	21 210.7	23 214.7
EQUITY	5 095.5	5 816.2	5 404.1	6 364.4	6 606.4	7 399.4	8 522.3
Share capital	113.7	113.7	113.7	129.9	129.9	129.9	129.9
Other equity	4 981.8	5 702.5	5 290.4	6 234.5	6 476.5	7 269.5	8 392.5
Minority interests	306.4	334.7	395.9	39.4	39.8	40.2	42.2
							/
Long-term liabilities	719.6	1 215.6	3 700.5	5 710.3	7 001.1	7 806.5	8 262.1
Loans	330.7	842.9	3 412.2	5 422.0	6 712.8	7 518.2	7 973.8
Other	388.9	372.7	288.3	288.3	288.3	288.3	288.3
Short-term liabilities	1 642.0	2 353.8	2 701.4	3 636.3	4 594.3	5 964.6	6 388.1
Loans	173.5	517.2	507.4	806.2	998.1	1 117.9	1 185.6
Trade creditors	1 385.1	1 757.5	1 894.5	2 530.5	3 296.7	4 547.2	4 902.9
Other	83.4	79.2	299.6	299.6	299.6	299.6	299.6
Debt	504.2	1 360.1	3 919.6	6 228.2	7 710.9	8 636.1	9 159.4
Net debt	-268.2	435.1	3 206.8	5 660.6	6 951.9	7 589.2	8 030.6
(Net debt / Equity)	-5.3%	7.5%	59.3%	88.9%	105.2%	102.6%	94.2%
(Net debt / EBITDA)	-0.2	0.4	19.0	8.5	8.6	4.3	3.2
BVPS	44.8	51.2	47.5	49.0	50.9	57.0	65.6



### **Cash Flows**

(PLN m)	2006	2007	2008	2009F	2010F	2011F	2011F
Cash flows from operating activities	654.4	157.8	311.7	455.7	623.9	998.6	972.2
Net income	679.9	777.2	-453.9	603.3	242.0	793.0	1 122.9
Amortization and depreciation	297.4	306.2	315.0	329.0	409.0	801.0	900.6
Working capital	-288.5	-882.9	197.4	-55.9	-127.9	-596.5	-1 282.7
Other	-34.3	-42.7	253.1	-420.8	100.7	1.1	231.3
Cash flows from investing activities	-721.5	-816.4	-2 417.1	-2 754.4	-1 631.3	-1 303.0	-1 051.2
CAPEX	-688.6	-1 050.3	-2 478.5	-3 330.6	-1 814.9	-1 635.2	-1 184.3
Capital investments	-48.3	0.0	0.0	0.0	0.0	0.0	0.0
Other	15.4	233.8	61.4	576.2	183.6	332.2	133.1
Cash flows from financing activities	-78.2	513.1	1 963.1	2 153.6	1 198.8	592.3	161.0
Stock offering	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Debt	-50.5	556.6	2 266.3	2 308.6	1 482.7	925.2	523.4
Dividend (buy-back)	0.0	-40.9	0.0	0.0	0.0	0.0	0.0
Other	-27.7	-34.1	-303.2	-155.0	-283.9	-332.9	-362.4
Change in cash	-143.6	-147.1	-138.8	-145.1	191.3	287.9	81.9
Cash at the end of period	772.4	925.0	712.8	567.7	759.0	1 046.9	1 128.8
DPS (PLN)	0.00	0.36	0.00	0.00	0.00	0.00	0.00
FCF	-111.0	-1 103.6	-1 997.6	-2 874.9	-1 191.0	-636.6	-212.1
(CAPEX / Sales)	5.4%	8.0%	15.2%	25.7%	10.5%	6.8%	4.6%

### Market multiples

	2006	2007	2008	2009F	2010F	2011F	2011F
P/E	4.0	3.5	-6.0	5.2	12.9	3.9	2.8
P/CE	2.8	2.5	-19.7	3.4	4.8	2.0	1.5
P/BV	0.5	0.5	0.5	0.5	0.5	0.4	0.4
P/S	0.2	0.2	0.2	0.2	0.2	0.1	0.0
FCF/EV	-4.0%	-31.5%	-31.5%	-32.6%	-11.8%	-5.9%	-1.9%
EV/EBITDA	2.5	3.4	37.5	13.3	12.5	6.0	4.4
EV/EBIT	3.5	4.9	-43.5	26.5	25.3	11.0	6.9
EV/S	0.2	0.3	0.4	0.7	0.6	0.4	0.4
DYield	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Price (PLN)	24.05						
Charge at year and (millions)	110.7	110 7	110 7	100.0	100.0	100.0	100.0
Shares at year-end (minions)	113.7	113.7	113.7	129.9	129.9	129.9	129.9
MC (PLN m) Equity attributable to minority	2734.5	2734.5	2734.5	3123.5	3123.5	3123.5	3123.5
snarenoiders (PLIN M)	306.4	334.7	395.9	39.4	39.8	40.2	42.2
EV (PLN m)	2 772.7	3 504.3	6 337.2	8 823.4	10 115.1	10 752.8	11 196.3



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List of abbreviations and ratios contained in the report: EV – net debt + market value EBIT – Earnings Before Interest and Taxes EBITDA – EBIT + Depreciation and Amortisation P/CE – price to earnings with amortisation MC/S – market capitalisation to sales EBIT/EV – operating profit to economic value P/E – (Price/Earnings) – price divided by annual net profit per share ROE – (Return on Equity) – annual net profit divided by average equity P/BV – (Price/Book Value) – price divided by book value per share Not dette condition distributed by the period

**Net debt** – credits + debt papers + interest bearing loans – cash and cash equivalents **EBITDA margin** – EBITDA/Sales

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### Strong and weak points of valuation methods used in recommendations:

DCF – acknowledged as the most methodologically correct method of valuation; it is based in discounting financial flows generated by a company; its weak point is the significant susceptibility to a change of forecast assumptions in the model.

Comparative – based on a comparison of valuation multipliers of companies from a given sector; simple in construction, reflects the current state of the market; weak points include substantial variability (fluctuations together with market indices) as well as difficulty in the selection of the group of comparable companies.

#### Previous ratings issued for Lotos

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Rating	Buy	Buy	Accumulate
Date issued	2009-03-09	2009-05-28	2009-09-04
Price on rating day	11.44	18.25	24.18
WIG on rating day	22948.51	29775.36	36009.43