



Consolidated annual report of LOTOS Group

2016



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- A. Letter of the President of the Management Board
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 - D. Directors' Report on the operations of Grupa LOTOS S.A. and the LOTOS Group in 2016
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Ladies and Gentlemen,

It is my pleasure to present the 2016 Annual Report of the LOTOS Group.

Our 2016 financial performance was the best in LOTOS history. By capitalising on the expertise and experience of the Management Board and our staff, we successfully achieved the set targets, and delivered strong growth. Our consolidated revenue came in at nearly PLN 21bn, our LIFO-based EBITDA, the most significant financial measure for any oil company, rose 20% during the year (to approximately PLN 2.6bn), and the Group's ability to generate cash on core operations improved 80%.

We steadily and consistently worked towards reducing our debt and optimising sources of financing for investment projects.

Our impressive performance was an effect of nearly full utilisation of the refinery units' capacities, diversification of oil supplies, which was the best in years, and the more than doubled volume of hydrocarbon production from own fields (supported by steady expansion of the potential of our production assets in Norway). Our trading business was significantly stimulated by the new fuel market legislation: the First Fuel Package introduced by the Polish government to effectively prevent illegal imports of fuels without paying the required taxes.

We gave the LOTOS Group impetus to positive change in the years ahead, with our performance benefiting from such macroeconomic factors as the growing fuel consumption in Poland, the level of product margins on global markets, and rising USD/PLN exchange rate.

2016 also saw a better-than-expected pace of progress of the EFRA Project, with no accidents on the construction sites. EFRA is our key investment, designed to increase the crude conversion efficiency and flexibility at our refinery in Gdańsk. Its successful completion is crucial to further development of the LOTOS Group and accomplishment of the objectives we formulated in our strategy for 2017–2022. The strategy provides that LOTOS development plans will be founded on stable financial situation and continued safe growth in the key business areas, to be additionally supported by the effects of the innovative solutions we are implementing.

Ensuring energy security for Poland remains the LOTOS Group's first and foremost priority. We view this as our corporate duty, which we fulfil by delivering to the market the highest-quality fuels, oils and other refining products at competitive prices.

I believe that in 2017 the LOTOS Group will continue on the growth path, effectively and steadily turning its strategic plans into reality.

The main tasks facing us in the coming years will be to maintain the strong growth rate by investing in profitable projects and to retain dividend payment capacity.

With kindest regards,

Marcin Jastrzębski

President of the Management Board of Grupa LOTOS S.A.

**THE LOTOS GROUP
CONSOLIDATED FINANCIAL HIGHLIGHTS**

	PLN'000		EUR'000	
	Year ended	Year ended	Year ended	Year ended
	Dec 31 2016	Dec 31 2015	Dec 31 2016	Dec 31 2015
Revenue	20,931,090	22,709,442	4,783,484	5,426,649
Operating profit	1,854,657	423,398	423,854	101,175
Pre-tax profit/(loss)	1,579,412	(195,274)	360,951	(46,663)
Net profit/(loss)	1,015,217	(263,300)	232,012	(62,918)
Net profit/(loss) attributable to owners of the Parent	1,015,247	(263,263)	232,019	(62,909)
Net loss attributable to non-controlling interests	(30)	(37)	(7)	(9)
Total comprehensive profit/(loss)	898,696	(544,925)	205,383	(130,215)
Total comprehensive profit/(loss) attributable to owners of the Parent	898,726	(544,888)	205,390	(130,206)
Total comprehensive loss attributable to non-controlling interests	(30)	(37)	(7)	(9)
Net cash from operating activities	2,653,880	1,488,069	606,504	355,589
Net cash from investing activities	(1,003,177)	(1,161,975)	(229,261)	(277,666)
Net cash from financing activities	(1,201,455)	114,719	(274,574)	27,413
Total net cash flow	449,248	440,813	102,669	105,336
Basic earnings/(loss) per share (PLN/EUR)	5.49	(1.42)	1.25	(0.34)
Diluted earnings/(loss) per share (PLN/EUR)	5.49	(1.42)	1.25	(0.34)

	PLN'000		EUR'000	
	As at	As at	As at	As at
	Dec 31 2016	Dec 31 2015	Dec 31 2016	Dec 31 2015
Total assets	19,326,309	19,169,332	4,368,515	4,498,259
Equity attributable to owners of the Parent	8,610,786	7,712,060	1,946,380	1,809,706
Non-controlling interests	108	138	25	32
Total equity	8,610,894	7,712,198	1,946,405	1,809,738

Items in the Financial Highlights table have been translated at the following EUR exchange rates:

Items of the statement of financial position have been translated at the mid-exchange rates quoted by the National Bank of Poland for the last day of the reporting period:

As at Dec 31 2016	As at Dec 31 2015
1 EUR = 4.4240 PLN	1 EUR = 4.2615 PLN

Items of the statement of comprehensive income and the statement of cash flows have been translated using the arithmetic mean of the mid-exchange rates quoted by the National Bank of Poland for the last day of each month in the reporting period:

Year ended Dec 31 2016	Year ended Dec 31 2015
1 EUR = 4.3757 PLN	1 EUR = 4.1848 PLN



The LOTOS Group Consolidated financial statements for 2016

prepared
in accordance with International Financial
Reporting Standards
as endorsed by the European Union,
with the auditor's opinion



(This is a translation of a document originally issued in Polish)

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CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

	Note	2016	2015
Revenue	8	20,931,090	22,709,442
Cost of sales	9.1	(17,215,704)	(20,249,028)
Gross profit		3,715,386	2,460,414
Distribution costs	9.1	(1,291,069)	(1,284,846)
Administrative expenses	9.1	(425,893)	(459,120)
Other income	9.3	107,065	48,291
Other expenses	9.4	(250,832)	(341,341)
Operating profit		1,854,657	423,398
Finance income	9.5	26,677	100,637
Finance costs	9.6	(304,816)	(688,243)
Share in net profit/loss of equity-accounted joint ventures	14	2,894	(31,066)
Pre-tax profit/(loss)		1,579,412	(195,274)
Corporate income tax	10.1	(564,195)	(68,026)
Net profit/(loss)		1,015,217	(263,300)
Other comprehensive income/(loss)			
<i>Items that may be reclassified to profit or loss:</i>		(118,250)	(282,407)
Exchange differences on translating foreign operations		(6,326)	5,946
Cash flow hedges	21	(138,178)	(355,973)
Corporate income tax relating to cash flow hedges	10.1	26,254	67,620
<i>Items that will not be reclassified to profit or loss:</i>		1,729	782
Actuarial gain/(loss) under post-employment benefits		2,030	2,211
Corporate income tax relating to actuarial gain/(loss) under post-employment benefits	10.1	(301)	(1,429)
Other comprehensive income/(loss), net		(116,521)	(281,625)
Total comprehensive income/(loss)		898,696	(544,925)
Net profit/(loss) attributable to:			
Owners of the Parent	11	1,015,247	(263,263)
Non-controlling interests		(30)	(37)
		1,015,217	(263,300)
Total comprehensive income/(loss) attributable to:			
Owners of the Parent		898,726	(544,888)
Non-controlling interests		(30)	(37)
		898,696	(544,925)
Net profit/(loss) attributable to owners of the Parent per share (PLN)			
Weighted average number of shares ('000)	11	184,873	184,873
- basic	11	5.49	(1.42)
- diluted	11	5.49	(1.42)

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

	Note	Dec 31 2016	Dec 31 2015
ASSETS			
Non-current assets			
Property, plant and equipment of the downstream segment	13	8,261,718	7,845,051
Intangible assets of the downstream segment	13	170,005	174,729
Property, plant and equipment of the upstream segment	13	2,389,960	2,723,371
Intangible assets of the upstream segment	13	481,831	489,690
Equity-accounted joint ventures	14	98,087	70,745
Deferred tax assets	10.3	596,034	924,478
Derivative financial instruments	24	20,918	8,697
Other non-current assets	16	312,113	201,008
Total non-current assets		12,330,666	12,437,769
Current assets			
Inventories	17	3,333,591	3,235,816
- including emergency stocks		2,008,909	1,881,494
Trade receivables	16	2,251,727	1,550,900
Current tax assets		7,973	11,953
Derivative financial instruments	24	79,958	208,482
Other current assets	16	577,236	856,336
Cash and cash equivalents	18	744,616	859,699
Total current assets		6,995,101	6,723,186
Non-current assets (or disposal groups) held for sale		542	8,377
Total assets		19,326,309	19,169,332
EQUITY AND LIABILITIES			
Equity			
Share capital	19	184,873	184,873
Share premium	20	2,228,310	2,228,310
Cash flow hedging reserve	21	(812,812)	(700,888)
Retained earnings		6,945,460	5,928,484
Translation reserve		64,955	71,281
Equity attributable to owners of the Parent		8,610,786	7,712,060
Non-controlling interests		108	138
Total equity		8,610,894	7,712,198
Non-current liabilities			
Borrowings, other debt instruments and finance lease liabilities	23	3,980,537	4,454,460
Derivative financial instruments	24	36,316	54,306
Deferred tax liabilities	10.3	57,358	47,626
Employee benefit obligations	25	168,537	182,252
Other liabilities and provisions	26	1,200,922	1,292,571
Total non-current liabilities		5,443,670	6,031,215
Current liabilities			
Borrowings, other debt instruments and finance lease liabilities	23	1,576,739	2,544,848
Derivative financial instruments	24	172,920	110,845
Trade payables	26	1,718,178	1,232,510
Current tax payables		49,220	11,770
Employee benefit obligations	25	135,612	122,201
Other liabilities and provisions	26	1,619,076	1,403,745
Total current liabilities		5,271,745	5,425,919
Total liabilities		10,715,415	11,457,134
Total equity and liabilities		19,326,309	19,169,332

CONSOLIDATED STATEMENT OF CASH FLOWS

(prepared using the indirect method)

	Note	2016	2015
Cash flows from operating activities			
Net profit		1,015,217	(263,300)
Adjustments:		1,708,766	1,810,253
Income tax	10.1	564,195	68,026
Share in net profit/(loss) of equity-accounted joint ventures	14	(2,894)	31,066
Depreciation and amortisation	9.1	1,067,894	714,568
Foreign exchange (gains)/losses		37,599	348,234
Interest and dividends		174,988	177,702
(Gain)/loss from investing activities		12,737	69,902
Impairment losses on property, plant and equipment and other intangible assets	9.4	156,459	85,817
Settlement and valuation of financial instruments	9.5; 9.6	33,511	(78,809)
(Increase) in trade receivables		(671,945)	(144,399)
(Increase)/decrease in other assets		(126,840)	54,473
(Increase)/decrease in inventories		(126,488)	719,073
Increase/(decrease) in trade payables		457,690	(460,329)
Increase in other liabilities and provisions		130,134	187,754
Increase in employee benefit obligations		1,726	37,175
Income tax paid		(70,103)	(58,884)
Net cash from operating activities		2,653,880	1,488,069
Cash flows from investing activities			
Dividends received – equity-accounted joint ventures		-	837
Dividends received from other entities		1,972	907
Interest received		11,441	16,053
Sale of property, plant and equipment and other intangible assets		28,449	23,615
Sale of organised part of business		-	2,600
Purchase of property, plant and equipment and other intangible assets		(1,243,660)	(758,582)
Cash contributions – equity-accounted joint ventures	14	(24,365)	(3,898)
Cash for the EFRA Project		433,357	(433,357)
Security deposit (margin)		(26,394)	(4,293)
Funds for future costs of decommissioning of oil and gas extraction facilities		(187,162)	(414)
Security deposit under EPCM contract for the offshore production unit in the B-8 field	16	10,620	(10,488)
Option premium payment		-	(4,907)
Settlement of derivative financial instruments		(7,435)	10,554
Other cash used in investing activities		-	(602)
Net cash from investing activities		(1,003,177)	(1,161,975)
Cash flows from financing activities			
Proceeds from bank borrowings	23.1	379,313	798,209
Proceeds from non-bank borrowings	23.2	1,155	-
Proceeds from issue of Series D shares in Grupa LOTOS S.A.		-	981,268
Cash flows attributable to changes in interests in subsidiaries not resulting in loss of control		-	(31)
Repayment of bank borrowings	23.1	(1,499,446)	(1,161,456)
Repayment of non-bank borrowings	23.2	(11,611)	(10,781)
Redemption of notes	23.3	(19,209)	(19,350)
Arrangement fees paid under credit facilities		-	(57,202)
Interest paid		(203,725)	(172,969)
Decrease in finance lease liabilities		(31,218)	(19,957)
Settlement of derivative financial instruments		183,286	(222,192)
Other cash used in financing activities		-	(820)
Net cash from financing activities		(1,201,455)	114,719
Total net cash flow		449,248	440,813
Effect of exchange rate fluctuations on cash held		3,440	3,944
Change in net cash		452,688	444,757
Cash at beginning of period		278,070	(166,687)
Cash at end of period	18	730,758	278,070

THE LOTOS GROUP
Consolidated financial statements for 2016
PLN '000

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Share capital	Share premium	Cash flow hedging reserve	Retained earnings	Translation reserve	Equity attributable to owners of the Parent	Non-controlling interests	Total equity
Jan 1 2016	184,873	2,228,310	(700,888)	5,928,484	71,281	7,712,060	138	7,712,198
Net profit (loss)	-	-	-	1,015,247	-	1,015,247	(30)	1,015,217
Other comprehensive income/(loss), net	-	-	(111,924)	1,729	(6,326)	(116,521)	-	(116,521)
Total comprehensive income/(loss)	-	-	(111,924)	1,016,976	(6,326)	898,726	(30)	898,696
Dec 31 2016	184,873	2,228,310	(812,812)	6,945,460	64,955	8,610,786	108	8,610,894
Jan 1 2015	184,873	2,229,626	(412,535)	6,190,989	65,335	8,258,288	175	8,258,463
Net loss	-	-	-	(263,263)	-	(263,263)	(37)	(263,300)
Other comprehensive income/(loss), net	-	-	(288,353)	782	5,946	(281,625)	-	(281,625)
Total comprehensive income/(loss)	-	-	(288,353)	(262,481)	5,946	(544,888)	(37)	(544,925)
Issue cost	-	(1,316)	-	-	-	(1,316)	-	(1,316)
Other	-	-	-	(24)	-	(24)	-	(24)
Dec 31 2015	184,873	2,228,310	(700,888)	5,928,484	71,281	7,712,060	138	7,712,198

The Notes to the consolidated financial statements, presented on pages 8 to 85, are an integral part of the statements.

(This is a translation of a document originally issued in Polish)

NOTES TO THE FINANCIAL STATEMENTS

1. General information

Grupa LOTOS Spółka Akcyjna ("Grupa LOTOS S.A.", the "Company", the "Parent"), was established on September 18th 1991. The Company's registered address is ul. Elbląska 135, 80-718 Gdańsk, Poland.

The principal business activity of the LOTOS Group (the "LOTOS Group" or the "Group") consists in the manufacturing and processing of refined petroleum products and their wholesale and retail sale. The Group's business also includes acquisition of crude oil and natural gas deposits and oil and gas production. Based on the classification applied by the Warsaw Stock Exchange, Grupa LOTOS S.A. is included in the fuel sector.

2. Composition of the Group and its changes

The LOTOS Group comprises Grupa LOTOS S.A. (the Parent), a number of production, service and trading companies which are direct or indirect subsidiaries of Grupa LOTOS S.A., and one foundation.

Below is presented key information on the Group entities, as well as the Group's ownership interests as at December 31st 2016, which did not change relative to December 31st 2015.

Name	Registered office	Description of business	Group's ownership interest
Parent			
Downstream segment			
• Grupa LOTOS S.A.	Gdańsk	Manufacturing and processing of refined petroleum products (mainly fuels) and their wholesale	Not applicable
Fully-consolidated direct subsidiaries			
Upstream segment			
• LOTOS Petrobaltic S.A. (parent of another group: LOTOS Petrobaltic Group)	Gdańsk	Acquisition of crude oil and natural gas deposits, extraction of hydrocarbons	99.99%
Downstream segment			
• LOTOS Paliwa Sp. z o.o.	Gdańsk	Wholesale and retail sale of fuels and light fuel oil, management of the LOTOS service station network	100.00%
• LOTOS Oil Sp. z o.o.	Gdańsk	Manufacturing and sale of lubricating oils and lubricants, sale of base oils	100.00%
• LOTOS Asphalt Sp. z o.o.	Gdańsk	Manufacturing and sale of bitumens	100.00%
• LOTOS Kolej Sp. z o.o.	Gdańsk	Railway transport	100.00%
• LOTOS Serwis Sp. z o.o.	Gdańsk	Maintenance of mechanical and electric operations and controlling devices, overhaul and repair services	100.00%
• LOTOS Lab Sp. z o.o.	Gdańsk	Laboratory testing	100.00%
• LOTOS Straż Sp. z o.o.	Gdańsk	Fire service activities	100.00%
• LOTOS Ochrona Sp. z o.o.	Gdańsk	Security services	100.00%
• LOTOS Terminale S.A. (parent of another group: LOTOS Terminale Group)	Czechowice-Dziedzice	Storage and distribution of fuels	100.00%
• LOTOS Infrastruktura S.A. (parent of another group: LOTOS Infrastruktura Group)	Jasło	Storage and distribution of fuels; renting and operating of own or leased real estate	100.00%
• LOTOS Gaz S.A. w likwidacji (in liquidation)	Kraków	Dormant	100.00%
Non-consolidated direct subsidiaries ⁽¹⁾			
• Infrastruktura Kolejowa Sp. z o.o.	Gdańsk	Dormant	100.00%
• LOTOS Foundation	Gdańsk	Socially beneficial activity within the scope of public tasks defined in the Act on Public Benefit and Volunteer Work; the foundation does not conduct any business activity	100.00%

Name	Registered office	Description of business	Group's ownership interest
Fully-consolidated indirect subsidiaries			
Downstream segment			
LOTOS Infrastruktura Group			
• RCEkoenergia Sp. z o.o.	Czechowice-Dziedzice	Production and distribution of electricity, heat and gas	100.00%
LOTOS Terminale Group			
• LOTOS Biopaliwa Sp. z o.o.	Czechowice-Dziedzice	Production of fatty acid methyl esters (FAME)	100.00%
Upstream segment			
LOTOS Petrobaltic Group			
• LOTOS Exploration and Production Norge AS	Norway, Stavanger	Crude oil exploration and production on the Norwegian Continental Shelf, provision of services incidental to oil and gas exploration and production	99.99%
• Aphrodite Offshore Services N.V.	Curaçao	Sea transport services (dormant)	99.99%
• B8 Sp. z o.o.	Gdańsk	Support activities for extraction and quarrying operations	99.99%
• B8 Spółka z ograniczoną odpowiedzialnością BALTIC S.K.A.	Gdańsk	Crude oil and natural gas exploration and production	99.99%
• Miliana Shipholding Company Ltd. (parent of another group: Miliana Shipholding Group)	Nicosia, Cyprus	Storage and transport of crude oil, other sea transport services	99.99%
• Technical Ship Management Sp. z o.o. (parent of another group: Technical Ship Management Group)	Gdańsk	Sea transport support activities. ship operation advisory services	99.99%
• SPV Baltic Sp. z o.o.	Gdańsk	Provision of sea transport and related services	99.99%
• Miliana Shipmanagement Ltd.	Nicosia, Cyprus	Provision of sea transport and related services	99.99%
• Miliana Shipping Group Ltd. (parent of another group: Miliana Shipping Group Group)	Nicosia, Cyprus	Management of own assets	99.99%
• Bazalt Navigation Co. Ltd.	Nicosia, Cyprus	Ship chartering	99.99%
• Granit Navigation Company Ltd.	Nicosia, Cyprus	Ship chartering	99.99%
• Kambr Navigation Company Ltd.	Nicosia, Cyprus	Ship chartering	99.99%
• St. Barbara Navigation Company Ltd.	Nicosia, Cyprus	Ship chartering	99.99%
• Petro Icarus Company Ltd.	Nicosia, Cyprus	Ship chartering	99.99%
• Petro Aphrodite Company Ltd.	Nicosia, Cyprus	Ship chartering	99.99%
• AB LOTOS Geonafta (parent of another group: AB LOTOS Geonafta Group)	Lithuania, Gargždai	Crude oil exploration and production, drilling services, purchase and sale of crude oil	99.99%
• UAB Genciu Nafta	Lithuania, Gargždai	Crude oil exploration and production	99.99%
• UAB Manifoldas	Lithuania, Gargždai	Crude oil exploration and production	99.99%
• Energobaltic Sp. z o.o.	Władysławowo	Production of electricity, heat, LPG and natural gas condensate	99.99%

⁽¹⁾ The companies were excluded from consolidation due to immateriality of the amounts disclosed in their financial statements as at December 31st 2016 (IFRS 10 Consolidated Financial Statements).

For information on the Group's interests in equity-accounted joint ventures, see Note 14.

3. Basis of preparation

These consolidated financial statements ("consolidated financial statements", "financial statements") have been prepared in accordance with the International Financial Reporting Standards ("IFRS") endorsed by the European Union and in effect as at December 31st 2016. Given the ongoing process of implementation of the IFRSs in the European Union and the scope of the Group's business, as far as the accounting policies applied by the Group are concerned, there is no difference between the IFRSs which have come into force and the IFRSs endorsed by the European Union for 2016, save for the principles which have been modified or introduced as a result of applying new IFRS regulations for annual periods beginning on or after January 1st 2016 (see Note 4). In particular, these financial statements have been prepared taking into account amendments to IAS 1 *Presentation of Financial Statements* with respect to disclosures. The Group has made changes in the scope and form of disclosures in terms of:

- materiality – immaterial disclosures are not presented, even if required under a given standard,
- aggregation or disaggregation of certain items in order to enhance clarity and usefulness of the information presented,
- accounting policies – only those policies are presented that have a material impact on the presentation of the Group's results and situation.

These consolidated financial statements have been prepared on the assumption that the Group companies will continue as going concerns in the foreseeable future. As at the date of authorisation of these financial statements for issue, no circumstances were identified which would indicate any threat to the Group companies' continuing as going concerns.

4. New standards and interpretations

The following new standards, amendments to the existing standards and interpretations have been endorsed by the European Union (the "EU"):

- Amendments to IAS 16 *Property, Plant and Equipment* and IAS 41 *Agriculture: bearer plants* (issued on June 30th 2014), effective for annual periods beginning on or after January 1st 2016,
- Amendments to IFRS 11 *Joint Arrangements: accounting for acquisitions of interests in joint operations* (issued on May 6th 2014), effective for annual periods beginning on or after January 1st 2016,
- Amendments to IAS 16 *Property, Plant and Equipment* and IAS 38 *Intangible Assets: clarification of acceptable methods of depreciation and amortisation* (issued on May 12th 2014), effective for annual periods beginning on or after January 1st 2016,
- Amendments introduced as part of the Annual Improvements cycle 2012–2014 (issued on September 25th 2014), effective for annual periods beginning on or after January 1st 2016,
- Amendments to IAS 1 *Presentation of Financial Statements: disclosures* (issued on December 18th 2014), effective for annual periods beginning on or after January 1st 2016,
- Amendments to IAS 27 *Separate Financial Statements: equity method in separate financial statements* (issued on August 12th 2014), effective for annual periods beginning on or after January 1st 2016,
- Amendments to IFRS 10 *Consolidated Financial Statements*, IFRS 12 *Disclosure of Interests in Other Entities*, and IAS 28 *Investments in Associates and Joint Ventures: investment entities: applying the consolidation exception* (issued on December 18th 2014), effective for annual periods beginning on or after January 1st 2016;
- IFRS 15 *Revenue from Contracts with Customers* (issued on May 28th 2014), including amendments to IFRS 15 *Effective date of IFRS 15* (issued on September 11th 2015), effective for annual periods beginning on or after January 1st 2018,
- IFRS 9 *Financial Instruments* (issued on July 24th 2014), effective for annual periods beginning on or after January 1st 2018.

New standards, amendments to the existing standards and interpretations which have not been endorsed by the European Union:

- IFRS 14 *Regulatory Deferral Accounts* (issued on January 30th 2014) – pursuant to the European Commission's decision, the process leading to the approval of a preliminary version of the standard will not be initiated until the issue of its final version; effective for annual periods beginning on or after January 1st 2016,
- IFRS 16 *Leases* (issued on January 13th 2016), effective for annual periods beginning on or after January 1st 2019,
- Amendments to IFRS 10 *Consolidated Financial Statements* and IAS 28 *Investments in Associates and Joint Ventures: sale or contribution of assets between an investor and its associate or joint venture* (issued on September 11th 2014) – work on approval of the amendments has been postponed by the EU for an indefinite term; thus, the effective date of the amendments has been postponed by the IASB for an indefinite term;
- Amendments to IAS 12 *Recognition of Deferred Tax Assets for Unrealised Losses* (issued on January 19th 2016), effective for annual periods beginning on or after January 1st 2017;
- Amendments to IAS 7 *Disclosure Initiative* (issued on January 29th 2016), effective for annual periods beginning on or after January 1st 2017,
- Clarifications to IFRS 15 *Revenue from Contracts with Customers* (issued on April 12th 2016), effective for annual periods beginning on or after January 1st 2018,
- Amendments to IFRS 2 *Classification and Measurement of Share-Based Payment Transactions* (issued on June 20th 2016), effective for annual periods beginning on or after January 1st 2018,
- Amendments to IFRS 4 *Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts* (issued on September 12th 2016), effective for annual periods beginning on or after January 1st 2018,
- Amendments introduced as part of the Annual Improvements cycle 2014–2016 (issued on December 8th 2016) – amendments to IFRS 12 and IFRS 1, effective for annual periods beginning on or after January 1st 2017, and amendments to IAS 28, effective for annual periods beginning on or after January 1st 2018,
- IFRIC Interpretation 22 *Foreign Currency Transactions and Advance Consideration* (issued on December 8th 2016), effective for annual periods beginning on or after January 1st 2018,
- Amendments to IAS 40 *Transfer of Investment Property* (issued on December 8th 2016), effective for annual periods beginning on or after January 1st 2018.

The Group has not elected to early adopt any of the standards, interpretations, or amendments endorsed by the EU which were not effective as at December 31st 2016.

The Management Board's analysis and preliminary assessment of the impact of the new and amended standards on the Group's accounting policies and future financial statements covered in particular the effect of the new IFRS 9, IFRS 15 and IFRS 16, as their application may result in changes to the Group's accounting and financial reporting policies in 2017–2019.

IFRS 9 Financial Instruments

<p>The new IFRS 9 removes the categories of financial assets under IAS 39 and introduces classification of instruments as measured at fair value (fair value through profit or loss – FVTPL, or fair value through other comprehensive income – FVTOCI) or at amortised cost.</p> <p>IFRS 9 introduces a new impairment model based on expected loss, and new guidelines for hedge accounting, designed to simplify the existing solutions and better reflect risk management rules.</p>	<p>The preliminary assessment of financial assets in terms of their classification under IFRS 9 has shown that most assets currently recognised as loans and receivables (including trade receivables and cash) will continue to be measured at amortised cost. The Group is also analysing whether a separate business model should be identified with respect to receivables covered by factoring arrangements, which could require that such receivables be measured at FVTPL. This change, however, is not expected to have any material effect on the valuation of this portfolio at the time of initial application of IFRS 9, that is, in the period beginning on January 1st 2018.</p> <p>As regards impairment, currently the Group recognises only losses incurred, mostly based on individual testing of assets, so the requirement to recognise expected losses will have a one-off effect on retained earnings upon initial application of IFRS 9. The Management Board is considering application of the simplifications and practical expedients permitted under IFRS 9 in this respect.</p> <p>With respect to hedge accounting, the Management Board believes that the current hedging relationships can be maintained after implementation of the new standard, however hedge accounting documentation and requirements relating to hedge effectiveness testing will require appropriate adjustments.</p> <p>After an analysis of risks and benefits related to the application of hedge accounting solutions set out in IFRS 9 is completed, the Management Board will select a date for the adoption of the required solutions.</p> <p>Since work on the implementation of IFRS 9 is still under way, it is not possible to fully and reliably assess the impact of the changes, and therefore the Group has not disclosed their quantitative effect on its future financial results.</p>
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IFRS 15 Revenue from Contracts with Customers and clarifications to IFRS 15

<p>IFRS 15 <i>Revenue from Contracts with Customers</i>, which is to replace IAS 18, IAS 11 and the related interpretations, establishes in a systematic way the principles for recognition of revenue from contracts with customers. The standard introduces, among other things, a single five-step model for revenue recognition, applicable to all contracts with customers and based on the identification of performance obligations under a contract and allocation of transaction revenue to such obligations. IFRS 15 also clarifies how variable consideration should be estimated and how to determine whether a contract includes a financing arrangement, and differentiates between recognition of performance obligations under a contract as satisfied over time or satisfied at a certain point in time.</p> <p>The clarifications to IFRS 15 provide additional information and explanations concerning key assumptions adopted in IFRS 15. Besides additional clarifications, exemptions and simplifications for first-time adopters were also introduced.</p>	<p>The Group has started an analysis of the impact of IFRS 15 but has not decided on the implementation method (fully retrospective or modified retrospective) yet.</p> <p>The identified transactions and economic events that may be affected to any extent by the changes to recognition principles under the new regulations will be subject to further analysis in terms of potential differences in revenue recognition. The next phase of the IFRS 15 impact assessment will include : i) identification of performance obligations (e.g. multiple performance partnership agreements, fuel and oil supply contracts with wholesalers, comprehensive service contracts for the supply of products and services related to infrastructural and mining projects, or contracts on transport and logistics services), ii) estimation of the variable consideration (e.g. volume discounts, post-sale awards in fuel and oil supply contracts), and iii) separation of lease components from service contracts, and accounting for transactions as sale or exchange of non-cash assets where there is a production imbalance.</p> <p>On the basis of the preliminary assessment and given the limited scale of transactions in the case of which different revenue recognition may be required under the new regulations, the Group believes that the adoption of IFRS 15 should not have a material effect on the revenue figure disclosed in the consolidated financial statements at the time of the standard's initial application, i.e. in the period beginning on January 1st 2018.</p> <p>Since the Group is currently implementing IFRS 15, as at December 31st 2016 it was not possible to reliably estimate the impact of its application on the Group's financial results.</p>
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IFRS 16 Leases

The new IFRS 16 *Leases* establishes principles for the recognition, measurement, presentation and disclosure of leases. The new standard will abolish the classification of leases as operating and finance leases under IAS 17, and will provide a single lessee accounting model (for detailed accounting policies and estimates related to finance and operating leases as currently recognised, see Notes 16.2, 23.4.1 and 23).

In the opinion of the Management Board, as at December 31st 2016, a significant number of operating lease, finance lease, lending-for-use, rental and lease agreements to which Group companies are parties may be classified as leases within the meaning of IFRS 16. Those agreements were executed in both of the Group's reporting segments and provide for: lease of land, warehouse or office space, rental of various vehicles (including rolling stock, car fleets, ships, barges and tankers) and fuel terminals, as well as production plant and machinery and office equipment.

The Group has performed a general preliminary analysis of the contracts that meet the definition of a lease under IFRS 16, and expects a material increase in the amounts of lease assets and liabilities (especially related to lease of vehicles in the downstream segment) in the consolidated statement of financial position following application of the new regulations, i.e. after January 1st 2019.

To make a preliminary assessment of the potential impact on the Group of the new accounting regulations on lease agreements, it is necessary to consider the minimum future payments under operating leases, presented in Note 23.4.1 (Undisclosed liabilities under operating lease agreements). The amount of minimum discounted future payments represents an estimation of how the liabilities would have increased if the standard had been applied as at December 31st 2016. It should be noted, however, that recognition of the assets and liabilities will be different than prescribed for operating leases under the previously applicable IAS 17. At present, lease payments are usually accounted for on a straight-line basis. It is expected that following the changes resulting from implementation of IFRS 16, lease assets presented in the consolidated statement of financial position will continue to be accounted for on a straight-line basis, while lease liabilities will be accounted for using the effective interest rate, which will result in increased charges in the initial periods following execution of or amendment to a lease agreement, and their reduction over time.

The Group has not prepared a detailed simulation of changes to be included in the financial statements for the period of initial application of IFRS 16, that is after January 1st 2019, but is planning to perform appropriate analyses and calculations in 2017–2018.

5. Use of accounting assumptions, estimates and judgements

The preparation of financial statements in accordance with the International Financial Reporting Standards requires making a number of assumptions, judgements and estimates which affect the value of items disclosed in these financial statements.

Although the assumptions and estimates are based on the management's best knowledge of the current and future events and developments, the actual results might differ from the estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Any change in an accounting estimate is recognised in the period in which it was made if it refers exclusively to that period, or in the current period and future periods if it refers to both the current period and future periods. Material assumptions used in making the estimates are described in the relevant notes to these financial statements.

While making assumptions, estimates and judgements, the Company's Management Board (Management Board) relies on its experience and knowledge and may take into consideration opinions, analyses and recommendations issued by independent experts.

Critical assumptions and estimates

Employee benefit obligations

Employee benefit obligations are estimated using actuarial methods. For information on the actuarial assumptions and valuation of employee benefit obligations, see Note 25.3.

Depreciation and amortisation

Depreciation and amortisation of the assets of onshore and offshore oil and gas extraction facilities is calculated (using the units-of-production method) based on 2P hydrocarbon reserve estimates (proved and probable reserves), evaluated, revised and updated by the Group, as well as forecast production volumes from the individual oil and gas fields based on geological data, test production, subsequent production data and the schedule of work adopted in the long-term strategy.

Depreciation and amortisation charges on refining and other non-current assets are determined based on the expected useful lives of property, plant and equipment and intangible assets. The Group reviews the useful lives of its assets annually, based on current estimates. The relevant estimate update which had an effect on the Group's financial statements for 2016 pertained mainly to the Parent and resulted in a PLN 1,565 thousand decrease in its depreciation and amortisation.

Fair value of financial instruments

Fair value of financial instruments for which no active market exists is measured with the use of appropriate valuation methods. In selecting the methods and assumptions appropriate for these objectives, the Group relies on professional judgement.

For more information on the assumptions adopted for the measurement of fair value of financial instruments, see Note 7.22.

Deferred tax assets

The Group recognises deferred tax assets if it is assumed that taxable income will be generated in the future against which the assets can be utilised. If taxable profit deteriorates in the future, this assumption may prove invalid. The Parent's Management Board reviews its estimates regarding the likelihood of recovering deferred tax assets taking into account changes in the factors on which such estimates were based, new information and past experience.

For information on deferred tax assets, see Note 10.3.

Impairment of cash-generating units, individual items of property, plant and equipment, and intangible assets

If there is any indication of impairment, the Company is required to estimate the recoverable amounts of assets or cash-generating units. While determining the recoverable amount, the Company takes into account such key variables as discount rates, growth rates and price indices.

As at December 31st 2016, following an analysis of cash flows for individual cash-generating units and the required impairment tests for assets, the Group made necessary adjustments to assets and disclosed detailed information on the assumptions and test results in Note 13.

Recognition of revenue from sale of crude oil and natural gas in Norway

In line with the Group's accounting policy, revenue from sale of hydrocarbons produced from the fields on the Norwegian Continental Shelf in which the Group holds interests is recognised using the entitlements method (see Note 7.2), in proportion to the Group's entitlement to production from a given field. Revenue from oil and gas sales disclosed in the statement of comprehensive income for a given reporting period is estimated based on up-to-date data on production from the individual fields in the reporting period. Any differences between the amount of actual revenue from sale of crude oil produced from the Heimdal producing fields: Skirne, Vale and Atla, and the Sleipner producing fields: Sleipner Ost, Sleipner Vest, Gungne and Loke, and the Group's revenue estimated based on the contractual share of production from the fields are recognised in the statement of financial position under trade receivables and trade payables, which in 2016 amounted to PLN 121,095 thousand and PLN 34,003 thousand, respectively (2015: PLN 13,742 thousand and PLN 9,974 thousand).

Provision for decommissioning of the upstream segment's facilities and land reclamation

As at the end of each reporting period, the Group analyses the costs necessary to decommission oil and gas extraction facilities and the expenditure to be incurred on future land reclamation. As a result of those analyses, the Group adjusts the value of the land reclamation provision recognised in previous years to reflect the estimated amount of necessary future costs. Any changes in the estimated time value of money are also reflected in the amount of the provision. For information on the rules for recognition of those provisions, see Note 7.26.1 and for information on provisions disclosed in these financial statements for 2016, see Note 26.1.

Professional judgement in accounting

Collective control of an investee or operation

The Group and two or more investors collectively control an investee when they must act together to direct the relevant activities. In such cases, because no investor can direct the activities without the cooperation of other investors, no investor individually controls the investee. The Group assesses whether it shares control of an arrangement, which – in accordance with IFRS 11 *Joint Arrangements* – may be defined either as a joint venture or a joint operation, taking into consideration whether all parties to the relevant arrangement have control of it, whether they share exposure, or rights, to variable returns from their involvement with the investee, and whether they have the ability to jointly use their power over the investee to affect the amount of their returns.

As at the end of the reporting period, the Group was involved in joint operations under projects carried out in the Heimdal fields in Norway, and in joint ventures (see Note 14), as defined in IFRS 11, and in that respect, considering all facts and circumstances, it had joint control.

As at December 31st 2016, the Group also held interests in the Sleipner gas fields in Norway. Upon their acquisition in December 2015 (see Note 13.1.1 in the *Consolidated financial statements for 2015*), the Group entered into an agreement with the other holders of the Sleipner, Gungne, Loke, Alfa Sentral and PL046D licences. Considering the IFRS 11 criteria, the Group's operations in the above fields do not represent joint arrangements as defined in the standard and the Group does not have joint control of the operations as there is more than one combination of parties that can agree to make significant decisions. Therefore, for the purpose of correct recognition and measurement of transactions related to the operations in the Sleipner fields, the Group applies other relevant IFRSs taking into account its interest in the fields, which ensures that there are no material differences in the accounting recognition and measurement of transactions related to these operations and the manner of recognising operations which are carried out jointly with the Heimdal licence interest holders and meet the definition of joint operations within the meaning of IFRS 11.

Classification of lease agreements

The Group classifies its lease agreements as finance leases or operating leases based on the assessment of the extent to which the risks and rewards incidental to asset ownership have been transferred from the lessor to the lessee. Such assessment is in each case based on the economic substance of a given transaction. At the inception of a lease, the Group assesses all facts, circumstances and conditions, and specifies the objectives and intentions concerning the agreement, in order to determine if substantially all the risks and rewards of ownership have been transferred to the lessee. In the event of material amendments to a lease, the Group performs a reassessment of the lease classification, applying the same rules as in the initial classification of the lease agreement.

Classification of natural gas and crude oil assets in financial statements

The Group classifies its natural gas and crude oil assets as exploration and evaluation assets, development assets or production assets, relying on its professional judgement.

Once the size of a deposit is confirmed and its production plan is approved, the expenditure on natural gas and crude oil assets is transferred from exploration and evaluation assets to appropriate items of property, plant and equipment or intangible assets classified as development or production assets.

The decision to present natural gas and crude oil assets in the financial statements under development assets or production assets is made taking into account all conditions and circumstances related to the upstream project and the subsequent production from the field.

For information on accounting policies concerning natural gas and crude oil assets, see Note 7.11. For presentation and details of those assets in these financial statements, see Note 13.2.

6. Change of information presented in previous reporting periods and change of accounting policies

The Group recorded no material changes of estimated amounts reported in prior periods, where such changes would have a material effect on the current reporting period.

7. Accounting policies

These consolidated financial statements have been prepared in accordance with the historical cost principle, except with respect to derivative financial instruments, which are measured at fair value, and financial liabilities measured at amortised cost.

The key accounting policies applied by the Group are presented below.

7.1 Consolidation

These consolidated financial statements have been prepared on the basis of the financial statements of the Parent and financial statements of its subsidiaries and jointly-controlled entities, prepared as at December 31st 2016.

All significant balances and transactions between the related entities, including material unrealised profits on transactions, have been eliminated in their entirety. Unrealised losses are eliminated unless they are indicative of impairment.

Subsidiaries are fully consolidated starting from the date when the Group assumes control over them and cease to be consolidated when the control is lost. According to IFRS 10 *Consolidated Financial Statements*, the Group controls an investee when it is exposed or has rights to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

The Group and two or more investors collectively control an investee when they must act together to direct the relevant activities. In such cases, because no investor can direct the activities without the cooperation of other investors, no investor individually controls the investee. Interests in joint ventures held by the Group (see Note 14) are accounted for with the equity method (see Note 7.29).

7.2 Revenue

Revenue is disclosed at the fair value of consideration received or due for the sale of products, merchandise and services, executed in the ordinary course of business, less discounts, value added tax (VAT) and other sales-related taxes (excise duty, fuel charge). Revenue from sale of products and merchandise is recognised at the moment of delivery, when material risks and rewards resulting from the ownership of the products and merchandise have been transferred to the purchaser. Revenue from sale of crude oil and natural gas in Norway is recognised and disclosed using the entitlements (rights) method.

The entitlements method is one of two methods for recognition of revenue commonly applied by oil and gas producers (with the sales method as the alternative) and allowed under IFRS. The Management Board believes that the entitlements method ensures a fair and accurate presentation of the assets, financial performance and profitability of the Group's joint operations in oil and gas producing fields.

For logistical reasons, when hydrocarbons are produced from a field by a number of interest holders there are naturally occurring differences between the volumes actually received by individual interest holders and their respective contractual share of production (to which they are entitled under relevant agreements). Thus, it is necessary to apply a special mechanism to account for such differences. In accordance with the entitlements method applied by the Group, revenue is always recognised in the Group's accounting books in accordance with its entitlement to production from the field. The correct amount of revenue in the financial statements is arrived at in the following manner: the overlift party, i.e. the interest holder which receives hydrocarbons in excess of contractual share of production from a field in a given period, recognises the excess in its accounting books as a liability rather than revenue. Conversely, the underlift party (the party receiving less than its entitlement in a given period) recognises the underlift as a receivable (revenue). In the consolidated statement of financial position, assets and liabilities under the entitlements method are presented as Trade receivables and Trade payables. For more information on estimates related to the application of the entitlements method, see Note 5.

7.3 Dividend income

Dividend is recognised as finance income as at the date on which the appropriate governing body of the dividend payer resolves on distribution of profit, unless the resolution specifies another dividend record date. Although this classification policy does not follow directly from IAS 18, the Group decided to disclose dividend income under finance income since this is a common practice among entities, other than financial institutions, applying IFRSs. The Group applies this classification policy in a consistent manner.

7.4 Interest income

Interest income is recognised as the interest accrues (using the effective interest rate), unless its receipt is doubtful. The Group recognises interest income under finance income, which does not follow directly from IAS 18 but is a common practice among entities, other than financial institutions, applying IFRSs. The Group applies this classification policy in a consistent manner.

7.5 Income tax

Mandatory decrease in profit/(increase in loss) comprises current income tax (CIT) and deferred income tax. The current portion of income tax is calculated based on net profit/(loss) (taxable income) for a given financial year. Net profit (loss) for tax purposes differs from net profit (loss) for accounting purposes due to temporary differences between revenue amounts calculated for these two purposes, including income which is taxable and costs which are tax-deductible in a period other than the current accounting period, as well as permanent differences attributable to income and cost which will never be accounted for in tax settlements. The tax charges are calculated based on the tax rates effective for a given financial year.

For the purposes of financial reporting, the Company calculates deferred tax liabilities taking into account all temporary differences existing as at the end of the reporting period between the tax base of assets and liabilities and their carrying amounts as disclosed in the financial statements.

Deferred tax liability is recognised for all taxable temporary differences:

- except to the extent that the deferred tax liability arises from the initial recognition of goodwill or the initial recognition of an asset or liability in a transaction which is not a business combination and, at the time of the transaction, affects neither accounting pre-tax profit nor taxable income (tax loss), and
- in the case of taxable temporary differences associated with investments in subsidiaries, jointly-controlled entities or associates and interests in joint ventures, unless the investor is able to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are disclosed in relation to all deductible temporary differences, unused tax assets, and unused tax losses brought forward in the amount of the probable taxable income which would enable these differences, assets and losses to be used:

- except to the extent that the deferred tax assets related to deductible temporary differences arise from the initial recognition of an asset or liability in a transaction which is not a business combination and, at the time of the transaction, affects neither accounting pre-tax profit nor taxable income (tax loss), and
- in the case of deductible temporary differences associated with investments in subsidiaries, jointly-controlled entities or associates and interests in joint ventures, the related deferred tax assets are recognised in the statement of financial position to the extent it is probable that in the foreseeable future the temporary differences will be reversed and taxable income will be generated which will enable the deductible temporary differences to be offset.

The carrying amount of deferred tax assets is revised as at the end of each reporting period and is subject to appropriate reduction to the extent it is no longer probable that taxable income sufficient for its partial or full realisation would be generated.

Deferred tax assets and deferred tax liabilities are calculated using tax rates expected to be effective at the time of realisation of particular asset or liability, based on tax rates (and tax legislation) effective as at the end of the reporting period or tax rates (and tax legislation) which as at the end of the reporting period are certain to be effective in the future. The effect of deferred tax on items posted directly to equity is recognised in equity through other comprehensive income.

Deferred tax assets and deferred tax liabilities are presented in the statement of financial position in the amount obtained after they are offset for particular consolidated entities.

7.6 Value-added tax (VAT), excise duty and fuel charge

Revenue, expenses, assets and liabilities are recognised net of the VAT, excise duty and fuel charge:

- except where the value-added tax (VAT) paid on the purchase of assets or services is not recoverable from the tax authorities (in such a case it is recognised in the cost of a given asset or as part of the cost item), and
- except in the case of receivables and payables which are recognised inclusive of the value-added tax, excise duty and fuel charge.

The net amount of value-added tax, excise duty and fuel charge recoverable from or payable to tax authorities is carried in the statement of financial position under receivables or liabilities, as appropriate.

7.7 Functional currency, presentation currency and foreign currency translation

The Parent's functional currency and the presentation currency of these consolidated financial statements is the Polish zloty ("zloty", "zł", "PLN"). These consolidated financial statements have been prepared in thousands of zloty and, unless indicated otherwise, all amounts are stated in thousands of zloty.

The financial statements of foreign entities are translated into the presentation currency of the consolidated financial statements at the following exchange rates:

- items of the statement of financial position – at the mid rate quoted by the National Bank of Poland for the end of the reporting period (NBP's mid rate for the end of the reporting period),
- items of the statement of comprehensive income – at the exchange rate computed as the arithmetic mean of mid rates quoted by the National Bank of Poland for the end of each month in the reporting period (NBP's average mid rate for the reporting period).

The resulting exchange differences are recognised as a separate component in equity and other comprehensive income.

Exchange differences on translating foreign operations comprise exchange differences resulting from the translation into the zloty of the financial statements of foreign companies and groups of companies.

Exchange differences arising on a monetary item that forms a part of a reporting entity's net investment in a foreign operation are recognised in equity and other comprehensive income, and on disposal of the investment they are reclassified to consolidated profit or loss in the statement of comprehensive income.

At the time of disposal of a foreign entity, the accumulated exchange differences recognised in equity and relating to this foreign entity are taken to profit or loss.

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets or liabilities of the foreign operation and are translated into the presentation currency of the financial statements at the exchange rate effective for the end of the reporting period.

The following exchange rates were used in the valuation of items of the statement of financial position:

NBP's mid rate quoted for:	Dec 31 2016 ⁽¹⁾	Dec 31 2015 ⁽²⁾
USD	4.1793	3.9011
EUR	4.4240	4.2615
NOK	0.4868	0.4431

⁽¹⁾ NBP's mid rates table, effective for December 31st 2016.

⁽²⁾ NBP's mid rates table, effective for December 31st 2015.

The following exchange rates were used in the valuation of items of the statement of comprehensive income:

NBP's average mid rate for the reporting period	2016 ⁽¹⁾	2015 ⁽²⁾
USD	3.9680	3.7928
EUR	4.3757	4.1848
NOK	0.4725	0.4664

⁽¹⁾ Based on the arithmetic mean of the mid rates quoted by the NBP for the last day of each full month in the period January 1st–December 31st 2016.

⁽²⁾ Based on the arithmetic mean of the mid rates quoted by the NBP for the last day of each full month in the period January 1st–December 31st 2015.

7.8 Foreign currency transactions

Business transactions denominated in foreign currencies are reported in the consolidated financial statements after translation into the Group's presentation currency (Polish zloty) at the following exchange rates:

- the exchange rate actually applied on that date due to the nature of the transaction – in the case of sale or purchase of foreign currencies;
- the mid rate quoted for a given currency by the National Bank of Poland (the "NBP") for the day immediately preceding the transaction date – in the case of payment of receivables or liabilities where there is no rationale for using the exchange rate referred to above, and for other transactions.

The exchange rate applicable to purchase invoices is the mid rate quoted by the NBP for the last business day immediately preceding the invoice date, and the exchange rate applicable to sales invoices is the mid rate quoted by the NBP for the last business day immediately preceding the sale date.

Any foreign exchange gains or losses resulting from currency translation are posted to the statement of comprehensive income (including intercompany foreign currency transactions), except for foreign exchange gains and losses which are treated as a part of borrowing costs and are capitalised in property, plant and equipment (foreign exchange gains and losses on interest and fees and commissions). Non-monetary items measured at historical cost in a foreign currency are translated at the exchange rate effective as at the date of the initial transaction. Non-monetary items measured at fair value in a foreign currency are translated at the exchange rate effective as at the date of determining the fair value.

The Company calculates realised and unrealised foreign exchange gains (losses) separately and recognises the resulting total balance in the statement of comprehensive income under:

- operating profit or loss: in the case of foreign exchange gains and losses related to settlement of trade receivables and payables,
- finance gain or loss: in the case of e.g. borrowings, investment commitments, and cash and cash equivalents.

Exchange differences on end-of-period valuation of short-term investments (e.g. shares and other securities, loans advanced, cash and cash equivalents) and receivables and liabilities denominated in foreign currencies are charged to finance income or costs and operating income or expenses.

7.9 Property, plant and equipment and intangible assets

7.9.1 Property, plant and equipment

Items of property, plant and equipment other than land are measured at cost less accumulated depreciation and impairment losses.

Land is measured at cost less impairment losses. In the case of perpetual usufruct rights to land, cost is understood to mean the amount paid for the right to a third party. Perpetual usufruct rights to land obtained free of charge are carried at fair value in the accounting books.

Initial value of an item of property, plant and equipment comprises its cost, which includes all costs directly related to its acquisition and bringing it to working condition for its intended use. The cost also includes the cost of replacing component parts of plant and equipment, which is recognised when incurred, provided that relevant recognition criteria are fulfilled. Costs incurred on an asset which is already in service, such as costs of repairs and overhauls or operating fees, are expensed in the reporting period in which they were incurred.

The initial value of property, plant and equipment includes borrowing costs (see Note 7.22).

Items of property, plant and equipment (including their components), other than land and property, plant and equipment comprising production infrastructure, are depreciated using the straight-line method over their estimated useful lives.

Items of property, plant and equipment comprising production infrastructure used in crude oil and natural gas extraction are depreciated using the units-of-production method, where depreciation per unit of produced crude oil or natural gas charged to expenses. The depreciation rate is estimated by reference to forecasts of crude oil and gas production from a given geological area. If the estimated hydrocarbon reserves (2P – proved and probable reserves) change materially as at the end of the reporting period, depreciation per unit of produced crude oil or natural gas is remeasured. Then, starting from the new financial year, the revised depreciation rate is applied (see Note 5).

Items of property, plant and equipment under construction are measured at the amount of aggregate costs directly attributable to their acquisition or production (including finance costs) less impairment losses, if any. Items of property, plant and equipment under construction are not depreciated until they are ready for their intended use.

	Depreciation method	Depreciation period /useful life
Land (excluding perpetual usufruct rights)	Not depreciated	
Property, plant and equipment under construction	Not depreciated	
Other property, plant and equipment		
Buildings, structures	Straight-line method	From 1 to 80 years
Plant and equipment	Straight-line method	From 1 to 25 years
Vehicles, other	Straight-line method	From 1 to 15 years
Property, plant and equipment comprising production infrastructure used in crude oil and natural gas extraction	Units-of-production method	The depreciation rate is estimated by reference to forecasts of crude oil and gas production from a given geological area (2P – proved and probable reserves).

The residual values, useful economic lives and depreciation methods are reviewed on an annual basis and adjusted, if required, with effect from the beginning of the next financial year.

An item of property, plant and equipment may be removed from the statement of financial position if it is sold or if the entity does not expect to realise any economic benefits from its further use. Any gains or losses on derecognition of an asset from the statement of financial position (calculated as the difference between net proceeds from its sale, if any, and the carrying amount of the asset) are disclosed in the statement of comprehensive income in the period of derecognition.

The Group's property, plant and equipment comprising production infrastructure include assets corresponding to the amount of provision for decommissioning of oil and gas extraction facilities (see also Note 7.26.1). These assets are recognised in accordance with IAS 16 *Property, Plant and Equipment*, which states: "Cost of an item of property, land and equipment includes [...] the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period". The Group's obligation to incur costs of decommissioning of the oil and gas extraction facilities results directly from the reasons specified in IAS 16. Under Section 63 of the standard, entities are obliged to review the value of the assets periodically, at least as at the end of each reporting period.

Revaluation of the assets may be caused by:

- change in the estimate of the cash outflow that will be necessary to ensure performance of the decommissioning obligation,
- change in the current market discount rate,
- change in the inflation rate.

Expenditure on property, plant and equipment used in exploration for and evaluation of crude oil and natural gas resources is capitalised until the deposit volume and the economic viability of production are determined; such expenditure is presented in a separate item of property, plant and equipment in accordance with IFRS 6 *Exploration for and Evaluation of Mineral Resources*. Upon confirmation of existence of reserves in the case of which extraction is technically feasible and economically viable, such expenditure is transferred to relevant items of property, plant and equipment classified as development or production assets, and is subsequently depreciated using the units-of-production method (see above) based on the volume of reserves and actual production.

If expenditure on property, plant and equipment under construction does not result in discovery of any reserves in the case of which extraction is technically feasible and economically viable, impairment losses on property, plant and equipment under construction are recognised and charged to profit or loss of the period in which it is found that commercial production from the deposits is not viable.

7.9.2 Goodwill

The acquirer recognises the acquiree's goodwill as at the acquisition date, in the amount equal to the excess of the difference between (A) the amount of consideration transferred, measured at its acquisition-date fair value, including the value of any non-controlling interests in the acquiree, (B) the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree (in the case of a business combination achieved in stages), and (C) the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed measured at fair values as at the transaction date.

$$\text{Goodwill} = (C) - (A) - (B)$$

In the case of a business combination achieved in stages, the acquirer remeasures its previously held equity interest in the acquiree at its acquisition-date fair value and recognises the resulting gain or loss in the statement of comprehensive income.

Following initial recognition, goodwill is carried at cost less cumulative impairment losses. Goodwill is tested for impairment once a year. It is not amortised.

As at the acquisition date, the acquired goodwill is allocated to each of the identified cash-generating units that may benefit from the synergies of the business combination, provided that goodwill may not be allocated to a cash-generating unit higher than an operating segment. The Group calculates impairment of value by estimating the recoverable amount of a cash-generating unit ("CGU") to which goodwill has been allocated. If the recoverable amount of the CGU is lower than its carrying amount, an impairment loss is recognised. If goodwill is a part of a CGU and the Group sells a part of the CGU's business, the goodwill pertaining to the sold business is included in the carrying amount of the sold business for the purpose of calculating gain or loss on disposal of the part of business. In such a case, goodwill pertaining to the sold business should be measured using the relative value of the sold business, pro-rata to the interest in the retained part of the CGU.

7.9.3 Other intangible assets

Intangible assets other than goodwill comprise oil exploration and production licences in Lithuania acquired as part of a business combination, expenditure incurred on oil and gas exploration licences on the Norwegian Continental Shelf, other production and exploration licences in Poland, software licences, patents, trademarks, acquired CO₂ emission allowances and intangible assets under development.

Intangible assets are initially recognised at cost if they are acquired in separate transactions. Intangible assets acquired as part of a business combination are recognised at fair value as at the transaction date. Subsequent to initial recognition, intangible assets are carried at amounts reflecting accumulated amortisation and impairment losses.

Licences obtained in Lithuania during the step acquisition of the AB LOTOS Geonaftha Group companies are disclosed under intangible assets classified as development or production assets and amortised using the unit-of-production method, where amortisation per unit of produced crude oil is charged to expenses. The amortisation rate is estimated by reference to forecasts of hydrocarbon production from a given field. If the estimated hydrocarbon reserves (2P – proved and probable reserves) change materially as at the end of the reporting period, amortisation per unit of produced crude oil or natural gas is remeasured. Then, starting from the new financial year, the revised amortisation rate is applied.

Expenditure on oil and gas exploration licences on the Norwegian Continental Shelf is presented as a separate item of intangible assets, as required under IFRS 6 *Exploration for and Evaluation of Mineral Resources*, and is not amortised until the technical feasibility and commercial viability of extraction is demonstrated. For more information on the accounting policies concerning expenditure on exploration for and evaluation of mineral resources, see Note 7.11.1.

Except capitalised development expenditure, expenditure on intangible assets produced by the Company is not capitalised but is charged to expenses in the period in which it was incurred.

	Amortisation method	Amortisation period /useful life
Development and production assets Licences (Lithuania, Poland)	Units-of-production method	The amortisation rate is estimated by reference to forecasts of hydrocarbon production from a given field (2P – proved and probable reserves).
Exploration and evaluation assets Oil and gas exploration licences on the Norwegian Continental Shelf	Not amortised until the technical feasibility and commercial viability of extraction is demonstrated	
Other intangible assets Software licences, patents and trademarks	Straight-line method	from 2 to 40 years.
Acquired CO ₂ emission allowances Intangible assets under development	Not amortised	

The amortisation period and the amortisation method for an intangible asset are reviewed at the end of each financial year. Changes in the expected useful life or pattern of generation of the future economic benefits embodied in an intangible asset are reflected by changing the amortisation period or amortisation method, as appropriate, and are treated as changes in accounting estimates (see Note 5).

7.10 Impairment of non-financial non-current assets

As at the end of each reporting period, the Group assesses whether there is an indication of impairment of any of its assets. If the Group finds that there is such indication or if it is required to perform annual impairment tests, the recoverable amount of the asset is estimated.

The recoverable amount of an asset is equal to the higher of:

- the fair value of the asset or cash generating unit in which such asset is used, less cost to sell, or
- the value in use of the asset or cash generating unit in which such asset is used.

The recoverable amount is determined for the individual assets, unless a given asset does not generate separate cash flows largely independent from those generated by other assets or asset groups. If the carrying amount of an asset is higher than its recoverable amount, the value of the asset is impaired and an impairment loss is recognised, reducing the asset's carrying amount to the established recoverable amount.

In assessing value in use, the projected cash flows are discounted to their present value (at a pre-tax discount rate) which reflects current market assessments of the time value of money and risks specific to the asset. Any impairment losses on non-financial assets used in operations are recognised under other expenses.

The Group assesses at the end of each reporting period whether there is any indication that previously recognised impairment of an asset no longer exists or should be reduced. If there is such indication, the Group again estimates the recoverable amount of the asset, and the recognised impairment loss is reversed if, and only if, there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. In such a case, the carrying amount of the asset is increased up to its recoverable amount. Such increased amount may not exceed the carrying amount of the asset that would have been determined (net of accumulated amortisation or depreciation) had no impairment loss been recognised for the asset in previous years. Reversal of an impairment loss on a non-financial non-current asset is immediately recognised as other income. Following reversal of an impairment loss, in the subsequent periods the amortisation/depreciation charge for the given asset is adjusted so that its revised carrying amount, less residual value, can be regularly written off over the remaining useful life of that asset.

The Group offsets corresponding items of other income and expenses, including impairment losses and their reversals, in accordance with IAS 1 *Presentation of Financial Statements* (Section 34) and recognises them in the statement of comprehensive income on a net basis.

7.11 Non-current assets comprising production infrastructure used in crude oil and natural gas extraction

7.11.1 Expenditure on crude oil and natural gas exploration and evaluation (exploration and evaluation assets)

Exploration for and evaluation (appraisal) of mineral resources means the search for crude oil and natural gas resources, and determination of the technical feasibility and commercial viability of their extraction.

From the moment of obtaining the right to explore for hydrocarbons in a given area to the moment when the technical feasibility and commercial viability of extracting mineral resources is determined, expenditure directly connected with exploration for and evaluation of oil and gas resources is recognised in accordance with IFRS 6 *Exploration for and Evaluation of Mineral Resources* as a separate item of non-current assets. The expenditure includes the costs of acquisition of exploration rights, costs of exploration rigs, salaries and wages, consumables and fuel, insurance, costs of geological and geophysical surveys, as well as costs of other services.

The Group classifies its hydrocarbon exploration and evaluation assets as property, plant and equipment or intangible assets, depending on the type of the acquired assets, and applies this classification policy in a consistent manner.

Once the size of a deposit is confirmed and its production plan is approved, the expenditure is transferred to appropriate items of property, plant and equipment or intangible assets classified as development and production assets (see also Note 7.9.1).

The Group examines the need to recognise impairment losses on exploration and evaluation assets by considering whether in relation to a specific area:

- the period for which the Group has the right to explore in the specific area has expired during the current financial year or will expire in the near future, and is not expected to be renewed,
- no substantial expenditure on further exploration for and evaluation of mineral resources is anticipated,
- exploration for and evaluation of mineral resources have not led to discovery of commercially viable quantities of mineral resources and the Group has decided to discontinue such activities,
- sufficient data exist to indicate that, although development in the specific area is likely to proceed, the carrying amount of the exploration and evaluation asset is unlikely to be recovered in full from successful development or by sale.

If expenditure on property, plant and equipment under construction does not result in discovery of any reserves in the case of which extraction is technically feasible and economically viable, impairment losses on property, plant and equipment under construction are recognised and charged to profit or loss of the period in which it is found that commercial production from the deposits is not viable.

7.11.2 Assets related to production of crude oil and natural gas (development and production assets)

Assets related to production of crude oil and natural gas are recognised and measured in accordance with the accounting policies presented in Note 7.9.1 (property, plant and equipment) and in Note 7.9.3 (intangible assets).

The Group's property, plant and equipment comprising production infrastructure include assets corresponding to the amount of provision for decommissioning of oil and gas extraction facilities (see Note 7.26.1). Those assets are recognised in accordance with IAS 16 *Property, Plant and Equipment*, which states: "Cost of an item of property, land and equipment includes [...] the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period". The Group's obligation to incur costs of decommissioning of oil and gas extraction facilities results directly from the reasons specified in IAS 16. Under Section 63 of the standard, entities are obliged to review the value of the assets periodically, at least as at the end of each reporting period.

Revaluation of the assets may be caused by:

- change in the estimate of the cash outflow that will be necessary to ensure performance of the decommissioning obligation,
- change in the current market discount rate,
- change in the inflation rate.

7.12 Leases

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of the leased asset onto the lessee. All other lease agreements are treated by the Group as operating leases.

The Group as a lessor

Finance leases are disclosed in the statement of financial position as receivables, at amounts equal to the net investment in the lease less the principal component of lease payments for a given financial year calculated based on a pattern reflecting a constant periodic rate of return on the lessor's net investment outstanding in respect of the finance lease.

Finance income from interest on a finance lease is disclosed in the relevant reporting periods based on a pattern reflecting a constant periodic rate of return on the net investment outstanding in respect of the finance lease.

Income from operating leases is recognised in the statement of comprehensive income on a straight-line basis over the lease term.

The Group as a lessee

Assets used under a finance lease are recognised as assets of the Group and are measured at fair value as at the acquisition date or, if lower, the present value of the minimum lease payments. The resultant obligation towards the lessor is presented in the statement of financial position under Finance lease liabilities. Lease payments are broken down into the interest component and the principal component so as to produce a constant rate of interest on the remaining balance of the liability. Finance costs are recognised in the statement of comprehensive income.

Operating lease payments are recognised in the statement of comprehensive income on a straight-line basis over the lease term.

7.13 Inventories

Inventories are stated at the lower of cost or net realisable value.

Costs incurred in order to bring an inventory item to its present location and condition are accounted for in the following manner:

- materials and merchandise – at cost,
- finished goods and work-in-progress – at the cost of direct materials and labour and an appropriate portion of indirect production costs, established on the basis of normal capacity utilisation.

Net realisable value is the selling price estimated as at the end of the reporting period, net of value added tax, excise duty and fuel charge, less any rebates, discounts and other similar items, and less the estimated costs to complete and costs to sell.

Decrease in inventories is established with the weighted average method.

Write-downs of products or semi-finished products, resulting from revaluation based on net realisable value, are posted to production costs. Write-downs of merchandise are charged to cost of merchandise sold in the statement of comprehensive income.

As at the end of each reporting period, the Group estimates (based on an individual assessment of the usefulness of inventories for the purposes of the Group's business) the amount of write-downs of stored materials. If crude oil and refining product prices go down, the Group recognises an inventory write-down to adjust the carrying amount of inventories, given the difference between their production cost and *net realisable value*, in accordance with IAS 2. Write-downs of stored materials made due to their impairment are charged to production costs.

If the reason for making an inventory write-down no longer exists, the value of the inventory item is increased by an equivalent of the entire or part of the write-down. For the sake of clarity and because of the economic substance of the operation, if a write-down is used, its reversal is reflected in operating activities.

7.14 Emergency stocks

The Group maintains emergency stocks as required by the following acts:

- Act on Stocks of Crude Oil, Petroleum Products and Natural Gas, and on the Rules to be Followed in the Event of Threat to National Fuel Security or Disruptions on the Petroleum Market of February 16th 2007 (Dz.U. of 2007, No. 52, item 343, dated March 23rd 2007, as amended).
- Regulation of the Minister of Economy, Labour and Social Policy, on fuel stocks at energy sector companies, dated February 12th 2003 (Dz.U. No. 39, item 338, as amended).

These regulations define the rules for creating, maintaining and financing stocks of crude oil, petroleum products and fuels at energy sector companies.

Emergency stocks are disclosed as current assets given their short turnover cycle. The Group's emergency stocks include crude oil, petroleum products (liquid fuels), LPG and coal. In the downstream segment, emergency stocks are maintained mainly by the Parent.

7.15 Trade and other receivables, prepayments and accrued income

Trade receivables, which typically become due and payable in 7 to 60 days, are recognised and carried at amounts initially invoiced, less impairment losses on doubtful receivables. Impairment losses on receivables are estimated when the collection of the full amount of receivables is no longer probable. Uncollectible receivables are written off through the statement of comprehensive income when recognised as unrecoverable accounts.

If the effect of time value of money is significant, the value of receivables is determined by discounting the projected future cash flows to their present value at a pre-tax discount rate reflecting the current market estimates of the time value of money. If the discount method is applied, an increase in receivables over time is recognised as finance income.

The Group recognises prepayments where costs relate to future reporting periods. Prepayments are recognised under other non-financial assets.

7.16 Cash and cash equivalents

Cash in hand and at banks, as well as short-term deposits held to maturity are measured at par value.

Cash and cash equivalents disclosed in the consolidated statement of cash flows comprise cash in hand, overdraft facilities, and those bank deposits maturing within three months which are not treated as investment placements.

7.17 Non-current assets (or disposal groups) held for sale

Non-current assets (or disposal groups) are classified as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. This condition is deemed to be met only if the sale is highly probable and the asset (or disposal group) is available for immediate sale in its present condition. Classification of an asset as held for sale means that the management intends to complete the sale within one year from the change of its classification.

Non-current assets (or disposal groups) classified as held for sale are measured at the lower of their carrying amount or fair value less costs to sell.

7.18 Equity

Equity is recognised in the consolidated financial statements by categories, in accordance with applicable laws and constitutional documents of the consolidated entities.

The share capital of the LOTOS Group is the share capital of the Parent and is recognised at its par value, in the amount specified in the Company's Articles of Association and in the relevant entry in the National Court Register.

7.19 Borrowings and other debt instruments

All borrowings and other debt instruments are initially recognised at cost, equal to the fair value, less cost of obtaining the financing.

Following initial recognition, borrowings and other debt instruments are measured at amortised cost, using the effective interest rate method. Amortised cost includes the cost of obtaining financing and discounts, as well as premiums received on settlement of the liability. Upon removal of the liability from the statement of financial position or recognition of impairment losses, gains or losses are recognised in the statement of comprehensive income.

7.20 Employee benefit obligations

7.20.1 Retirement severance payments, length-of-service awards and other employee benefits

In accordance with the Collective Bargaining Agreement, the Group's employees are entitled to length-of-service awards and severance payments upon retirement due to old age or disability, as well as death benefits.

Also, the employees, retired employees, and pensioners covered by the Group's social benefits are entitled to benefits from a separate social fund, which is established pursuant to applicable national regulations (Company Social Benefits Fund).

According to IAS 19 *Employee Benefits*, old-age and disability retirement severance payments, as well as contributions to the Company Social Benefits Fund to be used for payment of future benefits to retired employees, are classified as defined post-employment benefit plans, while length-of-service awards, death benefits, and benefits paid to currently retired employees are recognised under other employee benefits.

Present value of future post-employment benefit obligations as at the end of the reporting period is calculated by an independent actuary using the projected unit credit method, and represents the discounted value of future payments the employer will have to make to fulfil its obligations related to the employees' services in previous periods (until the end of the reporting period), defined individually for each employee, taking into account employee turnover (probability of employees leaving), without including future employees.

The value of future employee benefit obligations includes length-of-service awards, old-age and disability retirement severance payments, social fund benefits payable to retired employees and pensioners, and estimated value of death benefits.

Length-of-service awards are paid out after a specific period of employment. Old-age and disability retirement severance payments are one-off and paid upon retirement. Amounts of severance payments and length-of-service awards depend on the length of employment and the average remuneration of an employee. The amount of death benefit depends on the length of employment of the deceased employee, and the benefit is payable to the family, in accordance with the rules set forth in the Polish Labour Code.

Actuarial gains and losses on post-employment benefits are recognised in other comprehensive income.

Employees of the Group companies are also entitled to holidays in accordance with the rules set forth in the Polish Labour Code. The Group calculates the cost of employee holidays on an accrual basis using the liability method. The value of compensation for unused holidays is recognised in the Group's accounting records based on the difference between the balance of holidays actually used and the balance of holidays used established proportionately to the passage of time, and disclosed in the financial statements as, respectively, current or non-current liabilities under other employee benefits during employment.

Obligations under other employee benefits during employment also include bonuses and awards granted as part of the Group's incentive pay systems.

For detailed information on employee benefits, see Note 25, containing information on individual items of employee benefit obligations and employee benefits expense, actuarial assumptions, as well as an analysis of sensitivity of the estimates to changes of these assumptions. The Group recognises the cost of discount on its employee benefit obligations in finance costs.

Given the different nature of pension plans operated by the Group's foreign companies – LOTOS Exploration and Production Norge AS and the companies of the AB LOTOS Geonafra Group – and their immaterial effect on the Group's obligations under length-of-service awards and post-employment benefits, those companies' obligations are presented separately under [Obligations under length-of-service awards and post-employment benefits at foreign companies](#).

7.20.2 Profit allocated for employee benefits and special accounts

In accordance with the business practice in Poland, shareholders have the right to allocate a part of profit to employee benefits by making contributions to the Company's social benefits fund and to other special accounts. However, in the financial statements such distributions are charged to operating expenses of the period to which the profit distribution relates.

7.21 Borrowing costs

Borrowing costs (i.e. interest and other costs incurred in connection with borrowings) are expensed in the period in which they were incurred, except costs which relate directly to the acquisition, construction or production of an asset being completed (including foreign exchange losses on interest, and foreign exchange losses on fees and commissions), which are capitalised as part of the cost of such asset (an asset being completed is an asset whose preparation for use or sale requires a significant amount of time).

To the extent that funds are borrowed specifically for the purpose of acquiring the asset being completed, the amount of the borrowing costs which may be capitalised as part of such asset is determined as the difference between the actual borrowing costs incurred in connection with a given credit facility or loan in a given period and the proceeds from temporary investments of the borrowed funds.

To the extent that funds are borrowed without a specific purpose and are later allocated for the acquisition of an asset being completed, the amount of the borrowing costs which may be capitalised is determined by applying the capitalisation rate to the expenditure on that asset.

7.22 Financial assets and liabilities

Financial assets and liabilities are classified into the following categories:

- Financial assets held to maturity,
- Financial assets and liabilities at fair value through profit or loss,
- Loans and receivables,
- Financial assets available for sale,
- Financial liabilities at amortised cost

Financial assets held to maturity

Financial assets held to maturity are non-derivative financial assets with fixed or determinable payments and fixed maturities, which are quoted on an active market and which the Group has the positive intention and ability to hold to maturity, other than those:

- designated at fair value through profit or loss upon initial recognition,
- designated as available for sale,
- which qualify as loans and receivables.

Financial assets held to maturity are measured at amortised cost using the effective interest rate method.

Financial assets held to maturity are classified as non-current assets if they mature more than 12 months after the end of the reporting period.

Financial assets and liabilities at fair value through profit or loss

A financial asset at fair value through profit or loss is a financial asset that meets either of the following conditions:

- a) it is classified as held for trading. Financial assets are classified as held for trading if they:
 - have been acquired principally for the purpose of being sold in the near future,
 - are part of a portfolio of identified financial instruments that are managed together and for which there is probability of profit-taking in the near future,
 - are derivative instruments, except for a derivative that is a financial guarantee contract or a hedging instrument,
- b) it has been assigned to this category in accordance with IAS 39 *Financial Instruments: recognition and measurement* upon initial recognition.

Measurement of financial assets at fair value through profit or loss consists in recognition of such assets at fair value by reference to their market value as at the end of the reporting period, without reflecting sale transaction costs. Any changes in the value of such instruments are recognised in the statement of comprehensive income as finance income or finance costs.

An entire contract can be designated as a financial asset at fair value through profit or loss if it contains one or more embedded derivatives. The above does not apply when an embedded derivative has no significant impact on the cash flows generated under the contract or when it is clear that if a similar hybrid instrument was first considered, separation of the embedded derivative would be prohibited under IFRS.

Financial assets may be designated as financial assets at fair value through profit or loss on initial recognition if the following criteria are met:

- (i) such designation eliminates or significantly reduces a measurement or recognition inconsistency (an accounting mismatch); or
- (ii) the assets are part of a group of financial assets that are managed and measured based on fair value, according to a well-documented risk management strategy; or
- (iii) the assets contain embedded derivatives which should be presented separately.

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities initially designated as financial liabilities at fair value through profit or loss. Financial liabilities are classified as held for trading if they were acquired for the purpose of being sold in the near future. Derivative financial instruments, including separated embedded instruments, are also classified as held for trading unless they are considered as effective hedges.

Financial liabilities may be designated as financial liabilities at fair value through profit or loss on initial recognition if the following criteria are met:

- (i) such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring liabilities or recognising the gains and losses on them on different bases, or
- (ii) the liabilities are part of a group of financial liabilities that are managed and measured based on fair value, according to a well-documented risk management strategy; or
- (iii) the liabilities contain embedded derivatives which should be presented separately.

Financial liabilities classified as financial liabilities at fair value through profit or loss are measured based on their market value as at the end of the reporting period, without reflecting sale transaction costs. Changes in the fair value of such instruments are recognised in profit or loss as finance income or costs.

Based on the fair value measurement methods applied, the Group classifies its individual financial assets and liabilities according to the following levels (fair value hierarchy):

- **Level 1:** Financial assets and liabilities whose fair values are measured directly on the basis of quoted prices (used without adjustment) from active markets for identical assets or liabilities.
- **Level 2:** Financial assets and liabilities whose fair values are measured using measurement models when all significant input data is observable on the market either directly (unadjusted market prices) or indirectly (data based on market prices).
- **Level 3:** Financial assets and liabilities whose fair values are measured using measurement models when the input data is not based on observable market data (unobservable input data).

The Group discloses derivative transactions with positive fair values under financial assets held for trading. Derivative transactions with negative fair values are disclosed under financial liabilities held for trading.

The Group's financial assets and liabilities held for trading include the following types of derivatives: options, forward contracts (in particular forward rate agreements), futures contracts, swaps (in particular interest-rate swaps) and spot contracts. All the above types of forward transactions classified as derivatives are executed by the Group as part of its risk management policy (see below).

Fair value of commodity swaps is established by reference to discounted cash flows connected with the transactions, calculated on the basis of the difference between the average market price and the transaction price. The fair value is established on the basis of prices quoted on active markets, as provided by an external consultancy. (Level 2 in the fair value hierarchy).

Fair value of commodity options is established by reference to cash flows connected with the transactions, calculated on the basis of the difference between the option premium paid and the current market price of the option. The fair value is established on the basis of prices quoted on active markets provided by an external consultancy (Level 2 in the fair value hierarchy).

Fair value of spots, forwards and currency swaps in the case of Grupa LOTOS S.A. is established by reference to future discounted cash flows from the transactions, calculated on the basis of the difference between the forward rate and the transaction price. The forward rate is calculated on the basis of the fixing rate quotations of the National Bank of Poland and the interest rate curve implied in FX swaps (Level 2 in the fair value hierarchy). Fair value of currency forwards held by LOTOS Asphalt Sp. z o.o. is presented based on the information provided by the banks which are counterparties to those transactions (Level 2 in the fair value hierarchy).

The fair value of FRAs in the case of Grupa LOTOS S.A. is established by reference to future discounted cash flows connected with the transactions, calculated on the basis of the difference between the forward rate and the transaction price. The forward rate is calculated using the zero-coupon interest rate curve based on 6M or 3M LIBOR, depending on the type of transaction (Level 2 in the fair value hierarchy). The fair value of FRAs held by LOTOS Asphalt Sp. z o.o. and AB LOTOS Geonafita is presented based on the information provided by the banks which are counterparties to those transactions (Level 2 in the fair value hierarchy).

To manage risk related to carbon dioxide emission allowances, the Group assesses, on a case-by-case basis, the risk of expected deficit of emission allowances allocated free of charge under the carbon emission reduction system and manages the risk of changes in the price of emission allowance traded on an active market.

To hedge against the risk of changes in the price of CO₂ emission allowances, the Group enters into EUA, CER and ERU futures contracts. The fair value of the contracts is estimated based on the difference between the market price of a contract as quoted on the valuation date by the Intercontinental Exchange (ICE) and the actual transaction price (Level 1 in the fair value hierarchy).

If required, futures contracts to purchase carbon dioxide emission allowances open as at the last day of the reporting period are settled by the Group through physical delivery, with the intention to potentially use the allowances to offset the Group's actual CO₂ emissions. The valuation of futures contracts to purchase carbon dioxide emission allowances to be settled through physical delivery is not disclosed under financial assets/liabilities in the financial statements. However, the Group internally monitors and performs the valuation of its open futures positions as part of an overall assessment of the effectiveness of its CO₂ risk management (off balance sheet).

For information on the limit of free carbon dioxide emission allowances allocated to the Group and description of the Group's risk management process, see Note 28.2.

The Group applies hedge accounting. Changes in the fair value of derivative financial instruments designated to hedge cash flows, to the extent representing an effective hedge, are posted directly to other comprehensive income.

In the statement of financial position, derivative financial instruments are recognised under a separate item or, if their value is immaterial, under other assets and liabilities.

For more information on recognition and measurement of financial derivatives and hedge accounting, see Notes 7.24 and 7.25.

Loans and receivables

Loans advanced and receivables are financial assets with fixed or determinable payments not classified as derivatives and not traded on any active market. They are disclosed under current assets if they mature within 12 months from the end of the reporting period. Loans and receivables with maturities exceeding 12 months from the end of the reporting period are classified as non-current assets.

The category includes the following classes of financial instruments: trade receivables, cash and cash equivalents, deposits, security deposits, investment receivables, security deposits receivable, finance lease receivables and other. In the statement of financial position, these are recognised under: [Trade receivables](#), [Cash and cash equivalents](#), [Other current and non-current assets](#). For information on their recognition and measurement, see Notes 7.12, 7.15 and 7.16.

Financial assets available for sale

Financial assets available for sale are recognised at fair value plus transaction costs which may be directly attributed to the acquisition or issue of a financial asset. If quoted market prices from an active market are not available and the fair value cannot be reliably measured using alternative methods, available-for-sale financial assets are measured at cost less impairment. The positive or negative differences between the fair value of available-for-sale financial assets (if they have a market price derived from an active market or their fair value can be established in any other reliable manner) and their cost are recognised net of deferred tax in other comprehensive income. Impairment losses on available-for-sale financial assets are recognised in finance costs.

Any purchase or sale of financial assets is recognised at the transaction date. On initial recognition, financial assets are recognised at fair value including – in the case of financial assets other than those at fair value through profit or loss – transaction costs directly attributable to the purchase.

A financial asset is removed from the statement of financial position when the Group loses control over the contractual rights embodied in the financial instrument. This usually takes place when the instrument is sold or when all cash flows generated by the instrument are transferred to a non-related third party.

This category includes shares in other entities; in the statement of financial position they are posted under [Other financial assets](#).

Financial liabilities at amortised cost

Financial liabilities, not classified as financial liabilities at fair value through profit or loss, are carried at amortised cost using the effective interest rate method.

Financial liabilities at amortised cost include bank and non-bank borrowings, bonds/notes, finance lease liabilities, trade payables, investment commitments, and other liabilities. These liabilities are recognised in the statement of financial position under: [Borrowings](#), [other debt instruments and finance lease liabilities](#), [Trade payables](#), [Other liabilities and provisions](#). For information on recognition and measurement of the above classes in this category of instruments, see Note 7.12, 7.19, 7.26 and 7.27.

7.23 Impairment of financial assets

As at the end of the reporting period the Group determines whether there is an objective indication of impairment of a financial asset or a group of financial assets.

Assets carried at amortised cost

If there is an objective indication that the value of loans and receivables measured at amortised cost has been impaired, the impairment loss is recognised in the amount equal to the difference between the carrying amount of the financial asset and the present value of estimated future cash flows (excluding future losses relating to irrecoverable receivables, which have not yet been incurred), discounted at the initial effective interest rate (i.e. the interest rate used at the time of initial recognition). The carrying amount of an asset is reduced directly or by recognising relevant provisions. The amount of loss is recognised in the statement of comprehensive income.

The Group first determines whether there exists an objective indication of impairment with respect to each financial asset that is deemed material, and with respect to financial assets that are not deemed material individually. If the analysis shows that there exists no objective indication of impairment of an individually tested asset, regardless of whether it is material or not, the Group includes the asset into the group of financial assets with similar credit risk profile and tests such group for impairment as a whole. Assets which are tested for impairment individually, and with respect to which an impairment loss has been recognised or a previously recognised loss is deemed to remain unchanged, are not taken into account when a group of assets are jointly tested for impairment.

If an impairment loss decreases in the next period, and the decrease may be objectively associated with an event that occurred subsequent to the impairment loss recognition, the recognised impairment loss is reversed. The subsequent reversal of an impairment loss is recognised in the statement of comprehensive income to the extent that the carrying amount of the asset does not exceed its amortised cost as at the reversal date.

Financial assets available for sale

If there exists an objective indication of impairment of a financial asset classified as an asset available for sale, the amount of the difference between (A) the cost of that asset (less any principal payments and depreciation/amortisation charges) and its (B) current fair value, reduced by any impairment losses previously recognised in the statement of comprehensive income, (A – B) is derecognised from equity and charged to the statement of comprehensive income. Reversal of impairment losses concerning equity financial instruments classified as available for sale may not be recognised in the statement of comprehensive income. If the fair value of a debt instrument available for sale increases in the next period, and the increase may be objectively associated with an event that occurred subsequent to the impairment loss recognition in the statement of comprehensive income, the amount of the reversed impairment loss is recognised in the statement of comprehensive income.

Financial assets carried at cost

If there exists an objective indication of impairment of a non-traded equity instrument which is not carried at fair value since such value cannot be reliably determined, or of a related derivative instrument which must be settled by delivery of such non-traded equity instrument, the amount of impairment loss is established as the difference between the carrying amount of the financial asset and the present value of estimated future cash flows discounted with the market rate applicable to similar financial assets prevailing at a given time.

Impairment losses on financial assets and their reversals are recognised on a net basis as gains or losses under other income/expenses or finance income/costs, depending on the class of financial instruments.

7.24 Derivative financial instruments

Derivative instruments used by the Group to hedge against currency risk include in particular FX forwards. The Group also uses commodity swaps to hedge its exposure to raw material and petroleum product price risk, and in the case of sale of products at fixed prices with an embedded option it uses commodity options. The Group uses futures contracts to manage its exposure to prices of carbon dioxide (CO₂) emission allowances, and interest rate swaps (IRSs) and forward rate agreements (FRAs) to hedge its interest rate exposure.

Such financial derivatives are measured at fair value in line with the fair value hierarchy discussed above in the section devoted to financial asset and liability measurement policies. Derivative instruments are recognised as assets if their value is positive and as liabilities if their value is negative. Gains or losses resulting from changes in the fair value of a derivative which does not qualify for hedge accounting are charged directly to the net profit or loss for the financial year.

In the statement of financial position, financial instruments are presented as either current or non-current, depending on the expected time of realisation of assets and liabilities classified as held for trading.

7.25 Hedge accounting

As of January 1st 2011, the Parent commenced cash flow hedge accounting with respect to a USD-denominated credit facility designated as a hedge of future USD-denominated sales transactions. In the second half of 2012, the scope of application of cash flow hedge accounting was extended to include new hedging relationships established with respect to foreign-currency denominated facilities contracted to finance the 10+ Programme, designated as hedges of future USD-denominated petroleum product sales transactions.

The objective of cash flow hedge accounting is to guarantee a specified Polish zloty value of revenue generated in USD. The hedged items comprise a number of highly probable and planned USD-denominated refined product sale transactions, in particular the first portion of revenue (up to the amount of the designated principal repayment) in USD generated in a given calendar month, or if the amount of revenue in a given month is lower than the amount of the designated principal payment – the first portion of revenue generated in three successive months. If a subsequent portion of revenue is designated in a given calendar month, the hedged item is the first portion of revenue generated after the previously designated portion of revenue in USD in a given calendar month, or if the amount of revenue in a given month is lower than the amount of the designated principal repayment – a subsequent portion of revenue generated in three successive months. A hedged item is linked to relevant hedging instruments based on an individual document designating the hedging relationship.

The designated hedging instruments cover an obligation to repay a USD-denominated credit facility, whose settlement dates fall on business days of specified calendar months, in accordance with the principal repayment schedule.

Changes in the fair value of derivative financial instruments designated as cash flow hedges are posted directly to other comprehensive income to the extent they represent an effective hedge, while the ineffective portion is charged to other finance income or costs in the reporting period.

At the time when a hedge is undertaken, the Company formally designates and documents the hedging relationship, as well as its risk management objective and strategy for undertaking the hedge. The relevant documentation identifies (i) the hedging instrument, (ii) the hedged item or transaction, (iii) the nature of the hedged risk, and (iv) specifies how the Company will assess the hedging instrument's effectiveness in offsetting changes in the fair value of the hedged item or cash flows attributable to the hedged risk.

The hedge is expected to be highly effective in offsetting changes in fair value or cash flows attributable to the hedged risk. The hedge is assessed on an ongoing basis to determine whether it remains highly effective during all the reporting periods for which it was undertaken.

7.26 Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and the amount of the obligation can be reliably estimated. If the Group anticipates that the costs for which provisions have been recognised will be recovered, e.g. under an insurance agreement, the recovery of such funds is recognised as a separate asset, but only when such recovery is practically certain to occur. The cost related to a given provision is disclosed in the statement of comprehensive income net of any recoveries. If the effect of the time value of money is significant, the amount of provisions is determined by discounting projected future cash flows to their present value at a pre-tax discount rate reflecting the current market estimates of the time value of money and risks, if any, specific to a given obligation. If the discount method is applied, an increase in the provision as a result of lapse of time is recognised as finance costs. Provisions, other than provisions for decommissioning and reclamation costs, are charged against operating expenses, other expenses, or finance costs, depending on what circumstances the future obligation relates to.

7.26.1 Provisions for decommissioning and reclamation costs

Provisions for decommissioning and reclamation costs are recognised when the Group has an obligation to decommission oil and gas extraction facilities or to demolish, disassemble or remove other property, plant and equipment and restore the site to its original condition, and when a reliable estimate can be made of the amount of the obligation.

If a decommissioning obligation arises with respect to new property, plant and equipment, such as production and transport infrastructure (pipelines) or refinery installations, it is recognised on completion of construction or installation. If a decommissioning obligation arises with respect to a production well, it is recognised on completion of drilling, irrespective of the hydrocarbon flow recorded.

A decommissioning obligation may be further adjusted over the useful life of a well, production or transport infrastructure, etc. to reflect changes in applicable laws or a decision to suspend certain operations. The recognised amount of the obligation is the present value of future expenditures, estimated for the local conditions and requirements.

On recognition of a decommissioning obligation, a matching decommissioning asset is recognised in the same amount under property, plant equipment, which is subsequently depreciated in line with the asset subject to decommissioning.

The amount of the decommissioning provision and its corresponding asset is adjusted to reflect changes to the present value of estimated decommissioning and reclamation costs, other than provision discount reversals. Adjustments are also made for foreign exchange gains or losses arising from translation of a decommissioning obligation denominated in a foreign currency when it is certain that the obligation will be settled in that currency.

Periodic discount unwinding is recognised as finance costs in the statement of comprehensive income.

Deferred tax assets and liabilities are recognised in respect of the decommissioning provision and the corresponding decommissioning asset.

Under the Polish Geological and Mining Law of February 4th 1994 (Dz.U.05.228.1947, as amended), the Group is required to operate an Oil and Gas Extraction Facility Decommissioning Fund, whose financial resources may only be used to cover the cost of decommissioning of an oil and gas extraction facility or its designated part.

The amount of contribution to the Fund is calculated separately for each facility and represents an equivalent of 3% or more of the depreciation charge recognised on the facility's property, plant and equipment, determined in accordance with applicable corporate income tax laws. The Company is required to deposit the contributions in a separate bank account until decommissioning start date.

7.27 Trade and other payables, and accruals and deferred income

Current trade and other payables are reported at nominal amounts payable.

The Group derecognises a financial liability when it is extinguished, that is when the obligation specified in the contract is either discharged or cancelled or expires. When a debt instrument between the same parties is replaced by another instrument whose terms are substantially different, the Group treats such replacement as if the former financial liability was extinguished and recognises a new liability. Similarly, material modifications to the terms of a contract concerning an existing financial liability are presented as extinguishment of the former and recognition of a new financial liability. Any differences in the respective carrying amounts arising in connection with the replacement are charged to profit or loss.

Other non-financial liabilities include in particular value added tax, excise duty and fuel charge liabilities to the tax authorities and liabilities under received prepayments, which are to be settled by delivery of goods or tangible assets, or performance of services. Other non-financial liabilities are measured at nominal amounts payable.

Accrued expenses are recognised at probable amounts of current-period liabilities. The Group discloses accruals and deferred income under other non-financial liabilities or, if they refer to employee benefits, under employee benefit obligations.

7.28 Grants

If there is reasonable certainty that a grant will be received and that all related conditions will be fulfilled, grants are recognised at fair value.

If a grant concerns a cost item, it is recognised as income in matching with the expenses it is to compensate for. If it concerns an asset, its fair value is recognised as deferred income, and then it is written off annually in equal parts through the statement of comprehensive income over the estimated useful life of the asset.

7.29 Joint arrangements

IFRS 11 defines a joint arrangement as a contractual arrangement under which the business of two or more parties is subject to joint control. Joint control exists only when decisions about the relevant activities under the arrangement require the unanimous consent of all the parties.

Joint arrangements are classified into two types – joint operations and joint ventures. The distinction between the two is based on different rights and obligations of the parties under the joint arrangement.

If under the joint arrangement the parties with joint control of the arrangement have rights to the net assets of the arrangement, then it is a joint venture, which in principle requires the establishment of a separate vehicle. The Group's joint ventures include LOTOS-Air BP Polska Sp. z o.o., a jointly-controlled entity operating in the downstream segment, and the following entities operating in the upstream segment: Baltic Gas Sp. z o.o., Baltic Gas spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k., and UAB Minijos Nafta.

Investments in joint ventures measured in accordance with IFRS 11 *Joint Arrangements* are accounted for with the equity method and recognised in the statement of financial position at cost, adjusted for subsequent changes in the Group's share of the net assets of such entities, less impairment losses, if any. The statement of comprehensive income reflects the share in the results of operations of such entities, and if a change is recognised directly in their equity, the Group recognises its share in each change and, if applicable, discloses it in the statement of changes in equity and in the statement of comprehensive income under other comprehensive income, net.

Joint arrangements under which the parties with joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement, are defined as joint operations.

The Group holds interests in joint operations in the upstream segment through a Norwegian company, LOTOS Exploration and Production Norge AS, a subsidiary of LOTOS Petrobaltic S.A. In accordance with IFRS 11, the Group recognises its interest in assets, liabilities, costs and expenses related to its joint operations in the Heimdal field in Norway.

Considering the IFRS 11 criteria, not all operations involving a number of participants are joint operations or joint ventures as defined in the standard. In some situations, the Group is a party to an arrangement whose nature is that of joint operations, but has no joint control of the arrangement. This happens when there is more than one combination of the parties that can agree to make significant decisions about the operations. For the purposes of correct recognition of revenues, costs, assets and liabilities, the Group does not apply IFRS 11 in such situations, but other relevant IFRSs, taking into account its interest in the arrangement underlying the operations.

The Group is a party to arrangements involving joint operations in the Sleipner fields in Norway which are not subject to IFRS 11. The Group recognises the operations proportionately, i.e. according to its share in revenue, costs, receivables and liabilities relating to joint exploration and production of crude oil and natural gas in the Sleipner field. Therefore, there is no practical difference in recognising transactions relating to operations under the Sleipner licences with respect to the requirement to recognise joint operations under the Heimdal licence, which meet the definition of joint operations in accordance with IFRS 11.

7.30 Segment reporting

For management purposes, the LOTOS Group is divided into business units which correspond to the business segments, whereas for financial reporting purposes the Group's operating activity comprises two main reportable operating segments:

- upstream segment – comprising activities related to the acquisition of crude oil and natural gas reserves, and crude oil and natural gas production,
- downstream segment – comprising the production and processing of refined petroleum products and their wholesale and retail sale, as well as auxiliary, transport and service activities.

The reportable operating segments are identified at the Group level. The Parent is included in the downstream segment.

Segment performance is assessed on the basis of revenue, EBIT and EBITDA.

EBIT is operating profit/(loss) and EBITDA is operating profit/(loss) before depreciation and amortisation.

The segments' revenue, EBIT and EBITDA do not account for intersegment adjustments.

Financial information of the operating segments used by the chief operating decision makers to assess the segments' performance is presented in Note 8.

7.31 Contingent liabilities and assets

In line with the policies applied by the Group, consistent with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*, a contingent liability is understood as:

- a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity, or
- a present obligation that arises from past events but is not recognised in the financial statements because:
 - (i) it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation, or
 - (ii) the amount of the obligation cannot be measured with sufficient reliability.

Contingent liabilities are not recognised in the statement of financial position, however information on contingent liabilities is disclosed, unless the likelihood of the outflow of resources embodying economic benefits is negligible.

In accordance with the IFRS, the Group defines a contingent asset as a possible asset that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity.

Contingent receivables are not recognised in the statement of financial position, however information on them is disclosed if the inflow of resources embodying economic benefits is likely to occur.

Examples of contingent assets and liabilities include liabilities or receivables related to pending court disputes whose future impacts are neither known nor fully controlled by the entity. For more information on pending court disputes and other contingent liabilities, see Note 30.1 and Note 30.2, respectively.

7.32 Carbon dioxide (CO₂) emission allowances

CO₂ emission allowances are presented by the Group in its financial statements in accordance with the net liability approach, which means that the Group recognises only those liabilities that result from exceeding the limit of emission allowances granted. The Group reviews the limits granted to it on an annual basis. The liability is recognised only after the Company actually exceeds the limit. Income from sale of unused emission allowances is recognised in the statement of comprehensive income at the time of sale.

Additionally purchased emission allowances are measured at acquisition cost less impairment, if any, taking into consideration the residual value of allowances, and presented as intangible assets.

If purchased allowances are used to cover a deficit existing on the date of settling the annual limit of emission allowances, the allowances thus used are offset at carrying amount with the liability previously recognised for covering the deficit.

8. Business segments

	Upstream segment		Downstream segment		Consolidation adjustments		Consolidated	
	2016	2015	2016	2015	2016	2015	2016	2015
Revenue:	1,228,483	711,150	20,120,677	22,372,562	(418,070)	(374,270)	20,931,090	22,709,442
Intersegment sales	364,623	331,256	53,447	43,014	(418,070)	(374,270)	-	-
External sales	863,860	379,894	20,067,230	22,329,548	-	-	20,931,090	22,709,442
Operating profit/(loss) (EBIT)	17,825	(59,441)	1,834,706	450,661	2,126	32,178	1,854,657	423,398
Depreciation and amortisation	581,988	249,918	487,423	466,165	(1,517)	(1,515)	1,067,894	714,568
Operating profit/(loss) before depreciation and amortisation (EBITDA)	599,813	190,477	2,322,129	916,826	609	30,663	2,922,551	1,137,966
Total assets as at the end of the reporting period	4,199,995	4,489,613	16,798,801	16,074,434	(1,672,487)	(1,394,715)	19,326,309	19,169,332

Geographical structure of sales

	Upstream segment		Downstream segment		Consolidated	
	2016	2015	2016	2015	2016	2015
Domestic sales:	4,679	6,793	14,535,428	17,170,547	14,540,107	17,177,340
products and services	4,562	6,409	13,687,693	15,916,989	13,692,255	15,923,398
merchandise and materials	117	384	847,735	1,253,558	847,852	1,253,942
Export sales:	859,181	373,101	5,531,802	5,159,001	6,390,983	5,532,102
products and services	858,878	372,986	5,299,578	4,952,310	6,158,456	5,325,296
merchandise and materials	303	115	232,224	206,691	232,527	206,806
Total	863,860	379,894	20,067,230	22,329,548	20,931,090	22,709,442

Sales by products, merchandise and services

	Upstream segment		Downstream segment		Consolidated	
	2016	2015	2016	2015	2016	2015
Gasolines	-	-	3,257,850	3,649,735	3,257,850	3,649,735
Naphtha	-	-	803,900	880,530	803,900	880,530
Diesel oils	-	-	9,776,728	11,163,813	9,776,728	11,163,813
Bunker fuel	-	-	111,281	129,511	111,281	129,511
Light fuel oil	-	-	530,794	565,411	530,794	565,411
Heavy fuel oil	-	-	1,208,984	1,432,389	1,208,984	1,432,389
Aviation fuel	-	-	1,151,414	1,170,250	1,151,414	1,170,250
Lubricants	-	-	276,863	286,666	276,863	286,666
Base oils	-	-	502,130	519,654	502,130	519,654
Bitumens	-	-	624,982	711,251	624,982	711,251
LPG	-	-	427,974	444,376	427,974	444,376
Crude oil	270,374	133,781	247,165	254,234	517,539	388,015
Natural gas	529,319	230,560	93	-	529,412	230,560
Reformate	-	-	78,779	25,163	78,779	25,163
Other refinery products, merchandise and materials	-	-	403,401	456,983	403,401	456,983
Other products, merchandise and materials	4,648	4,099	397,131	354,381	401,779	358,480
Services	59,519	11,454	379,482	367,649	439,001	379,103
Effect of cash flow hedge accounting	-	-	(111,721)	(82,448)	(111,721)	(82,448)
Total	863,860	379,894	20,067,230	22,329,548	20,931,090	22,709,442

In 2016, there were no customers with a share in excess of 10% of the LOTOS Group's total revenue.

9. Income and expenses

9.1 Expenses by nature

	Note	2016	2015
Depreciation and amortisation	8	1,067,894	714,568
Raw materials and consumables used ⁽¹⁾		14,469,826	16,860,134
Services		1,503,922	1,434,003
Taxes and charges		456,771	408,976
Employee benefits expense	9.2	688,968	685,254
Other expenses by nature		247,721	222,462
Merchandise and materials sold		859,861	1,336,113
Total expenses by nature		19,294,963	21,661,510
Change in products and adjustments to cost of sales		(362,297)	331,484
Total		18,932,666	21,992,994
including:			
Cost of sales		17,215,704	20,249,028
Distribution costs		1,291,069	1,284,846
Administrative expenses		425,893	459,120

⁽¹⁾ Including PLN 2,720 thousand of foreign exchange gains related to operating activities, recognised as cost of sales (2015: foreign exchange gains of PLN 11,107 thousand), see Note 27.3.

9.2 Employee benefits expense

	Note	2016	2015
Current salaries and wages		526,067	531,551
Social security and other employee benefits		157,372	148,628
Length-of-service awards, retirement and other post-employment benefits	25.2	5,529	5,075
Total employee benefits expense	9.1	688,968	685,254
Change in products and adjustments to cost of sales		(2,394)	(152)
Total		686,574	685,102
including:			
Cost of sales		414,834	396,122
Distribution costs		32,227	34,384
Administrative expenses		239,513	254,596

9.3 Other income

	Note	2016	2015
Gain on disposal of non-financial non-current assets and certificates of origin for electricity from cogeneration ⁽¹⁾		13,216	5,215
Grants	26.2	5,724	7,353
Provisions:		59,587	-
- remeasurement of provision for costs of decommissioning of the offshore oil and gas extraction facilities in the Heimdal field		40,895	-
- remeasurement of provision for costs of decommissioning of the offshore oil and gas extraction facilities in the B-3 field		8,333	-
- remeasurement of provision for contingent payments – Sleipner assets acquisition agreement		27,697	-
- revaluation of estimated provision for future cost of removal of MOPU from the YME field		(8,905)	-
- provision for deficit in CO ₂ emission allowances	28.2	(8,731)	-
- other provisions		298	-
Reversal of impairment losses on receivables	16.1	-	1,927
- reversal of impairment losses		-	10,021
- impairment losses		-	(8,094)
Compensation ⁽²⁾		17,709	16,870
Gain on sale of organised part of business		-	2,834
Reimbursed excise duty		3,738	6,846
Other		7,091	7,246
Total		107,065	48,291

⁽¹⁾ Including PLN 13,785 thousand on sale of certificates of origin for electricity from cogeneration (2015: PLN 7,578 thousand). Cash proceeds from these transactions are presented in the statement of cash flows under Sale of property, plant and equipment and other intangible assets.

⁽²⁾ In 2016 the amount included chiefly PLN 12,347 thousand (2015: PLN 12,764 thousand) attributable to penalties for failure to collect guaranteed delivery amounts under contracts.

The Group offsets similar transaction items in accordance with IAS 1 *Presentation of Financial Statements*, Sections 34 and 35. The Group discloses material items of income and expense charged to profit or loss separately, as presented in the table above.

9.4 Other expenses

Note	2016	2015
Impairment loss on property, plant and equipment and intangible assets:	156,459	85,817
Impairment losses:	170,505	88,296
• exploration and evaluation assets:	13.2.1	12,098
- Poland: the Gaz Południe licence area, including the B-21 field	64,754	-
- Poland: Słupsk area	-	2,071
- Norway: PL 797 licence	5,749	-
- Norway: Utgard field assets	67,615	-
- Lithuania: costs of seismic surveys	-	10,027
• development assets: Norway: YME field	13.2.2	1,485
• production assets: Lithuania: the Auksoras, Vėžaičiai, Kretinga, and Ablinga fields	13.2.2	58,733
• refinery and other non-current assets:	19,950	15,980
- service stations	13.1.1	10,228
- ships	5,333	4,499
- other assets	1,495	1,253
Reversal of impairment losses:	(14,046)	(2,479)
• production assets:	13.2.2	-
- Norway: Heimdal production assets	(4,357)	-
- Lithuania: Girikalai field	(7,492)	-
• refinery and other non-current assets:	(2,197)	(2,479)
- service stations	(2,041)	(2,416)
- other assets	(156)	(63)
Loss on discontinued projects	12,714	27,395
- Norway: PL643 and PL655 licences	13.2.1	-
- Norway: Heimdal area (Fulla licences: PL035B and PL362), PL503 licence	13.2.2	14,846
- Poland: Sambia area	13.2.1	12,378
- Poland: Słupsk area	13.2.1	73
- other assets	314	171
Impairment loss on assets held for sale	-	36,634
Impairment losses on receivables:	1,554	-
- impairment losses	3,489	-
- reversal of impairment losses	(1,935)	-
Provisions:	-	16,072
- provision for deficit in CO ₂ emission allowances	28.2	1,059
- revaluation of estimated provision for future cost of removal of MOPU from the YME field	-	10,287
- other provisions	-	4,726
Fines and compensation	1,176	1,546
Damage to property caused in ordinary course of business	2,141	1,718
Costs relating to the Polish National Foundation⁽¹⁾	29,019	-
Charitable donations	5,346	1,866
VAT expense	30.1	160,909
Other	3,058	9,384
Total	250,832	341,341

⁽¹⁾ As one of the founders of the Polish National Foundation created in 2016 ("PFN"; number in the National Court Register: KRS 0000655791), Grupa LOTOS S.A. is required to make annual contributions for the next 10 years to finance the activities provided for in the foundation's constitutional documents. The total amount of the Company's commitment to finance PFN's activities was established at the amount of discounted future payments, equal to PLN 29,019 thousand. On December 30th 2016, the Company contributed PLN 5,000 thousand to PFN's founding capital, and the amount of the Company's outstanding commitment under PFN's constitutional documents as at December 31st 2016 was PLN 24,019 thousand (including PLN 5,000 thousand presented under current financial liabilities and PLN 19,019 thousand presented under non-current financial liabilities, see Note 26).

The Group offsets similar transaction items in accordance with IAS 1 *Presentation of Financial Statements*, Sections 34 and 35. The Group discloses material items of income and expense charged to profit or loss separately, as presented in the table above.

9.5 Finance income

	Note	2016	2015
Dividends		2,435	1,120
Interest:		15,359	20,697
- on deposits	27.3	11,919	16,181
- on trade receivables	27.3	2,290	2,847
- other		1,150	1,669
Exchange differences:		7,840	-
- on bank borrowings	27.3	(73,532)	-
- on intercompany loans ⁽¹⁾	27.3	64,700	-
- on realised foreign-currency transactions in bank accounts	27.3	12,165	-
- on intercompany notes ⁽¹⁾	27.3	15,216	-
- on deposits and other cash	27.3	(11,271)	-
- other		562	-
Revaluation of financial assets:		-	78,809
- valuation of derivative financial instruments	27.3	-	290,447
- settlement of derivative financial instruments	27.3	-	(211,638)
Other		1,043	11
Total		26,677	100,637

⁽¹⁾ In accordance with IAS 21 *Effects of Changes in Foreign Exchange Rates*, foreign exchange gains and losses on intercompany foreign currency transactions are recognised in the Group's net profit or loss.

The Group offsets similar transaction items in accordance with IAS 1 *Presentation of Financial Statements*, Sections 34 and 35. The Group discloses material items of income and expense charged to profit or loss separately, as presented in the table above.

9.6 Finance costs

	Note	2016	2015
Interest:		241,152	284,148
- on bank borrowings	27.3	150,421	150,364
- on non-bank borrowings	27.3	4,035	7,870
- on notes	27.3	4,145	3,819
- on finance lease liabilities	27.3	20,808	10,152
- discount related to provisions for oil production facilities and for land reclamation, and other provisions	26.1	49,127	22,202
- cost of discount on employee benefit obligations	25.1; 25.2	5,109	5,058
- on liabilities to the state budget	30.1	6,297	77,932
- other		1,210	6,751
Exchange differences:		-	344,940
- on bank borrowings	27.3	-	175,425
- on translation of intercompany loans ⁽¹⁾	27.3	-	47,750
- on realised foreign-currency transactions in bank accounts	27.3	-	108,419
- on notes, including intercompany notes ⁽¹⁾	27.3	-	41,975
- on deposits and other cash	27.3	-	(29,309)
- other		-	680
Revaluation of financial assets, including:		33,511	-
- valuation of derivative financial instruments	27.3	206,567	-
- settlement of derivative financial instruments	27.3	(173,056)	-
Bank fees		19,145	20,978
Bank guarantees		5,720	5,317
Write-off of bank fees related to the financing of the B8 project		-	29,212
Other		5,288	3,648
Total		304,816	688,243

⁽¹⁾ According to IAS 21 *The Effects of Changes in Foreign Exchange Rates*, foreign exchange gains and losses on intercompany foreign currency transactions are recognised in the Group's net profit or loss.

The Group offsets similar transaction items in accordance with IAS 1 *Presentation of Financial Statements*, Sections 34 and 35. The Group discloses material items of income and expenses charged to profit or loss separately, as presented in the table above.

10. Income tax

10.1 Tax expense

	Note	2016	2015
Current tax		115,379	82,052
Deferred tax	10.3	448,816	(14,026)
Total income tax charged to net profit or loss	10.2	564,195	68,026
Tax expense recognised in other comprehensive income (net), including:		(25,953)	(66,191)
- cash flow hedging	21	(26,254)	(67,620)
- actuarial gain/(loss) relating to post-employment benefits		301	1,429

For the entities operating in Poland, the current and deferred portion of income tax was calculated at the rate of 19% of taxable income.

In the case of Norwegian subsidiary LOTOS Exploration and Production Norge AS, the marginal tax rate is 78% of the tax base. LOTOS Exploration and Production Norge AS's activities are subject to taxation under two parallel tax systems: the corporate income tax system (25% tax rate) and the petroleum tax system (additional tax rate of 53%). In 2017, the tax rates will be 24% under the corporate income tax system and 54% under the petroleum tax system, which affects the amount of deferred income tax recognised in the current reporting period.

In the case of Lithuanian subsidiaries (AB LOTOS Geonafita Group), the current and deferred portion of income tax was calculated at the rate of 15%.

10.2 Corporate income tax calculated at effective tax rate and reconciliation of pre-tax profit to taxable income

	Note	2016	2015
Pre-tax profit/(loss)		1,579,412	(195,274)
Income tax at 19%		300,088	(37,102)
Permanent differences:		15,073	53,612
- VAT expense	30.1	7,479	30,753
- interest on past-due public charges		1,192	14,832
- other permanent differences		6,402	8,027
Tax effect of tax losses incurred in the period		-	(198)
Tax effect of tax losses deducted in the period		(435)	(5,273)
Tax effect of share in profit of equity-accounted entities		(550)	5,903
Adjustments disclosed in current year related to tax for previous years		(1,046)	(1,588)
Difference resulting from the application of tax rates other than 19%:		252,901	50,323
- Norway ⁽¹⁾		249,132	44,900
- Lithuania		1,115	5,114
- Cyprus		2,694	343
- Netherlands Antilles		(40)	(34)
Other differences		(1,836)	2,349
Income tax		564,195	68,026

⁽¹⁾ Including the tax effect of a PLN 80,893 thousand (2015: PLN 29,612 thousand) reduction in deferred tax assets related to the tax investigation at LOTOS Exploration and Production Norge AS (see Note 30.1).

10.3 Deferred income tax

	Note	Statement of financial position		Change
		Dec 31 2016	Dec 31 2015	
Deferred tax assets		596,034	924,478	(328,444)
Deferred tax liabilities		(57,358)	(47,626)	(9,732)
Net deferred tax assets/(liabilities)	10.3.1	538,676	876,852	(338,176)
Exchange differences on translating deferred tax of foreign operations				(59,732)
Deferred tax disclosed under other comprehensive income/(loss), net	10.1			(25,953)
Effect of accounting for the acquisition price of the Sleipner assets ⁽¹⁾				(24,955)
Deferred tax expense recognised in net profit or loss	10.1			(448,816)

⁽¹⁾ In accordance with the agreement providing for the acquisition of the Sleipner assets from ExxonMobil Exploration and Production Norway AS, made on October 30th 2015 (see Note 13.1.3 to the [Consolidated financial statements for 2015](#)), within three months from the acquisition date the parties revised the transaction settlement, as a result of which on April 4th 2016 the Group paid USD 4.76m to ExxonMobil Exploration and Production Norway AS. The revision had no effect on the Group's statement of comprehensive income.

Taxable temporary differences are expected to expire in 2017–2083.

As at December 31st 2016, the value of unrecognised tax assets on account of tax losses was PLN 266 thousand (December 31st 2015: PLN 683 thousand).

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10.3.1 Deferred tax assets and liabilities

Note	Dec 31 2015	Deferred tax charged to net profit or loss	Deferred tax disclosed under other comprehensive income/(loss)	Exchange differences on translating deferred tax of foreign operations	Other differences	Dec 31 2016
Deferred tax assets						
Employee benefit obligations	54,871	1,880	(301)	220	-	56,670
Inventory write-downs	50,912	(50,454)	-	6	-	464
Impairment losses on property, plant and equipment and other intangible assets	297,553	12,978	-	33,923	-	344,454
Negative fair value of derivative financial instruments	25,594	(11,300)	-	-	-	14,294
Exchange differences on revaluation of foreign-currency denominated items	1,228	1,426	-	(37)	-	2,617
Impairment losses on receivables	16,893	(504)	-	-	-	16,389
Finance lease liabilities	39,373	(6,283)	-	-	-	33,090
Provisions for/assets related to decommissioning of oil and gas extraction facilities and land reclamation	268,972	175,995	-	29,410	-	474,377
Unrealised margin assets	3,479	2,132	-	-	-	5,611
Tax losses carried forward	781,746	(494,803)	-	32,271	24,955	344,169
Other provisions	11,676	(557)	-	1	-	11,120
Cash flow hedge accounting	164,407	-	26,254	-	-	190,661
Other	20,685	(2,693)	-	272	-	18,264
	1,737,389	(372,183)	25,953	96,066	24,955	1,512,180
Deferred tax liabilities						
Difference between current tax base and carrying amount of property, plant and equipment and other intangible assets	724,707	9,445	-	33,023	-	767,175
Difference between current tax value and carrying amount of settlements under joint operations (Norwegian fields)	952	50,296	-	2,610	-	53,858
Positive fair value of derivative financial instruments	37,921	(26,070)	-	-	-	11,851
Tax liabilities associated with acquired exploration and production licences in Lithuania	18,828	(1,673)	-	699	-	17,854
Accrued interest	67,576	16,727	-	2	-	84,305
Other	10,553	27,908	-	-	-	38,461
	860,537	76,633	-	36,334	-	973,504
Net deferred tax assets/(liabilities)	876,852	(448,816)	25,953	59,732	24,955	538,676

11. Earnings/(loss) per share

	2016	2015
Net profit/(loss) attributable to owners of the Parent (PLN '000) (A)	1,015,247	(263,263)
Weighted average number of shares ('000) (B)	184,873	184,873
Earnings/(loss) per share (PLN) (A/B)	5.49	(1.42)

Earnings/(loss) per share for each reporting period are calculated by dividing net profit/(loss) for the reporting period by the weighted average number of shares in the reporting period.

Diluted earnings/(loss) per share are equal to basic earnings/(loss) per share as the Company carries no instruments with a dilutive effect.

12. Dividends

As at December 31st 2016 and December 31st 2015, Grupa LOTOS S.A. was restricted in its ability to distribute funds in the form of dividends. The restrictions followed from the credit facility agreement executed on June 27th 2008 for the financing of the 10+ Programme, whereby dividend amounts are subject to certain conditions, including generation of sufficient free cash and achievement of certain levels of financial ratios.

On June 28th 2016, the General Meeting of Grupa LOTOS S.A. passed a resolution on coverage of the Company's net loss for 2015. In accordance with the resolution, the 2015 net loss of PLN 37,102 thousand will be offset against future profits.

13. Property, plant and equipment and intangible assets

	Note	Dec 31 2016	Dec 31 2015
Non-current assets of the downstream segment	13.1	8,431,723	8,019,780
Property, plant and equipment	13.1.1	8,261,718	7,845,051
Intangible assets, including:		170,005	174,729
Goodwill	13.1.2	45,562	45,562
Other intangible assets	13.1.3	124,443	129,167
Non-current assets of the upstream segment	13.2	2,871,791	3,213,061
Property, plant and equipment		2,389,960	2,723,371
Intangible assets, including:		481,831	489,690
Goodwill		1,126	1,126
Other intangible assets		480,705	488,564
Total property, plant and equipment and intangible assets		11,303,514	11,232,841
including:			
Property, plant and equipment		10,651,678	10,568,422
Intangible assets		651,836	664,419

13.1 Non-current assets of the downstream segment

13.1.1 Property, plant and equipment of the downstream segment

	Land	Buildings, structures	Plant and equipment	Vehicles, other	Property, plant and equipment under construction	Total
Gross carrying amount Jan 1 2016	510,178	4,474,591	5,556,358	620,198	395,883	11,557,208
Purchase	-	-	-	20,431	903,139	923,570 ⁽¹⁾
Transfer from property, plant and equipment under construction	12,771	93,045	53,376	49,485	(208,677)	-
Borrowing costs	-	-	-	-	4,775	4,775
Reclassification to non-current assets (or disposal group) held for sale	-	-	-	(2,095)	-	(2,095)
Disposal	(5,600)	(5,696)	(15,298)	(12,072)	(378)	(39,044)
Other	-	412	(1,145)	(8,709)	(2,748)	(12,190)
Gross carrying amount Dec 31 2016	517,349	4,562,352	5,593,291	667,238	1,091,994	12,432,224
Accumulated depreciation Jan 1 2016	14,796	1,436,898	1,926,322	266,690	-	3,644,706
Depreciation	1,733	174,853	236,117	61,612	-	474,315
Reclassification to non-current assets (or disposal group) held for sale	-	-	-	(1,363)	-	(1,363)
Disposal	(448)	(2,623)	(14,446)	(9,127)	-	(26,644)
Other	-	224	575	1,624	-	2,423
Accumulated depreciation Dec 31 2016	16,081	1,609,352	2,148,568	319,436	-	4,093,437
Impairment losses Jan 1 2016	1,158	44,411	5,731	2,576	13,575	67,451
Recognised	349	11,307	919	1,965	-	14,540
Used/Reversed	(56)	(4,254)	(255)	(357)	-	(4,922)
Impairment losses Dec 31 2016	1,451	51,464	6,395	4,184	13,575	77,069
Net carrying amount Dec 31 2016	499,817	2,901,536	3,438,328	343,618	1,078,419	8,261,718

⁽¹⁾ Capital expenditure included chiefly expenditure on the construction of a delayed coking unit with auxiliary infrastructure of the EFRA Project (PLN 672,291 thousand), expansion of the service station chain (PLN 105,503 thousand), and construction of the hydrogen recovery unit (PLN 55,632 thousand).

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	Land	Buildings, structures	Plant and equipment	Vehicles, other	Property, plant and equipment under construction	Total
Gross carrying amount Jan 1 2015	482,078	4,390,585	5,527,810	526,882	171,339	11,098,694
Purchase	-	-	-	4,752	432,422	437,174 ⁽²⁾
Transfer from property, plant and equipment under construction	29,645	91,335	50,834	34,139	(205,953)	-
Borrowing costs	-	-	-	-	1,331	1,331
Disposal	(1,910)	(9,191)	(21,306)	(36,832) ⁽¹⁾	(303)	(69,542)
Finance lease	-	-	24	97,344	-	97,368
Other	365	1,862	(1,004)	(6,087)	(2,953)	(7,817)
Gross carrying amount Dec 31 2015	510,178	4,474,591	5,556,358	620,198	395,883	11,557,208
Accumulated depreciation Jan 1 2015	13,176	1,270,085	1,710,170	265,150	-	3,258,581
Depreciation	1,620	172,515	235,272	44,142	-	453,549
Disposal	-	(6,709)	(19,668)	(36,293) ⁽¹⁾	-	(62,670)
Finance lease	-	-	-	(7,344)	-	(7,344)
Other	-	1,007	548	1,035	-	2,590
Accumulated depreciation Dec 31 2015	14,796	1,436,898	1,926,322	266,690	-	3,644,706
Impairment losses Jan 1 2015	1,067	37,466	5,176	1,863	13,601	59,173
Recognised	-	9,991	721	754	15	11,481
Used/Reversed	-	(3,951)	(166)	(41)	(41)	(4,199)
Other	91	905	-	-	-	996
Impairment losses Dec 31 2015	1,158	44,411	5,731	2,576	13,575	67,451
Net carrying amount Dec 31 2015	494,224	2,993,282	3,624,305	350,932	382,308	7,845,051

⁽¹⁾ Including retirement of worn-out spare parts in the amount of PLN 19,513 thousand

⁽²⁾ Capital expenditure included chiefly expenditure on the construction of a delayed coking unit with auxiliary infrastructure of the EFRA Project (PLN 191,488 thousand), expansion of the service station chain (PLN 130,230 thousand), and construction of the hydrogen recovery unit (PLN 44,434 thousand).

Property, plant and equipment of the downstream segment include chiefly Group's assets related to refining and marketing activities, such as the refinery infrastructure, service station network, rolling stock, storage depots, and property on which the production plants, production units, and office buildings are located.

Impairment losses on service stations

In 2016, LOTOS Paliwa Sp. z o.o. recognised an impairment loss on service station assets totalling PLN 13,122 thousand (2015: PLN 10,288 thousand); see Note 9.4. The recoverable amount of property, plant and equipment related to the service station network was determined based on the value in use of each station, calculated with the discounted cash flow method. Future cash flows were calculated based on five-year cash-flow projections, prepared using budget projections for 2017 (in 2015: for 2016) and the cash inflow and outflow plan for subsequent years, based on the development strategy until 2020. The residual value for the discounted cash flows was calculated using the growing perpetuity formula. LOTOS Paliwa Sp. z o.o.'s net weighted average cost of capital (WACC) was assumed at 8.22% (2015: 7.3%), based on the company's financing structure.

Calculation of the value in use of cash-generating units is most sensitive to the following variables:

- gross margin, which depends on average values of unit margins in the period preceding the budget period (a 4.5% average year-on-year margin increase was assumed),
- discount rates, reflecting risks typical to the cash-generating unit (the median for five-year PLN-denominated notes quoted by Reuters in November 2015 was adopted),
- volumes based on fuel consumption growth rate (an 11% increase was assumed),
- market share in the budget period (a stable market share was assumed),
- growth rate used to extrapolate cash-flow projections beyond the budget period, based on a quantitative forecast of the fuel consumption growth rate in Poland in 2014–2020, prepared using POPIHN, GUS, NBP and JBC reports (for gasolines), and based on GDP market consensus. In the case of diesel oil, the data included also the market consensus on GDP and its constituent elements sourced from IBNGR, BZWBK, MILLENIUM, NBP, MG, EBOIR, WFM, OECD, KE, and ERSTE GROUP.

13.1.2 Goodwill of the downstream segment

Goodwill is allocated to cash-generating units, as presented in the table below:

	Dec 31 2016	Dec 31 2015
Goodwill arising on the acquisition of an organised part of business by LOTOS Paliwa Sp. z o.o.:		
- wholesale of LPG	10,009	10,009
- service stations networks (ESSO, Slovnaft Polska)	33,691	33,691
Total	43,700	43,700
Goodwill arising on acquisition of other entities	1,862	1,862
Total goodwill	45,562	45,562

As at December 31st 2016 and December 31st 2015, impairment tests of individual cash-generating units to which goodwill was allocated did not reveal any impairment indicators.

The Group determines the recoverable amount of cash-generating units based on their respective values in use, calculated on the basis of a five-year cash flow projection. The residual value for the discounted cash flows was calculated using the growing perpetuity formula. The discount rate adopted for the calculation reflects net WACC of 8.22% (2015: 7.3%).

The most material factors affecting the estimated values in use of cash-generating units were: gross margin, discount rate, volumes forecast, projected market shares in the budget period and estimated growth rate beyond the forecast period.

The Group believes that no reasonably probable change in the key parameters identified above would result in goodwill impairment.

13.1.3 Other intangible assets of the downstream segment

	Patents, trademarks and licences	Other	Intangible assets under development	Total
Gross carrying amount Jan 1 2016	197,907	36,297	18,855	253,059
Purchase	-	198	6,962	7,160
Transfer from intangible assets under development	7,679	895	(8,574)	-
Borrowing costs	-	-	65	65
Other	(240)	(306)	-	(546)
Gross carrying amount Dec 31 2016	205,346	37,084	17,308	259,738
Accumulated amortisation Jan 1 2016	100,883	13,944	-	114,827
Amortisation	10,428	1,172	-	11,600
Other	(56)	(141)	-	(197)
Accumulated amortisation Dec 31 2016	111,255	14,975	-	126,230
Impairment losses Jan 1 2016	7	25	9,033	9,065
Recognised	-	-	-	-
Used/Reversed	-	-	-	-
Impairment losses Dec 31 2016	7	25	9,033	9,065
Net carrying amount Dec 31 2016	94,084	22,084	8,275	124,443
Gross carrying amount Jan 1 2015	192,477	43,953	12,804	249,234
Purchase	-	84	12,145	12,229
Transfer from intangible assets under development	5,721	393	(6,114)	-
Borrowing costs	-	-	52	52
Disposal	(154)	(7,768) ⁽¹⁾	(30)	(7,952)
Other	(137)	(365)	(2)	(504)
Gross carrying amount Dec 31 2015	197,907	36,297	18,855	253,059
Accumulated amortisation Jan 1 2015	91,219	13,304	-	104,523
Amortisation	9,816	1,237	-	11,053
Disposal	(152)	(606)	-	(758)
Other	-	9	-	9
Accumulated amortisation Dec 31 2015	100,883	13,944	-	114,827
Impairment losses Jan 1 2015	7	8	9,033	9,048
Recognised	-	17	-	17
Used/Reversed	-	-	-	-
Impairment losses Dec 31 2015	7	25	9,033	9,065
Net carrying amount Dec 31 2015	97,017	22,328	9,822	129,167

⁽¹⁾ Including retirement of CO₂ emission allowances of PLN 7,163 thousand, used for own needs.

Intangible assets of the downstream segment include licences relating to technological processes, including licences for technologies used in the refinery, licences for fuel production, storage and trading, software licences, patents, trademarks and acquired CO₂ emission allowances.

13.2 Non-current assets of the upstream segment

	Note	Dec 31 2016	Dec 31 2015
Exploration and evaluation assets	13.2.1	396,670	462,126
Property, plant and equipment		55,624	118,759
Intangible assets		341,046	343,367
Development and production assets	13.2.2	2,098,270	2,316,381
Property, plant and equipment		1,966,931	2,182,903
Intangible assets		131,339	133,478
Other non-current assets	13.2.3	376,851	434,554
Property, plant and equipment		367,405	421,709
Intangible assets		9,446	12,845
Total non-current assets of the upstream segment		2,871,791	3,213,061
including:			
Property, plant and equipment		2,389,960	2,723,371
Intangible assets		481,831	489,690

13.2.1 Exploration and evaluation assets

	Note	Property, plant and equipment classified as exploration and evaluation assets	Intangible assets classified as exploration and evaluation assets			Total
		Poland	Poland	Norway	Lithuania	
Gross carrying amount Jan 1 2016		167,756	9,878	467,240	10,211	655,085
Purchase		1,692	361	51,951 ⁽²⁾	-	54,004
Exchange differences on translating foreign operations		-	-	43,627	389	44,016
Expenditure written off due to project discontinuation	9.4	(1,904) ⁽¹⁾	(940) ⁽¹⁾	(133,063) ⁽³⁾	-	(135,907)
Gross carrying amount Dec 31 2016		167,544	9,299	429,755	10,600	617,198
Accumulated depreciation and amortisation Jan 1 2016		-	8,046	-	-	8,046
Depreciation and amortisation		-	1,627	-	-	1,627
Expenditure written off due to project discontinuation	9.4	-	(705) ⁽¹⁾	-	-	(705)
Accumulated depreciation and amortisation Dec 31 2016		-	8,968	-	-	8,968
Impairment losses Jan 1 2016		48,997	235	125,470	10,211	184,913
Recognised	9.4	64,827 ⁽¹⁾	-	73,364 ⁽⁴⁾	-	138,191
Exchange differences on translating foreign operations		-	-	10,942	389	11,331
Used/Reversed	9.4	(1,904) ⁽¹⁾	(235) ⁽¹⁾	(120,736) ⁽³⁾	-	(122,875)
Impairment losses Dec 31 2016		111,920	-	89,040	10,600	211,560
Net carrying amount Dec 31 2016		55,624	331	340,715	-	396,670

⁽¹⁾ Expenditure on exploration and evaluation activities related to the Słupsk area (decision to abandon the project) and the Gaz Południe area (a PLN 64,785 thousand write-off of expenditure on seismic surveys).

⁽²⁾ Including expenditure on Sleipner assets (PLN 18,731 thousand) and Heimdal assets (PLN 31,206 thousand).

⁽³⁾ Capitalised expenditures related to PL643 and PL655 licences (effect on the Group's profit/(loss): PLN 12,327 thousand).

⁽⁴⁾ Including the Utgard (formerly Alfa Sentral) field assets of PLN 67,615 thousand and PL797 licence of PLN 5,749 thousand.

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	Note	Property, plant and equipment classified as exploration and evaluation assets	Intangible assets classified as exploration and evaluation assets			Total
		Poland	Poland	Norway	Lithuania	
Gross carrying amount Jan 1 2015		91,930	13,012	314,806	10,213	429,961
Purchase		27,372	15	8,100	-	35,487
Acquisition of Sleipner assets		-	-	188,471 ⁽⁴⁾	-	188,471
Exchange differences on translating foreign operations		-	-	(29,291)	(2)	(29,293)
Reclassification to exploration and evaluation assets		60,577 ⁽¹⁾	-	-	-	60,577
Expenditure written off due to project discontinuation	9.4	(12,123) ⁽²⁾	(3,149) ⁽²⁾	(14,846) ⁽⁵⁾	-	(30,118)
Gross carrying amount Dec 31 2015		167,756	9,878	467,240	10,211	655,085
Accumulated depreciation and amortisation Jan 1 2015		-	7,277	-	-	7,277
Depreciation and amortisation		-	3,663	-	-	3,663
Expenditure written off due to project discontinuation	9.4	-	(2,894) ⁽²⁾	-	-	(2,894)
Accumulated depreciation and amortisation Dec 31 2015		-	8,046	-	-	8,046
Impairment losses Jan 1 2015		47,161	-	134,078	-	181,239
Recognised	9.4	1,836 ⁽³⁾	235 ⁽³⁾	-	10,027 ⁽⁶⁾	12,098
Exchange differences on translating foreign operations		-	-	(8,608)	184	(8,424)
Used/Reversed		-	-	-	-	-
Impairment losses Dec 31 2015		48,997	235	125,470	10,211	184,913
Net carrying amount Dec 31 2015		118,759	1,597	341,770	-	462,126

⁽¹⁾ Related to operations on the Gaz Południe, Gotlandia, Łeba and Rozewie licence areas, which will be continued in 2016 in line with the upstream segment management's decision. Applications were filed to convert the Łeba and Rozewie licences into combined oil and gas exploration, appraisal and production licences.

⁽²⁾ Expenditure on exploration and evaluation activities related to the Sambia E field (effect on the Group's profit/(loss): PLN 12,378 thousand).

⁽³⁾ Słupsk area assets (effect on the Group's profit/(loss): PLN 2,071 thousand).

⁽⁴⁾ Utgard (formerly Alfa Sentral) and PL046 licences forming part of the acquired Sleipner assets in Norway (for more information on the transaction, see Note 13.1.3. to the *Consolidated financial statements for 2015*).

⁽⁵⁾ Expenditure related to Heimdal assets – Fulla (PL362 and PL035B) and PL503 licence.

⁽⁶⁾ Expenditure on seismic surveys.

Property, plant and equipment are classified as exploration and evaluation assets until the technical feasibility and commercial viability of extracting the discovered resources are demonstrated.

Impairment of assets of the Sleipner gas field in Norway

As at December 31st 2016, the Group tested the Utgard (previously Alfa Sentral) field at a pre-development stage for impairment. The test was performed based on the following assumptions, equivalent to those adopted for development and production assets:

- the cash flow projection period was assumed to equal the asset's planned life,
- the discount rate was assumed to equal the weighted average cost of capital, and was calculated at 7.63% after taxation with the 78% marginal tax rate (applicable in Norway),
- production and sales volumes, capital expenditure, operating expenses and field decommissioning costs were assumed as projected by the field operators.

The following price assumptions were adopted:

- for crude oil in USD/bbl (per barrel):

- 2017–2019 – prices in line with the price assumptions for the available market scenarios,
- 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation,

- for natural gas in p/th (pence/thermal units):

- 2017–2019 – prices in line with the price assumptions for the available market scenarios, and in 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation.

The USD/NOK exchange rate used for the purposes of the impairment test is a cross rate calculated based on forward curves for the EUR/USD and EUR/NOK currency pairs.

The measurement of the recoverable amount showed the necessity to recognise an impairment loss on those assets in the amount of PLN 67,615 thousand (NOK 143,100 thousand), see Note 9.4.

Due to significant market volatility, in particular with respect to oil and gas prices, the adopted assumptions may be subject to justifiable changes, and such changes may necessitate a revision of the carrying amounts of the Utgard field's assets in the future. To determine the effect of key factors on the test results, the Group carried out an analysis of sensitivity to a -15%/+15% change in oil and gas price, -15%/+15% change in production volumes, and -15%/+15% change in the USD/NOK exchange rate. The table below presents the estimated changes in impairment losses following changes in the key assumptions:

Factor	Change	Impact on impairment losses PLN '000	
Crude oil and gas prices	+/- 15%	49,618	- 47,498
Production volume	+/- 15%	38,292	- 38,291
USD/NOK exchange rate	+/- 15%	41,242	- 41,240
Discount rate	+/- 0.5 pp	- 4,914	5,052

13.2.2 Development and production assets

	Development assets			Production assets			Total		
	Note	Poland	Norway	Total	Poland	Norway		Lithuania	Total
Gross carrying amount Jan 1 2016		-	1,452,412	1,452,412	1,384,677	1,497,203	636,138	3,518,018	4,970,430
Purchase		-	12,026 ⁽¹⁾	12,026	213,183 ⁽²⁾	46,259 ⁽⁵⁾	78	259,520	271,546
Exchange differences on translating foreign operations		-	127,705	127,705	-	146,438	24,252	170,690	298,395
Estimated costs of decommissioning of oil and gas extraction facilities		-	-	-	(2,921)	(87,911)	(389)	(91,221)	(91,221)
Reclassification to production assets		-	-	-	58,549 ⁽³⁾	-	-	58,549	58,549
Expenditure written off due to project discontinuation		-	-	-	(3,257) ⁽⁴⁾	-	-	(3,257)	(3,257)
Other		-	-	-	215	1,383	(321)	1,277	1,277
Gross carrying amount Dec 31 2016		-	1,592,143	1,592,143	1,650,446	1,603,372	659,758	3,913,576	5,505,719
Accumulated depreciation and amortisation Jan 1 2016		-	-	-	398,384	310,265	258,063	966,712	966,712
Depreciation and amortisation		-	-	-	38,806	471,819	25,061	535,686	535,686
Exchange differences on translating foreign operations		-	-	-	-	44,877	10,113	54,990	54,990
Reclassification to production assets		-	-	-	27,061 ⁽³⁾	-	-	27,061	27,061
Expenditure written off due to project discontinuation	9.4	-	-	-	(3,257) ⁽⁴⁾	-	-	(3,257)	(3,257)
Other		-	-	-	(35)	-	(310)	(345)	(345)
Accumulated depreciation and amortisation Dec 31 2016		-	-	-	460,959	826,961	292,927	1,580,847	1,580,847
Impairment losses Jan 1 2016		-	1,452,412	1,452,412	-	40,627	194,298	234,925	1,687,337
Recognised	9.4	-	-	-	-	-	12,437 ⁽⁷⁾	12,437	12,437
Exchange differences on translating foreign operations		-	127,341	127,341	-	3,874	7,462	11,336	138,677
Used/Reversed	9.4	-	-	-	-	(4,357) ⁽⁶⁾	(7,492) ⁽⁸⁾	(11,849)	(11,849)
Impairment losses Dec 31 2016		-	1,579,753	1,579,753	-	40,144	206,705	246,849	1,826,602
Net carrying amount Dec 31 2016		-	12,390	12,390	1,189,487	736,267	160,126	2,085,880	2,098,270

⁽¹⁾ Expenditure on the YME field.

⁽²⁾ Expenditure on the development of the B-8 field (PLN 212,412 thousand) and the B-3 field (PLN 771 thousand).

⁽³⁾ Offshore gas pipeline from the B-3 field.

⁽⁴⁾ Expenditure associated to the Piła area (no effect on the LOTOS Group's profit/(loss)).

⁽⁵⁾ Expenditure on Sleipner assets (PLN 42,495 thousand) and Heimdal assets (PLN 3,565 thousand).

⁽⁶⁾ Expenditure on Heimdal assets.

⁽⁷⁾ Production infrastructure on the Auksoras, Vėžaičiai, Kretinga, Ablinga and Ližiai fields.

⁽⁸⁾ Girkaliai field.

Non-current development assets	Non-current production assets	Total
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Note	Poland	Norway	Total	Poland	Norway	Lithuania	Total		
Gross carrying amount Jan 1 2015	578,046	1,535,085	2,113,131	512,840	582,851	628,336	1,724,027		3,837,158
Purchase	304,332 ⁽¹⁾	-	304,332	2,194	3,903	8,290	14,387		318,719
Acquisition of Sleipner assets	-	-	-	-	394,956 ⁽⁵⁾	-	394,956		394,956
Exchange differences on translating foreign operations	-	(84,158)	(84,158)	-	(87,469)	48	(87,421)		(171,579)
Recognition of assets related to future costs of decommissioning of oil and gas extraction facilities	-	-	-	-	605,423 ⁽⁴⁾	-	605,423		605,423
Estimated costs of decommissioning of oil and gas extraction facilities	10,054	1,485	11,539	(304)	5,480	(250)	4,926		16,465
Reclassification to development assets	30,857 ⁽²⁾	-	30,857	-	-	-	-		30,857
Reclassification of development assets to production assets	(865,348) ⁽³⁾	-	(865,348)	865,348 ⁽³⁾	-	-	865,348		-
Reclassification to non-current assets (or disposal groups) held for sale	(45,011) ⁽⁴⁾	-	(45,011)	-	-	-	-		(45,011)
Reversal of assets related to decommissioning of oil and gas extraction facilities	26.1 (2,750)	-	(2,750)	-	-	-	-		(2,750)
Other	(10,180)	-	(10,180)	4,599	(7,941)	(286)	(3 628)		(13,808)
Gross carrying amount Dec 31 2015	-	1,452,412	1,452,412	1,384,677	1,497,203	636,138	3,518,018		4,970,430
Accumulated depreciation and amortisation Jan 1 2015	55,696	-	55,696	317,301	199,741	220,384	737,426		793,122
Depreciation and amortisation	2,427	-	2,427	23,104	129,831	37,320	190,255		192,682
Exchange differences on translating foreign operations	-	-	-	-	(19,307)	645	(18,662)		(18,662)
Reclassification of development assets to production assets	(58,123) ⁽³⁾	-	(58,123)	58,123 ⁽³⁾	-	-	58,123		-
Other	-	-	-	(144)	-	(286)	(430)		(430)
Accumulated depreciation and amortisation Dec 31 2015	-	-	-	398,384	310,265	258,063	966,712		966,712
Impairment losses Jan 1 2015	-	1,535,085	1,535,085	-	43,415	134,509	177,924		1,713,009
Recognised	9.4 -	1,485	1,485	-	-	58,733 ⁽⁶⁾	58,733		60,218
Exchange differences on translating foreign operations	-	(84,158)	(84,158)	-	(2,786)	1,056	(1,730)		(85,888)
Used/Reversed	-	-	-	-	(2)	-	(2)		(2)
Impairment losses Dec 31 2015	-	1,452,412	1,452,412	-	40,627	194,298	234,925		1,687,337
Net carrying amount Dec 31 2015	-	-	-	986,293	1,146,311	183,777	2,316,381		2,316,381

⁽¹⁾ Expenditure on the B-8 field (platform conversion, modifications to the transmission infrastructure and water injection wells).

⁽²⁾ Related to prepayments for capital expenditure on the development of the B-8 field.

⁽³⁾ Reclassification of expenditure following production launch in the B-8 field.

⁽⁴⁾ As a result of the change of the technical concept for the project to convert the Petrobaltic rig into a production centre in the B-8 field, the Group reclassified the field development assets related to the project to assets held for sale (see Note 17). The assets represented expenditure incurred by LOTOS Petrobaltic S.A. on elements of the tubular legs of the rig, for which an impairment loss of PLN 36,634 thousand was recognised (see Note 9.4) and which were recognised as non-current assets (or disposal groups) held for sale valued at PLN 8,377 thousand, the value being – in the Management Board's opinion – the net realisable value of the tubular legs (based on an analysis of current steel prices in Poland and on foreign markets, made by LOTOS Petrobaltic S.A.).

⁽⁵⁾ Acquisition of Sleipner assets in Norway (for more information on the transaction, see Note 13.1.3. to the [Consolidated financial statements for 2015](#)).

⁽⁶⁾ Assets related to the Kretinga, Nausodis, Girkalai, Vezaiciai, Ližiai and Ablinnga fields.

Impairment testing of assets in the B-8 field in the Baltic Sea

As at December 31st 2016 and December 31st 2015, the Group performed impairment tests for production assets related to the B-8 field.

Key assumptions underlying computation of the recoverable amount of the tested assets:

- the cash flow projection period was assumed to equal the asset's planned life,
- the discount rate was assumed to equal the weighted average cost of capital, and was calculated at 10.07% (2015: 9.70) after taxation with the 19% marginal tax rate,
- production volumes were assumed to be in line with a competent person report prepared by Miller & Lents based on available current geological information,
- sales volumes, capital expenditure, operating expenses and field decommissioning costs were assumed in line with current projections for the B-8 field.

The following price assumptions were adopted for the estimates as part of the impairment test as at December 31st 2016:

- for crude oil in USD/bbl (per barrel of oil equivalent):

- 2017–2022 – prices in line with the price assumptions for the available market scenarios,
- 2023 and beyond – prices remaining stable in the long term on par with the 2022 level, adjusted for inflation.

The following assumptions were adopted for the estimates as part of the impairment test as at December 31st 2015:

- for crude oil in USD/bbl (per barrel of oil equivalent):

- 2016–2019 – prices in line with the price assumptions for the available market scenarios,
- 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation.

The impairment test of the B-8 field's development assets indicated no need to recognise impairment losses on the assets.

Due to significant market volatility, in particular with respect to crude oil prices, the adopted assumptions may be subject to justifiable changes, and such changes may necessitate a revision of the carrying amounts of the field's assets in the future. Therefore, the Group points to a number of uncertainties as to the recoverable amount of the assets:

- volatility of market prices of crude oil,
- estimates of investment expenditure related to contracts for which no contractor has yet been selected,
- amount of reclamation commitments,
- volatility of the PLN/USD exchange rate,
- discount rates.

To determine the effect of key factors on the test results, the Group carried out an analysis of sensitivity to a -15%/+15% change in oil and gas prices, -15%/+15% change in production volumes, -15%/+15% change in the USD/PLN exchange rate, and -0.5%/+0.5% change in the discount rate.

It was shown that the changes in the key assumptions had no effect on the impairment losses on the B-8 field's assets.

Progress of the YME field development project in Norway

Due to significant delays in the implementation of the YME project, cost overruns, and defects of the MOPU (Mobile Offshore Production Unit) to be used in production operations in the field, in previous years the Group recognised impairment losses on the YME assets until they were fully written off in 2014.

On August 22nd 2016, the YME project partners completed activities to remove the defective MOPU from the field, financed with funds raised by the consortium members (the Group has a 20% interest in the project) under an agreement with the supplier of the MOPU (see Note 26.1). The amount of expected further costs related to the arrangement (most of which have been already contracted) was reflected in these financial statements by updating relevant provisions in accordance with the best current knowledge of the Management Board as at the date of these statements (see Note 26.1).

On December 12th 2016, the consortium partners approved a resolution to proceed with work on further development of the field and preparation of the Front-End Engineering Design with a view to drafting a revised field development plan. The revised development plan is to be approved by the Norwegian authorities by the end of 2017.

Given the nature of the Joint Operating Agreement between the YME project partners, and in connection with the guarantees issued by LOTOS Petrobaltic S.A. for the benefit of the Norwegian government with respect to LOTOS E&P Norge AS's exploration and production activities on the Norwegian Continental Shelf, the Group takes into account that it may have to incur further capital expenditure on the YME field and to revalue the expected decommissioning costs, in particular once the revised field development plan is prepared, the YME field decommissioning concept is selected, and the Norwegian authorities approve the adopted plans. The initial assumption is that after production is launched on the basis of the revised field development plan in 2019, decommissioning of the YME project will take place in 2028–2032.

In the opinion of LOTOS E&P Norge AS, the amount of the provision for decommissioning of the YME field infrastructure (see Note 26.1) reflects the necessary commitment by the Group if the scenario of complete decommissioning materialises by 2032. This is a consequence of the phase (currently under way) of preparation of the revised field development plan and the YME field infrastructure decommissioning plan, which were adopted by the consortium with the votes of the majority of its members and reflected in the project budget, taking into account a reduction in the decommissioning cost estimate for 2028–2032. The cost estimate was reduced by an amount corresponding to a portion of the conditional budget in connection with a drop in the market cost of related services in Norway following the decline in market prices of hydrocarbons and no forecasts of a possible material change in their levels in the period covered by the analysis.

Considering the recognised impairment losses on the YME expenditure and the incurred tax losses that may be carried forward, the Group recognised a deferred tax asset in the consolidated statement of financial position as at December 31st 2016. The total amount of the tax assets related to the Group's operations in Norway was PLN 523m as at December 31st 2016. Given that under the Norwegian

tax legislation tax losses can be carried forward indefinitely, and that the Group is generating revenue from operations in the producing Sleipner gas field and the offshore gas and condensate production facility in the Heimdal field, the Management Board believes that the deferred tax assets recognised as at December 31st 2016 are fully realisable in the amount disclosed in these consolidated financial statements.

Impairment testing of the production assets of the offshore gas and condensate production facility in the Heimdal field and of the Sleipner gas field in Norway

As at December 31st 2016, the Group tested for impairment the production assets of each centre generating cash flows from producing Heimdal and Sleipner fields. As at December 31st 2015, the Group performed impairment tests for the Heimdal fields. Their results indicated no necessity to recognise impairment losses on those assets either.

As part of impairment testing of the Norwegian production assets, their recoverable amount was determined at their fair value estimated using the discounted future cash flows method.

Key assumptions underlying computation of the recoverable amount of the tested assets:

- the cash flow projection period was assumed to equal the asset's planned life,
- the discount rate was assumed to equal the weighted average cost of capital, and was calculated at 7.63% (2015: 7.33%) after taxation with the 78% marginal tax rate (applicable in Norway),
- production and sales volumes, capital expenditure, operating expenses and field decommissioning costs were assumed as projected by the field operators.

The following price assumptions were adopted for the purposes of the impairment tests as at December 31st 2016:

- for crude oil in USD/bbl (per barrel):

- 2017–2019 – prices in line with the price assumptions for the available market scenarios,
- 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation,

- for natural gas in p/th (pence/thermal units):

- 2017–2019 – prices in line with the price assumptions for the available market scenarios, and in 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation.

The following assumptions were adopted for the estimates as part of the impairment tests as at December 31st 2015:

- for crude oil in USD/bbl (per barrel):

- 2016–2019 – prices in line with the price assumptions for the available market scenarios,
- 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation,

- for natural gas in p/th (pence/thermal units):

- 2016–2019 – prices in line with the price assumptions for the available market scenarios, and in 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation.

The USD/NOK exchange rate used for the purposes of the impairment tests is a cross rate calculated based on forward curves for the EUR/USD and EUR/NOK currency pairs.

Due to significant market volatility, in particular with respect to oil and gas prices, the adopted assumptions may be subject to justifiable changes, and such changes may necessitate a revision of the carrying amounts of the LOTOS E&P Norge's assets in the future.

To determine the effect of key factors on the test results, the Group carried out an analysis of sensitivity to a -15%/+15% change in oil and gas prices, -15%/+15% change in production volumes, and -15%/+15% change in the USD/NOK exchange rate.

The table below presents the estimated changes in potential impairment losses on the tested Heimdal and Sleipner assets following changes in the key assumptions:

Factor	Change	Impact on impairment losses PLN '000	
Crude oil and gas prices	+/- 15%	22,626	- 14,858
Production volume	+/- 15%	22,009	- 13,806
USD/NOK exchange rate	+/- 15%	22,549	- 14,729
Discount rate	+/- 0.5 pp	-	12,895

Impairment testing of onshore oil and gas extraction facilities in Lithuania

As a result of impairment tests performed for the resources and production infrastructure in Lithuania, as at December 31st 2016 the Group recognised an impairment loss of PLN 119 thousand on production assets associated with the Kretinga field, and an impairment loss of PLN 12,318 thousand on property, plant and equipment comprising production infrastructure associated with the Auksoras, Vėžaičiai, Kretinga, Ablinga and Ližiai fields; see Note 9.4.

Following impairment tests as at December 31st 2015 an impairment loss totalling PLN 52,419 thousand was recognised on production assets associated with the Kretinga, Nausodis, Girkalai, Vėžaičiai and Ližiai fields; another impairment loss, of PLN 6,314 thousand, was recognised on the property, plant and equipment comprising production infrastructure of the Ablinga and Ližiai fields; see Note 9.4.

The Group determines the recoverable amount of the tested assets as their value in use measured using the discounted future cash flows method.

Key assumptions underlying computation of the recoverable amount of the tested assets in Lithuania:

- the cash flow projection period was assumed to equal the asset's planned life,
- the discount rate was assumed to equal the weighted average cost, at 9.0% (2015: 10.1%),
- production volumes were assumed to be in line with a competent person report prepared by Miller & Lents based on available current geological information,
- capital expenditure was assumed to match the projected production volumes.

The following crude oil price assumptions (USD/bbl) were adopted for the purposes of the estimates made in 2016:

- 2017–2022 – prices in line with the price assumptions for the available market scenarios,
- 2023 and beyond – prices remaining stable in the long term on par with the 2022 level, adjusted for inflation.

Crude oil price assumptions (USD/bbl) adopted for the purposes of the estimates as at December 31st 2015:

- 2016–2019 – prices in line with the price assumptions for the available market scenarios,
- 2020 and beyond – prices remaining stable in the long term on par with the 2019 level, adjusted for inflation.

Due to significant market volatility, in particular with respect to crude oil prices, the adopted assumptions may be subject to justifiable changes, and such changes may necessitate a revision of the carrying amounts of the assets in the future.

To determine the effect of key factors on the test results, the Group carried out an analysis of sensitivity to a -15%/+15% change in oil prices, -15%/+15% change in production volumes, -15%/+15% change in the USD/EUR exchange rate, and -0.5%/+0.5% change in the discount rate.

The table below presents the estimated changes in impairment losses on the Lithuanian assets referred to above following changes in the key assumptions:

Factor	Change	Impact on impairment losses PLN '000	
Crude oil and gas prices	+/- 15%	28,796	-41,861
Production volume	+/- 15%	22,631	-33,810
USD/EUR exchange rate	+/- 15%	17,532	-30,960
Discount rate	+/- 0.5 pp	-7,601	-

Assets related to future costs of decommissioning of oil and gas extraction facilities

As part of its development and production assets, the Group discloses assets related to future costs of decommissioning of oil and gas extraction facilities depreciated with the units-of-production method. These assets are recognised along with the recognition and remeasurement of provisions for decommissioning of oil and gas extraction facilities.

	Development assets			Production assets				Total
	Poland	Norway	Total	Poland	Norway	Lithuania	Total	
Gross carrying amount Jan 1 2016	-	122,783	122,783	108,129	829,806	2,042	939,977	1,062,760
Estimated costs of decommissioning of oil and gas extraction facilities	-	-	-	(2,921)	(87,911)	(389)	(91,221)	(91,221)
Exchange differences on translating foreign operations	-	12,109	12,109	-	79,179	73	79,252	91,361
Reclassification to production assets	-	-	-	2,223 ⁽¹⁾	-	-	2,223	2,223
Gross carrying amount Dec 31 2016	-	134,892	134,892	107,431	821,074	1,726	930,231	1,065,123
Accumulated depreciation and amortisation Jan 1 2016	-	-	-	76,568	124,010	1,341	201,919	201,919
Depreciation and amortisation	-	-	-	1,339	261,606	185	263,130	263,130
Exchange differences on translating foreign operations	-	-	-	-	20,148	53	20,201	20,201
Reclassification to production assets	-	-	-	2,223 ⁽¹⁾	-	-	2,223	2,223
Accumulated depreciation and amortisation Dec 31 2016	-	-	-	80,130	405,764	1,579	487,473	487,473
Impairment losses Jan 1 2016	-	122,783	122,783	-	32,029	-	32,029	154,812
Recognised	-	-	-	-	-	-	-	-
Exchange differences on translating foreign operations	-	12,109	12,109	-	3,100	-	3,100	15,209
Used/Reversed	-	-	-	-	(1,950)	-	(1,950)	(1,950)
Impairment losses Dec 31 2016	-	134,892	134,892	-	33,179	-	33,179	168,071
Net carrying amount Dec 31 2016	-	-	-	27,301	382,131	147	409,579	409,579

⁽¹⁾ Offshore gas pipeline from the B-3 field.

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	Development assets			Production assets				Total
	Poland	Norway	Total	Poland	Norway	Lithuania	Total	
Gross carrying amount Jan 1 2015	28,571	129,699	158,270	72,558	266,534	2,298	341,390	499,660
Recognised	-	-	-	-	605,423 ⁽²⁾	-	605,423	605,423
Estimated costs of decommissioning of oil and gas extraction facilities	10,054	1,485	11,539	(304)	5,480	(250)	4,926	16,465
Exchange differences on translating foreign operations	-	(8,401)	(8,401)	-	(47,631)	(6)	(47,637)	(56,038)
Reversal of assets related to decommissioning of oil and gas extraction facilities	(2,750)	-	(2,750)	-	-	-	-	(2,750)
Reclassification of development assets to production assets	(35,875) ⁽¹⁾	-	(35,875)	35,875 ⁽¹⁾	-	-	35,875	-
Gross carrying amount Dec 31 2015	-	122,783	122,783	108,129	829,806	2,042	939,977	1,062,760
Accumulated depreciation and amortisation Jan 1 2015	3,998	-	3,998	72,217	90,069	942	163,228	167,226
Depreciation and amortisation	316	-	316	37	41,810	393	42,240	42,556
Exchange differences on translating foreign operations	-	-	-	-	(7,869)	6	(7,863)	(7,863)
Reclassification of development assets to production assets	(4,314) ⁽¹⁾	-	(4,314)	4,314 ⁽¹⁾	-	-	4,314	-
Accumulated depreciation and amortisation Dec 31 2015	-	-	-	76,568	124,010	1,341	201,919	201,919
Impairment losses Jan 1 2015	-	129,699	129,699	-	-	-	-	129,699
Recognised	-	1,485	1,485	-	-	-	-	1,485
Exchange differences on translating foreign operations	-	(8,401)	(8,401)	-	(1,684)	-	(1,684)	(10,085)
Used/Reversed	-	-	-	-	33,713	-	33,713	33,713
Impairment losses Dec 31 2015	-	122,783	122,783	-	32,029	-	32,029	154,812
Net carrying amount Dec 31 2015	-	-	-	31,561	673,767	701	706,029	706,029

⁽¹⁾ Reclassification of expenditure following production launch in the B-8 field.

⁽²⁾ Acquisition of Sleipner assets in Norway (for more information on the transaction, see Note 13.1.3. to the [Consolidated financial statements for 2015](#)).

13.2.3 Other non-current assets of the upstream segment

	Land	Buildings, structures	Plant and equipment	Vehicles, other	Property, plant and equipment under construction	Intangible assets	Total
Gross carrying amount Jan 1 2016	11,417	96,386	84,614	539,132	15,072	29,495	776,116
Purchase	-	-	255	11,644	12,295	187	24,381
Transfer from property, plant and equipment under construction	-	-	136	10,604	(10,740)	-	-
Exchange differences on translating foreign operations	-	66	775	12,806	29	1,721	15,397
Reclassification of refining and other assets to production assets	-	(42,408) ⁽¹⁾	(16,141) ⁽¹⁾	-	-	-	(58,549)
Disposal	-	(13)	(461)	(13,772)	-	(269)	(14,515)
Other	-	(885)	(33)	-	(1,381)	(2)	(2,301)
Gross carrying amount Dec 31 2016	11,417	53,146	69,145	560,414	15,275	31,132	740,529
Accumulated depreciation and amortisation Jan 1 2016	3,863	34,391	45,535	235,098	-	16,650	335,537
Depreciation and amortisation	277	2,291	4,012	33,698	-	4,421	44,699
Exchange differences on translating foreign operations	-	16	555	11,209	-	886	12,666
Reclassification of refining and other assets to production assets	-	(16,464) ⁽¹⁾	(10,597) ⁽¹⁾	-	-	-	(27,061)
Disposal	-	(12)	(356)	(7,235)	-	(269)	(7,872)
Other	-	(152)	(3)	-	-	(2)	(157)
Accumulated depreciation and amortisation Dec 31 2016	4,140	20,070	39,146	272,770	-	21,686	357,812
Impairment losses Jan 1 2016	-	-	562	5,343	120	-	6,025
Recognised	4	21	12	5,374 ⁽²⁾	-	-	5,411
Exchange differences on translating foreign operations	-	-	19	277	9	-	305
Used/Reversed	-	-	-	(5,875)	-	-	(5,875)
Impairment losses Dec 31 2016	4	21	593	5,119	129	-	5,866
Net carrying amount Dec 31 2016	7,273	33,055	29,406	282,525	15,146	9,446	376,851

⁽¹⁾ Offshore gas pipeline from the B-3 field.

⁽²⁾ Including ships valued at PLN 5,333 thousand, see Note 9.4.

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	Land	Buildings, structures	Plant and equipment	Vehicles, other	Property, plant and equipment under construction	Intangible assets	Total
Gross carrying amount Jan 1 2015	11,417	98,072	79,528	493,182	108,236	30,542	820,977
Purchase	-	-	1,287	252	30,466	136	32,141
Transfer from property, plant and equipment under construction	-	407	3,010	29,026	(32,443)	-	-
Exchange differences on translating foreign operations	-	2	987	17,178	93	(1,158)	17,102
Estimated costs of decommissioning, land reclamation and clean-up	-	(2,095)	(142)	-	-	-	(2,237)
Reclassification to development assets	-	-	-	-	(30,857) ⁽¹⁾	-	(30,857)
Reclassification to exploration and evaluation assets	-	-	-	-	(60,577) ⁽²⁾	-	(60,577)
Disposal	-	-	(43)	(506)	-	(22)	(571)
Other	-	-	(13)	-	154	(3)	138
Gross carrying amount Dec 31 2015	11,417	96,386	84,614	539,132	15,072	29,495	776,116
Accumulated depreciation and amortisation Jan 1 2015	3,586	29,375	40,114	182,528	-	12,584	268,187
Depreciation and amortisation	277	5,014	4,764	38,991	-	4,575	53,621
Exchange differences on translating foreign operations	-	2	707	14,080	-	(485)	14,304
Disposal	-	-	(37)	(501)	-	(21)	(559)
Other	-	-	(13)	-	-	(3)	(16)
Accumulated depreciation and amortisation Dec 31 2015	3,863	34,391	45,535	235,098	-	16,650	335,537
Impairment losses Jan 1 2015	-	-	300	1,098	-	-	1,398
Recognised	-	-	255 ⁽³⁾	4,127 ⁽³⁾	117 ⁽³⁾	-	4,499
Exchange differences on translating foreign operations	-	-	7	118	3	-	128
Used/Reversed	-	-	-	-	-	-	-
Impairment losses Dec 31 2015	-	-	562	5,343	120	-	6,025
Net carrying amount Dec 31 2015	7,554	61,995	38,517	298,691	14,952	12,845	434,554

⁽¹⁾ Related to prepayments for capital expenditure on the development of the B-8 field.

⁽²⁾ Related to operations on the Gaz Poludnie, Gotlandia, Łeba and Rozewie licence areas, which will be continued in 2016 in line with the upstream segment management's decision. Applications were filed to convert the Łeba and Rozewie licences into combined oil and gas exploration, appraisal and production licences.

⁽³⁾ Ships.

Other property, plant and equipment and intangible assets of the upstream segment include ships and a multi-purpose mobile drilling rig.

13.3 Other information on property, plant and equipment and intangible assets

	Property, plant and equipment used under finance lease	
	Dec 31 2016	Dec 31 2015
Gross carrying amount	312,277	334,209
Accumulated depreciation and amortisation	103,644	93,403
Impairment losses	800	-
Net carrying amount	207,833	240,806

The Group uses finance leases to finance primarily rolling stock assets (downstream segment); see also Note 23.4.

	2016	2015
Allocation of depreciation and amortisation		
Cost of sales	936,303	611,832
Distribution costs	87,474	68,769
Administrative expenses	35,628	38,722
Change in products and adjustments to cost of sales	8,489	(4,755)
Total	1,067,894	714,568

In 2016, the Group capitalised finance costs of PLN 4,840 thousand as property, plant and equipment under construction and intangible assets under development (2015: PLN 1,383 thousand) (see Note 13.1.1 and 13.1.3). As at December 31st 2016, financing costs capitalised as property, plant and equipment under construction and intangible assets under development totalled PLN 13,084 thousand (December 31st 2015: PLN 5,164 thousand).

As at December 31st 2016, property, plant and equipment and intangible assets serving as collateral for the Group's liabilities were PLN 6,232,650 thousand (December 31st 2015: PLN 6,538,480 thousand).

As at December 31st 2016, the Group's future contractual commitments for expenditure on property, plant and equipment and intangible assets not disclosed in the statement of financial position amounted to PLN 1,366,651 thousand and were chiefly related to the construction of the delayed coking unit (DCU) (the EFRA Project), development of the B-8 field (B8 Project), construction of a hydrogen recovery unit (HRU) at the refinery, and expansion of the service station chain (December 31st 2015: PLN 1,773,814 thousand).

14. Equity-accounted joint ventures

The Group holds interests in equity-accounted joint ventures, which include:

- Joint venture agreement between Grupa LOTOS S.A. and BP Europe SE on joint operations related to supply of aviation fuel through **LOTOS - Air BP Polska Sp. z o.o.**
- Agreement on cooperation between LOTOS Petrobaltic S.A. and CalEnergy Resources Poland Sp. z o.o. with respect to development and production of gas and condensate reserves from the B-4 and B-6 fields in the Baltic Sea, performed through special purpose vehicles **Baltic Gas spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k.** and **Baltic Gas Sp. z o.o.** (general partner).
- Joint venture set up for the purpose of oil exploration and production operations in Lithuania, operated in the form of **UAB Minijos Nafta**.

	Registered office	Description of business	The Group's ownership interest		Carrying amount of shares (PLN '000)	
			Dec 31 2016	Dec 31 2015	Dec 31 2016	Dec 31 2015
Downstream segment						
LOTOS-Air BP Polska Sp. z o.o.	Gdańsk	Sale of aviation fuel and logistics services	50.00%	50.00%	19,527	16,274
Upstream segment						
Baltic Gas Sp. z o.o.	Gdańsk	Oil and gas production (support activities for oil and gas production)	49.99%	49.99%	24	11
Baltic Gas spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k. ⁽¹⁾	Gdańsk	Crude oil and gas production	44.90%	43.96%	78,536	54,460
UAB Minijos Nafta ⁽²⁾	Lithuania, Gargždai	Crude oil exploration and production	49.99%	49.99%	-	-
Total					98,087	70,745

⁽¹⁾ The ownership interests as at December 31st 2016 were determined based on the value of contributions made by individual partners relative to the sum of all contributions:

- Baltic Gas Sp. z o.o. (general partner) 0.001%, (December 31st 2015: 0.001%),
- LOTOS Petrobaltic S.A. (limited partner) 44.908% (December 31st 2015: 43.968%),
- CalEnergy Resources Poland Sp. z o.o. ("CalEnergy") (limited partner) 55.091% (December 31st 2015: 56.031%).

The Group's indirect ownership interest in Baltic Gas spółka z ograniczoną odpowiedzialnością i wspólnicy sp. k. (jointly-controlled entity) is 44.90% (December 31st 2015: 43.96%).

In 2016, CalEnergy Resources Poland Sp. z o.o. and LOTOS Petrobaltic S.A. made the agreed cash contributions to Baltic Gas spółka z ograniczoną odpowiedzialnością i wspólnicy sp. k. of PLN 27,163 thousand and PLN 24,515 thousand, respectively, which changed the Group's ownership interest in

the company. Furthermore, in the current reporting period, the shareholders acquired new shares in the increased (by PLN 81 thousand) share capital of Baltic Gas Sp. z o.o. The expenditure of PLN 24,365 thousand, representing the cash contributions made by LOTOS Petrobaltic S.A. to these companies, was disclosed in the consolidated statement of cash flows under cash contributions – equity-accounted joint ventures.

	The Group's share in the companies' net profit or loss	
	2016	2015
Downstream segment		
LOTOS-Air BP Polska Sp. z o.o.	3,358	1,755
Upstream segment		
Baltic Gas Sp. z o.o.	(25)	(21)
Baltic Gas spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k. ⁽¹⁾	(439)	(644)
UAB Minijos Nafta ⁽²⁾	-	(32,156) ⁽²⁾
Total	2,894	(31,066)

⁽¹⁾ In the partnership agreement, the shares of each of the partners in the profit or loss of Baltic Gas Sp. z o.o. i wspólnicy sp.k. were defined as follows:

- Baltic Gas Sp. z o.o. holds a 0.001% share in profit and a 100% share in loss,
- LOTOS Petrobaltic S.A. holds a 50.9995% share in profit and
- CalEnergy holds a 48.9995% share in profit.

Accordingly, for IFRS purposes, Baltic Gas Sp. z o.o. i wspólnicy sp.k. is an entity jointly controlled by the Group (equity-accounted joint venture under IFRS 11).

⁽²⁾ Following impairment tests, in 2015 the Group recognised an impairment loss on the interest held in UAB Minijos Nafta. In 2015, the impairment loss amounted to PLN 28,457 thousand and brought the cost of the project to zero. The impairment loss on the interest held in UAB Minijos Nafta was disclosed in the consolidated statement of comprehensive income under Share in net profit/loss of equity-accounted joint ventures.

14.1 Condensed financial information on equity-accounted joint ventures

Statement of comprehensive income	LOTOS-Air BP Polska Sp. z o.o.	Baltic Gas Sp. z o.o.	Baltic Gas Sp. z o.o. i wspólnicy sp.k.	UAB Minijos Nafta
	2016			
Revenue	240,322	-	-	28,757
Cost of sales	(206,815)	-	(626)	(25,208)
Gross profit/(loss)	33,507	-	(626)	3,549
Distribution costs	(20,507)	-	-	(888)
Administrative expenses	(4,262)	(49)	(260)	(4,843)
Net other income/(expenses)	18	-	(2)	91
Operating profit/(loss)	8,756	(49)	(888)	(2,091)
Net finance income/(costs)	(434)	-	9	(250)
Pre-tax profit/(loss)	8,322	(49)	(879)	(2,341)
Income tax	(1,608)	-	-	4
Net profit/(loss)	6,714	(49)	(879)	(2,337)
Other comprehensive income/(loss), net	17	-	-	-
Total comprehensive income/(loss)	6,731	(49)	(879)	(2,337)
Depreciation and amortisation	(902)	-	(626)	(6,876)

Statement of comprehensive income	LOTOS-Air BP Polska Sp. z o.o.	Baltic Gas Sp. z o.o.	Baltic Gas Sp. z o.o. i wspólnicy sp.k.	UAB Minijos Nafta
	2015			
Revenue	221,388	-	-	31,658
Cost of sales	(197,125)	-	(626)	(33,124)
Gross profit/(loss)	24,263	-	(626)	(1,466)
Distribution costs	(15,175)	-	-	(824)
Administrative expenses	(4,476)	(42)	(730)	(5,144)
Net other income/(expenses)	(159)	-	-	45
Operating profit/(loss)	4,453	(42)	(1,356)	(7,389)
Net finance income/(costs)	(101)	-	68	(164)
Pre-tax profit/(loss)	4,352	(42)	(1,288)	(7,553)
Income tax	(842)	-	-	2
Net profit/(loss)	3,510	(42)	(1,288)	(7,551)
Other comprehensive income/(loss), net	32	-	-	-
Total comprehensive income/(loss)	3,542	(42)	(1,288)	(7,551)
Depreciation and amortisation	(820)	-	(626)	(9,882)

Statement of financial position	Note	LOTOS-Air BP	Baltic Gas	Baltic Gas Sp. z o.o.	UAB Minijos Nafta
		Polska Sp. z o.o.	Sp. z o.o.	i wspólnicy sp.k.	
Dec 31 2016					
Non-current assets		12,599	1	173,293	60,451
Current assets, including:		41,440	53	10,243	18,034
Cash and cash equivalents		16,161	17	8,692	10,073
Total assets		54,039	54	183,536	78,485
Non-current liabilities		5,457	-	-	16,552
Current liabilities		22,635	6	8,554	4,113
Total liabilities		28,092	6	8,554	20,665
Net assets		25,947	48	174,982	57,820
		50.00%	49.99%	*	49.99%
Share of net assets		12,974	24	78,536	28,904
Impairment loss on shares		-	-	-	-
Fair value measurement		6,736 ⁽¹⁾	-	-	(28,904)
Elimination of intercompany transactions		(183)	-	-	-
Interest in joint ventures	14	19,527	24	78,536	-

Statement of financial position	Note	LOTOS-Air BP	Baltic Gas	Baltic Gas Sp. z o.o.	UAB Minijos Nafta
		Polska Sp. z o.o.	Sp. z o.o.	i wspólnicy sp.k.	
Dec 31 2015					
Non-current assets		10,698	1	125,589	66,077
Current assets, including:		29,232	31	8,700	15,025
Cash and cash equivalents		12,790	5	6,359	6,946
Total assets		39,930	32	134,289	81,102
Non-current liabilities		4,228	-	-	18,274
Current liabilities		16,487	11	9,918	4,860
Total liabilities		20,715	11	9,918	23,134
Net assets		19,215	21	124,371	57,968
		50.00%	49.99%	*	49.99%
Share of net assets		9,608	11	54,460	28,978
Impairment loss on shares		-	-	-	28,978
Fair value measurement		6,736 ⁽¹⁾	-	-	-
Elimination of intercompany transactions		(70)	-	-	-
Interest in joint ventures	14	16,274	11	54,460	-

* For IFRS purposes, Baltic Gas Sp. z o.o. i wspólnicy sp.k is an entity jointly controlled by the Group (equity-accounted joint venture under IFRS 1; see Note 14 above).

⁽¹⁾ PLN 6,736 thousand gain on fair value measurement of a retained interest in a previously controlled entity as at the date of loss of control.

For information on transactions with joint ventures in which the Group holds interests, see Note 31.1.

15. Non-current assets (or disposal groups) held for sale

	Dec 31 2016	Dec 31 2015
Upstream segment	-	8,377
Downstream segment	542	-
Total	542	8,377

16. Trade receivables and other assets

Note	Dec 31 2016	Dec 31 2015
Non-current financial assets:	306,897	145,991
Security deposits receivable	17,042	20,458
Finance lease receivables	14,571	11,018
Oil and Gas Extraction Facility Decommissioning Fund ⁽¹⁾	33,195	31,794
Cash for removal of the MOPU from the YME field	-	69,453
Security deposit – ICE Futures	19,564	3,176
Security deposits related to licensed activities	20,663	-
Cash securing contractual obligations related to future decommissioning of assets	192,017	-
Shares	9,752	9,752
Other receivables	93	340
Current financial assets:	2,569,646	2,223,366
Trade receivables	2,251,727	1,550,900
- including from related entities	16,149	12,219
Security deposits receivable	14,643	7,761
Deposits	189,196	85,519
Cash earmarked for the EFRA Project	-	438,329
Cash for removal of the MOPU from the YME field ⁽²⁾	75,284	39,087
Security deposit under EPCM contract for the offshore production unit in the B-8 field	-	10,620
Settlements under joint operations (Norwegian fields) ⁽³⁾	1,415	15,431
Security deposits related to the use of gas fuel distribution and transmission system	14,386	13,952
Receivables under commodity swap settlement	-	49,208
Receivables under payment cards (service stations)	9,063	4,426
Other receivables	13,932	8,133
Financial assets	2,876,543	2,369,357
Non-current non-financial assets	5,216	55,017
Costs related to disbursement of the EFRA Project financing	-	48,568
Other	5,216	6,449
Current non-financial assets:	259,317	183,870
Value-added tax receivable	110,247	95,753
Property and other insurance	25,615	28,294
Excise duty on inter-warehouse transfers	34,734	31,015
Settlements under joint operations (Norwegian fields) ⁽³⁾	68,019	-
Prepaid deliveries	8,498	13,607
Prepayments for IT services	5,404	7,141
Other	6,800	8,060
Non-financial assets	264,533	238,887
Total	3,141,076	2,608,244
including:		
non-current	312,113	201,008
current:	2,828,963	2,407,236
- trade payables	2,251,727	1,550,900
- other	577,236	856,336

⁽¹⁾ Cash deposited in the bank account of the Oil and Gas Facility Decommissioning Fund (created pursuant to the Geological and Mining Law of February 4th 1994 and the Minister of Economy's Regulation of June 24th 2002) to cover future costs of decommissioning of oil extraction facilities, see Note 30.1.

⁽²⁾ Cash held in an escrow account associated with the agreement concluded between the parties involved in the YME project in Norway (for more details on the agreement, see Note 30.1).

⁽³⁾ Receivables of LOTOS Exploration and Production Norge AS (LOTOS Petrobaltic Group, the upstream segment) under mutual settlements between the operator and consortium members concerning specific Norwegian fields.

As at December 31st 2016 and December 31st 2015, deposits included the Parent's deposits designated for the overhaul shutdown of the refinery planned for 2017, deposits securing payments of interest under credit facilities contracted for the financing of the 10+ Programme, as well as for the financing and refinancing of inventories.

The collection period for trade receivables in the ordinary course of business is 7–35 days.

As at December 31st 2016, the Group's receivables of PLN 23,250 thousand (December 31st 2015: PLN 20,845 thousand) were assigned by way of security for the Group's liabilities.

For description of the financial instruments, see Note 7.22. For description of objectives and policies of financial risk management, see Note 28.

For currency risk sensitivity analysis of financial assets, see Note 28.3.1.

For interest rate risk sensitivity analysis of financial assets, see Note 28.4.1.

For maximum credit risk exposure of financial assets, see Note 28.6.

16.1 Change in impairment losses on receivables

	2016	2015
At beginning of period	171,640	177,694
Recognised	4,036	8,599
Used	(7,912)	(3,766)
Reversed	(2,494)	(10,920)
Other	43	33
At end of period	165,313	171,640

The amounts resulting from recognition or reversal of impairment losses on receivables are presented under Other income or Other expenses (the principal portion) and under Finance income or Finance costs (the default interest portion). In the statement of comprehensive income, recognised and reversed impairment losses on receivables are presented on a net basis under: Other income/expenses (in accordance with the adopted accounting policy the Group offsets corresponding items of Other income and Other expenses in line with Section 34 and 35 of IAS 1 *Presentation of Financial Statements*).

Recognised impairment losses included PLN 3,489 thousand in respect of the principal (2015: PLN 8,094 thousand) and PLN 547 thousand in respect of interest (2015: PLN 505 thousand).

Reversed impairment losses included PLN 1,935 thousand in respect of the principal (2015: PLN 10,021 thousand) and PLN 559 thousand in respect of interest (2015: PLN 899 thousand).

In 2016, the Group disclosed the recognised and reversed impairment losses on the principal amount of receivables under other expenses, in the amount of PLN 1,554 thousand, including: PLN 3,489 thousand under recognised impairment losses, and PLN 1,935 thousand under impairment loss reversal (see Note 9.4).

In 2015, the Group disclosed the recognised and reversed impairment losses on the principal amount of receivables under other income, in the amount of PLN 1,927 thousand, including: PLN 8,094 thousand under recognised impairment losses, and PLN 10,021 thousand under impairment loss reversal (see Note 9.3).

Ageing of unimpaired past due receivables:	Dec 31 2016	Dec 31 2015
Up to 1 month	75,664	26,123
From 1 to 3 months	1,249	707
From 3 to 6 months	39	359
From 6 months to 1 year	37	1,262
Over 1 year	4,048	358
Total	81,037	28,809

No impairment losses were recognised on past due receivables because they are secured against credit risk with a mortgage, pledge, insurance policy, bank guarantee or surety.

As at December 31st 2016 and December 31st 2015, the share of trade receivables from the Group's five largest customers as at the end of the reporting period was 32% of total trade receivables (individually: 2%–11%). In the Group's opinion, with the exception of receivables from the above-mentioned customers, there is no material concentration of credit risk. The Group's maximum exposure to credit risk as at the end of the reporting period is best represented by the carrying amounts of those instruments.

16.2 Finance lease receivables

The Group has developed and operates the "LOTOS Family" Franchise Programme, which defines the procedures for managing service stations. The Group has entered into franchise agreements with entities operating service stations at their own risk and for their own account (Partners). Receivables under franchise agreements represent mainly expenditure on the design of DOFO service stations operated by dealers under agreements executed for periods from 5 to 10 years.

	Minimum lease payments		Present value of minimum lease payments	
	Dec 31 2016	Dec 31 2015	Dec 31 2016	Dec 31 2015
Up to 1 year	7,166	5,608	7,108	5,568
From 1 to 5 years	14,671	10,940	14,551	10,862
Over 5 years	20	157	20	156
Total	21,857	16,705	21,679	16,586
Less unrealised finance income	(178)	(120)	-	-
Present value of minimum lease payments	21,679	16,585	21,679	16,586
including:				
non-current			14,571	11,018
current			7,108	5,568

17. Inventories

	Dec 31 2016	Dec 31 2015
Finished goods	833,602	863,428
Semi-finished products and work in progress	431,699	319,533
Merchandise	149,236	116,801
Materials	1,919,054	1,936,054
Total	3,333,591	3,235,816
including inventories measured at:		
cost	3,309,542	493,696
net realisable value	24,049	2,742,120

Inventories are measured at the lower of cost or cost less write-downs to net realisable value less costs to sell.

In H1 2016, the Group reversed PLN 262,680 thousand of write-downs on inventories of crude oil and refining products, which had been recognised in 2015 due to changes in quoted prices of crude oil and refining products. The write-downs in 2015 had been made to bring the value of the inventories as at December 31st 2015 to their net realisable value. As at December 31st 2016, inventories of crude oil and refining products were carried at cost.

As at December 31st 2016, inventories securing liabilities under bank borrowings were valued at PLN 2,801,263 thousand (December 31st 2015: PLN 2,734,698 thousand).

17.1 Change in inventory write-downs

	2016	2015
At beginning of period	267,695	453,409
Recognised	18,582	267,840
Exchange differences on translating foreign operations	33	21
Used	(1,281)	(328)
Reversed	(282,972)	(453,247)
At end of period	2,057	267,695

The effect of revaluation of inventories is taken to cost of sales.

18. Cash and cash equivalents

	Dec 31 2016	Dec 31 2015
Cash and cash equivalents in the statement of financial position	744,616	859,699
Overdraft facilities	(13,858)	(581,629)
Total cash and cash equivalents in the statement of cash flows	730,758	278,070

Cash at banks bears interest at variable rates linked to short-term interest rates prevailing on the interbank market. Short-term deposits are placed for a range of maturities, from one day to one month, depending on the Group's current cash needs, and bear interest at interest rates set for them.

As at December 31st 2016, the amount of undrawn funds available to the Group under working capital facilities in respect of which all conditions precedent had been fulfilled was PLN 1,100,959 thousand (December 31st 2015: PLN 505,299 thousand).

As at December 31st 2016, cash in bank accounts serving as security for the Group's liabilities was PLN 45,435 thousand (December 31st 2015: PLN 3,399 thousand).

19. Share capital

	Dec 31 2016	Dec 31 2015
Series A shares	78,700	78,700
Series B shares	35,000	35,000
Series C shares	16,173	16,173
Series D shares	55,000	55,000
Total	184,873	184,873

As at December 31st 2016 and December 31st 2015, the share capital comprised 184,873,362 ordinary shares, fully paid-up, with a par value of PLN 1 per share. Each share confers the right to one vote at the General Meeting and carries the right to dividend.

20. Share premium

Share premium as at December 31st 2016 and December 31st 2015 represents the excess of the issue price over the par value of Series B, C and D shares, net of costs directly attributable to the share issue.

	Series B	Series C	Series D	Total
Share premium	980,000	340,773	940,500	2,261,273
Costs directly attributable to the share issue	(9,049)	(376)	(23,538)	(32,963)
Total	970,951	340,397	916,962	2,228,310

21. Cash flow hedging reserve

Cash flow hedging reserve comprises changes in the valuation of foreign-currency denominated bank borrowings used as cash flow hedges for USD-denominated sales, less the effect of deferred income tax.

Changes in the fair value of derivative financial instruments designated as cash flow hedges are charged to the cash flow hedging reserve to the extent they represent an effective hedge, while the ineffective portion is charged to finance income or costs in the reporting period.

	Note	2016	2015
At beginning of period		(700,888)	(412,535)
Valuation of cash flow hedging instruments	27.3	(138,178)	(355,973)
- effective portion		(138,794)	(356,477)
- ineffective portion ⁽¹⁾		616	504
Income tax on valuation of cash flow hedging instruments	10.1	26,254	67,620
At end of period		(812,812)	(700,888)

⁽¹⁾ The ineffective portion, charged to finance costs.

22. Retained earnings

Retained earnings comprise capital reserves created and used in accordance with the rules stipulated by the applicable laws and provisions of the Articles of Association, as well as current period's profit.

Furthermore, retained earnings include actuarial gains/losses relating to defined post-employment benefits, recognised inclusive of tax effect, which are posted under Other comprehensive income/(loss), net in the statement of comprehensive income.

As at December 31st 2016 and December 31st 2015, Grupa LOTOS S.A. was restricted in its ability to distribute dividends, as described in detail in Note 12.

22.1 Restricted ability of subsidiaries to transfer funds to the Parent in the form of dividends

In 2016 and 2015, the ability of subsidiaries of the LOTOS Group to transfer funds to Grupa LOTOS S.A. in the form of dividends was restricted due to the following arrangements:

- The amount of cash surplus generated by LOTOS Paliwa Sp. z o.o. in a financial year that is available for distribution depends on the achievement of certain ratios defined in credit facility agreements.
- At LOTOS Asphalt Sp. z o.o., dividend payment is restricted under the credit facility agreement for the financing of the EFRA Project, whereby distribution of dividends is not permitted until the first repayment is made, with its due date scheduled for December 21st 2018. Payment of dividends from operating cash flows is conditional upon fulfilment of the requirements defined in the agreement, including generation of a sufficient cash surplus and achievement of financial ratios at prescribed levels.

The dividend restrictions were binding as at December 31st 2016 and December 31st 2015. Furthermore, LOTOS Petrobaltic S.A. signed an annex to its note issue programme agreement, prohibiting the company from declaring and distributing dividend without the approval by the Noteholders Meeting. This prohibition remained effective as at December 31st 2016.

23. Borrowings, other debt instruments and finance lease liabilities

	Note	Dec 31 2016	Dec 31 2015
Bank borrowings	23.1	5,082,926	6,481,034
Non-bank borrowings	23.2	81,833	92,146
Notes	23.3	213,014	218,100
Finance lease liabilities	23.4	179,503	208,028
Total		5,557,276	6,999,308
including:			
non-current		3,980,537	4,454,460
current		1,576,739	2,544,848

23.1 Bank borrowings

	Dec 31 2016	Dec 31 2015
Investment facilities	4,429,080	4,744,306
Working-capital facilities	161,805	883,818
Inventory financing and refinancing facility	836,316	1,170,728
Funds in bank deposits securing payment of interest and principal*	(344,275)	(317,818)
Total	5,082,926	6,481,034
including:		
non-current	3,769,785	4,197,008
current	1,313,141	2,284,026

* In accordance with IAS 32, Grupa LOTOS S.A. offsets the financial asset (cash reserved for repayment of the facilities) against financial liabilities under the facilities as it has a legally enforceable title to set off the amounts and intends to realise the asset and settle the liability simultaneously. Accumulation of funds for the repayment of credit facilities is expressly provided for in the documentation relating to the investment facilities obtained to finance the 10+ Programme, and the inventory financing and refinancing facility. The Company is required to set aside and maintain funds for repayment of principal and interest due over the next six months. The purpose of adopting the net-basis presentation approach in the statement of financial position is to reflect the expected future cash flows from the settlement of two or more financial instruments.

Repayment of the above facilities is secured with:

- power of attorney over bank accounts, blank promissory notes and bank guarantees,
- registered pledges over bank accounts, inventories, existing and future movables, and shares in subsidiaries,
- mortgage,
- transfer of title to property, plant and equipment,
- assignment by way of security of rights under insurance agreements, including insurance of inventories,
- assignment by way of security of rights under inventory storage agreements and the right to compensation from the State Treasury payable in the event that the Group is required to sell emergency stocks below market price,
- assignment by way of security of rights under licence agreements, design agreements and agreements for sale of products,
- assignment by way of security of rights under oil supply agreements,
- shares in subsidiaries,
- assignment by way of security of rights under a conditional loan agreement,
- representation on voluntary submission to enforcement.

Bank borrowings by currency

	Currency of credit facility advanced to the Group			Total
	EUR	USD	PLN	
Dec 31 2016	1	4,745,412	337,513	5,082,926
Dec 31 2015	9,620	5,546,432	924,982	6,481,034

Bank borrowings bear interest based on:

- 1M, 3M or 6M LIBOR (USD), depending on the interest period selected at a given time – in the case of USD-denominated facilities,
- 1M or 3M EURIBOR – in the case of EUR-denominated facilities,
- O/N, 1M or 3M WIBOR - in the case of PLN-denominated facilities.

Bank margins on the contracted facilities are within the range of 0.9pp. – 4.0pp.

As at December 31st 2016, the average effective interest rate for the credit facilities denominated in USD and EUR was approximately 2.85% (December 31st 2015: 2.55%). The average effective interest rate for PLN-denominated facilities (excluding the syndicated facilities contracted by the Parent) was approximately 3.55% (3.59% as at December 31st 2015).

For sensitivity analysis of borrowings with respect to currency and interest rate risks, see Notes 28.3.1 and 28.4.1 respectively. For analysis of contractual maturities of the borrowings, see Note 28.5.

In connection with its investment credit facilities and the credit facility incurred to finance and refinance inventories, the Parent is required to maintain its Tangible Consolidated Net Worth (TCNW) at the level specified in the facility agreements. The Company is also required to comply with the covenant requiring it to maintain the Loan to Pledged Inventory Value Ratio at or below the level specified in the facility agreement. As at December 31st 2016 and December 31st 2015, the Company complied with this requirement.

Proceeds from and repayment of bank borrowings

In 2016, proceeds from the Group's bank borrowings were PLN 379.3m (2015: PLN 798.2m), and cash outflows on repayment of borrowings were PLN 1,499.4m (2015: PLN 1,161.5m). These amounts are presented in the consolidated statement of cash flows as cash flows from financing activities under [Proceeds from borrowings](#) and [Repayment of borrowings](#), respectively.

In 2016, proceeds from bank borrowings related to:

- investment facilities for the financing of the EFRA Project (PLN 133.2m),
- working capital facilities of LOTOS Asphalt Sp. o.o. (PLN 77m),
- working capital facilities of AB LOTOS Geonafra (PLN 169.1m).

In 2016, repayments of bank borrowings related mainly to:

- the Parent's investment facilities for the financing of the 10+ Project (PLN 526.3m),
- the Parent's credit facility for the financing and refinancing of inventories (PLN 421.5m),
- working capital facilities of LOTOS Asphalt Sp. o.o. (PLN 190.5m),
- LOTOS Paliwa Sp. z o.o.'s investment credit facilities for the financing and refinancing of the purchase of service stations (PLN 33.7 thousand),
- credit facilities of LOTOS Exploration and Production Norge AS (PLN 113.3m),
- credit facilities of AB LOTOS Geonafra (PLN 199.4m),
- SPV Baltic Sp. z o.o.'s investment facility for the purchase of the company's multi-purpose platform (PLN 9.7m).

In 2016 and 2015, there were no defaults under the facilities.

For more information on the Group's bank borrowings, see the Directors' Report on the operations of Grupa LOTOS S.A. and the LOTOS Group in 2016.

23.2 Non-bank borrowings

	Dec 31 2016	Dec 31 2015
Provincial Fund for Environmental Protection and Water Management in Gdańsk (WFOŚiGW)	7,713	8,498
Agencja Rozwoju Przemysłu S.A.	74,120	83,648
Total	81,833	92,146
including:		
non-current	69,366	80,966
current	12,467	11,180

The loan advanced by Agencja Rozwoju Przemysłu S.A. was intended for the financing of a purchase of a drilling rig; the other loans were taken out to partly finance upgrade of locomotives and a rail tank car cleaning facility, as well as upgrade of the dust removal unit at a CHP plant.

Repayment of the loans is secured with:

- registered pledge over assets,
- registered and financial pledges over shares,
- assignment by way of security of rights under insurance policies and sale agreements,
- assignment by way of security of claims related to bank accounts,
- blank promissory notes and representation on voluntary submission to enforcement,
- sureties issued by Group companies.

The loans are denominated in the Polish zloty. The loans bear interest based on 1M WIBOR or the rediscount rate.

As at December 31st 2016, the average effective interest rate for the loans was approximately 4.56% (December 31st 2015: 4.59%).

For interest rate risk sensitivity analysis of the loans, see Note 28.4.1.

For analysis of contractual maturities of the loans, see Note 28.5.

Proceeds from and repayment of non-bank borrowings

In 2016, proceeds from non-bank loans amounted to PLN 1.2m (in 2015, the Group did not contract any loans), whereas loan repayments were PLN 11.6m (2015: PLN 10.8m). These amounts were disclosed in the consolidated statement of cash flows from financing activities under [Proceeds from non-bank borrowings](#) and [Repayment of non-bank borrowings](#), respectively.

23.3 Notes

In 2013, LOTOS Petrobaltic S.A. (upstream segment) issued medium-term notes (Series: A, B, C, D, and E, with a total par value of USD 65.9m) under an agreement with Bank Pekao S.A. of October 29th 2013. Pursuant to the agreement, LOTOS Petrobaltic S.A. may issue notes for up to the USD equivalent of PLN 200m. The notes were acquired by Bank Pekao S.A. As at December 31st 2016, the liability under the company's outstanding notes, net of issue costs, was PLN 213.0m (December 31st 2015: PLN 218.1m).

The security created in respect of the note issue programme comprises:

- assignment by way of security,
- power of attorney over bank accounts,
- blank promissory note,
- representation on voluntary submission to enforcement,
- mortgage,
- assignment by way of security of claims under property insurance agreements and agreement for drilling rig services.

Proceeds from and payments under notes

In 2016, notes with a total par value of USD 5m were redeemed. The related payments, of PLN 19.2m, were presented in the statement of cash flows from financing activities of the Group, under Redemption of notes (2015: PLN 19.4m).

For sensitivity analysis of the notes with respect to currency and interest rate risks, see Notes 28.3.1 and 28.4.1, and for information on their maturities see Note 28.5.

23.4 Finance lease liabilities

	Minimum lease payments		Present value of minimum lease payments	
	Dec 31 2016	Dec 31 2015	Dec 31 2016	Dec 31 2015
Up to 1 year	57,771	54,648	38,117	31,542
From 1 to 5 years	173,719	198,708	137,315	145,431
Over 5 years	4,345	34,135	4,071	31,055
Total	235,835	287,491	179,503	208,028
Less finance costs	(56,332)	(79,463)	-	-
Present value of minimum lease payments	179,503	208,028	179,503	208,028
including:				
non-current			141,386	176,486
current			38,117	31,542

The Group uses finance leases primarily to finance rolling stock assets.

For sensitivity analysis of finance lease liabilities with respect to currency and interest rate risks, see Notes 28.3.1 and 28.4.1, and for information on their maturities, see Note 28.5.

23.4.1 Undisclosed liabilities under operating lease agreements

As at December 31st 2016 and December 31st 2015, future minimum lease payments under non-cancellable operating leases were as follows:

	Dec 31 2016	Dec 31 2015
Up to 1 year	110,506	109,979
From 1 to 5 years	339,348	350,794
Over 5 years	3,836	48,171
Total	453,690	508,944

The Group uses operating leases primarily to finance rolling stock assets.

24. Derivative financial instruments

	Dec 31 2016	Dec 31 2015
Non-current financial assets:	20,918	8,697
Commodity swaps (raw materials and petroleum products)	17,196	367
Currency forward and spot contracts	-	7,024
Interest rate swap (IRS)	3,722	992
Options	-	314
Current financial assets:	79,958	208,482
Commodity swaps (raw materials and petroleum products)	41,538	198,224
Currency forward and spot contracts	8,667	7,058
Options	411	49
Currency swap	29,342	3,151
Financial assets	100,876	217,179
Non-current financial liabilities:	36,316	54,306
Commodity swaps (raw materials and petroleum products)	2,225	8,548
Currency forward and spot contracts	2,816	6
Interest rate swap (IRS)	31,275	45,752
Current financial liabilities:	172,920	110,845
Commodity swaps (raw materials and petroleum products)	16,177	49,507
Currency forward and spot contracts	98,826	903
Interest rate swap (IRS)	23,852	26,511
Currency swap	34,065	33,924
Financial liabilities	209,236	165,151

For description of the derivative financial instruments, see Note 7.24. For description of objectives and policies of financial risk management, see Note 28. For classification of derivative financial instruments by fair value hierarchy, see Note 27.2.

For sensitivity analysis of derivative financial instruments in terms of market risk related to changes in raw material and petroleum product prices, see Note 28.1.1.

For currency risk sensitivity analysis of derivative financial instruments, see Note 28.3.1.

For interest rate sensitivity analysis of derivative financial instruments, see Note 28.4.1.

For information on maturities of derivative financial instruments, see Note 28.5.

For information on maximum credit risk exposure of derivative financial instruments (financial assets), see Note 28.6.

25. Employee benefit obligations

	Note	Dec 31 2016	Dec 31 2015
Non-current liabilities:	25.1	168,537	182,252
Post-employment benefits	25.1	40,235	38,459
Length-of-service awards and other benefits	25.1	128,302	143,793
Current liabilities:	25.1	135,612	122,201
Post-employment benefits	25.1	7,096	4,224
Length-of-service awards and other benefits	25.1	14,219	12,184
Bonuses, awards and unused holidays		85,222	78,409
Salaries and wages payable		29,075	27,384
Total		304,149	304,453

25.1 Obligations under length-of-service awards and post-employment benefits

In accordance with the Group's remuneration systems, the Group employees are entitled to post-employment benefits upon retirement. Length-of-service awards are paid after a specific period of employment. Therefore, based on valuations prepared by professional actuary firms or based on own estimates, the Group recognises the present value of obligations under length-of-service awards and post-employment benefits. The table below provides information on the amount of the obligations and reconciliation of changes in the obligations during the reporting period.

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Note	Post-employment benefits	Length-of-service awards and other benefits	Total
Jan 1 2016	40,519	155,977	196,496
Current service cost	2,445	12,069	14,514
Cost of discount	1,033	4,076	5,109
Past service cost	5,674	(15,841)	(10,167)
Benefits paid	(2,113)	(11,733)	(13,846)
Actuarial (gain)/loss under profit or loss	-	(2,027)	(2,027)
Actuarial (gain)/loss under other comprehensive income	(2,243)	-	(2,243)
Dec 31 2016	45,315	142,521	187,836
including:			
non-current	38,535	128,302	166,837
current	6,780	14,219	20,999
Obligations under length-of-service awards and post-employment benefits at foreign companies ⁽¹⁾	2,016	-	2,016
Dec 31 2016	47,331	142,521	189,852
including:			
non-current	40,235	128,302	168,537
current	7,096	14,219	21,315

Note	Post-employment benefits	Length-of-service awards and other benefits	Total
Jan 1 2015	40,359	155,657	196,016
Reclassification to liabilities directly associated with assets held for sale (or disposal groups)	1,963	7,125	9,088
Current service cost	2,488	12,929	15,417
Cost of discount	1,031	4,027	5,058
Past service cost	(1,694)	(6,323)	(8,017)
Benefits paid	(2,916)	(12,497)	(15,413)
Actuarial (gain)/loss under profit or loss	-	(4,941)	(4,941)
Actuarial (gain)/loss under other comprehensive income	(712)	-	(712)
Dec 31 2015	40,519	155,977	196,496
including:			
non-current	36,476	143,793	180,269
current	4,043	12,184	16,227
Obligations under length-of-service awards and post-employment benefits at foreign companies ⁽¹⁾	2,164	-	2,164
Dec 31 2015	42,683	155,977	198,660
including:			
non-current	38,459	143,793	182,252
current	4,224	12,184	16,408

⁽¹⁾ Given the different nature of the pension plans operated by the Group's foreign companies – LOTOS Exploration and Production Norge AS and the companies of the AB LOTOS Geonafra Group – and their immaterial effect on the Group's total obligations under length-of-service awards and post-employment benefits, those companies' obligations are presented separately under obligations under length-of-service awards and post-employment benefits at foreign companies.

25.2 Total cost of future employee benefit payments charged to profit or loss

Note	2016	2015
Items recognised in profit or loss:	10,638	10,133
Length-of-service awards, retirement and other post-employment benefits	9.2	5,075
- current service cost	14,514	15,417
- past service cost	(10,167)	(8,017)
- effect of foreign operations	3,209	2,616
- actuarial (gain)/loss	25.1	(4,941)
Cost of discount	25.1; 9.6	5,058
Items recognised in other comprehensive income:	(2,019)	654
Actuarial (gain)/loss	25.1	(712)
Effect of foreign operations	224	1,366
Total comprehensive income	8,619	10,787

25.3 Actuarial assumptions

Assumptions adopted by the actuary	Dec 31 2016	Dec 31 2015
Discount rate (%)	3.50%	2.90%
Expected inflation rate (%)	2.50%	2.50%
Employee turnover ratio (%)	2.33%	2.33%
Expected growth rate of salaries and wages (%) in the following year	2.00%	0.00%
Expected growth rate of salaries and wages (%) in the following years	2.50%	2.50%

- The employee attrition probability is based on the historical data on employee turnover at the Group and statistical data on employee attrition in the industry. The employee turnover ratios applied by the actuary were determined separately for men and women and broken down into nine age categories. The employee turnover ratio is now calculated on an average basis.
- The mortality and life expectancy ratios are based on the Life Expectancy Tables of Poland for 2015, published by the Polish Central Statistics Office (GUS), and assume that the Company's employee population is representative of the average Polish population in terms of mortality (December 31st 2015: Life Expectancy Tables of Poland for 2014).
- The changes resulting from amendments to the Act on Pensions and Disability Pensions from Social Security Fund (Pensions Act), in particular changes relating to the retirement age of women and men, were accounted for. The amendments to the Pensions Act resulted in a change in the operation of individual benefit plans, giving rise to additional past service costs.
- It was assumed that employees would retire in accordance with the standard procedure, as prescribed by the Pensions Act, with the exception of employees who, according to the information provided by the Company, meet the conditions for early retirement entitlement.
- Based on the historical data, it was assumed that in 60% of cases death benefit payments represent half of the full death benefit amount.
- The discount rate on future benefits was assumed at 3.5%, i.e. reflecting the assumption made at the corporate level (December 31st 2015: 2.9%, reflecting the assumption made at the corporate level).

25.4 Termination benefits

In 2016, termination benefits and compensation payable in respect of non-compete obligation totalled PLN 4,994 thousand (2015: PLN 6,939 thousand).

In 2016, provisions for termination benefits totalled PLN 379 thousand (2015: PLN 125 thousand).

25.5 Sensitivity analysis

The table below presents results of calculations for changed key actuarial assumptions: the salaries and wages growth rate and the discount rate.

Initial obligation balance

Salaries and wages growth rate	Discount rate	Length-of-service awards	Old-age and disability retirement severance payments	Death benefits	Social benefits fund	Total ⁽¹⁾
base	base	130,756	40,268	7,810	8,959	187,793
base + 1%	base	141,423	44,311	8,540	10,610	204,884
base - 1%	base	121,371	36,822	7,170	7,661	173,024
base	base + 0.5%	125,387	38,338	7,451	8,256	179,432
base	base - 0.5%	136,545	42,382	8,197	9,761	196,885

The tables below present results of calculations for changed key actuarial assumptions: the salaries and wages growth rate, medical care contributions, and the discount rate.

Current service cost projected for 2017

Salaries and wages growth rate	Discount rate	Length-of-service awards	Old-age and disability retirement severance payments	Death benefits	Social benefits fund	Total ⁽¹⁾
base	base	10,176	2,213	629	388	13,406
base + 1%	base	11,307	2,575	710	511	15,103
base - 1%	base	9,203	1,916	561	298	11,978
base	base + 0.5%	9,667	2,058	594	341	12,660
base	base - 0.5%	10,729	2,386	668	444	14,227

Cost of discount projected for 2017

Salaries and wages growth rate	Discount rate	Length-of-service awards	Old-age and disability retirement severance payments	Death benefits	Social benefits fund	Total ⁽¹⁾
base	base	4,110	1,173	252	303	5,838
base + 1%	base	4,483	1,314	278	361	6,436
base - 1%	base	3,781	1,052	230	258	5,321
base	base + 0.5%	4,482	1,263	274	318	6,337
base	base - 0.5%	3,696	1,069	228	284	5,277

Total current service cost and cost of discount projected for 2017

Salaries and wages growth rate	Discount rate	Length-of-service awards	Old-age and disability retirement severance payments	Death benefits	Social benefits fund	Total ⁽¹⁾
base	base	14,286	3,386	881	691	19,244
base + 1%	base	15,790	3,889	988	872	21,539
base - 1%	base	12,984	2,968	791	556	17,299
base	base + 0.5%	14,149	3,321	868	659	18,997
base	base - 0.5%	14,425	3,455	896	728	19,504

⁽¹⁾ Given the different nature of pension plans operated by the Group's foreign companies – LOTOS Exploration and Production Norge AS and the companies of the AB LOTOS Geonafra Group – and their negligible effect on the Group's obligations under length-of-service awards and post-employment benefits, such companies' obligations were not presented in the review.

26. Trade payables, other liabilities and provisions

Note	Dec 31 2016	Dec 31 2015
Non-current financial liabilities:	23,281	8,906
Investment commitments	2,955	8,070
Liabilities towards the Polish National Foundation ⁽¹⁾	19,019	-
Other	1,307	836
Current financial liabilities	1,941,687	1,405,335
Trade payables	1,718,178	1,232,510
Investment commitments	147,696	110,710
Settlements under joint operations (Norwegian fields) ⁽²⁾	57,801	43,792
Liabilities towards the Polish National Foundation ⁽¹⁾	5,000	-
Other	13,012	18,323
Financial liabilities	1,964,968	1,414,241
Non-current non-financial liabilities:	1,177,641	1,283,665
Provisions 26.1	1,164,360	1,269,053
Grants	10,093	11,157
Other	3,188	3,455
Current non-financial liabilities:	1,395,567	1,230,920
Provisions 26.1	92,711	143,291
Value-added tax payable	443,199	337,431
Excise duty and fuel charge payable	698,110	604,528
Other liabilities to the state budget other than corporate income tax	73,890	61,430
Grants	24,311	23,924
Prepaid deliveries	5,254	3,925
Liabilities under the NAVIGATOR loyalty programme	15,767	12,655
Settlements under joint operations (Norwegian fields) ⁽²⁾	5,455	12,125
Provision for deficit in CO ₂ emission allowances	9,790	1,059
Other	27,080	30,552
Non-financial liabilities	2,573,208	2,514,585
Total	4,538,176	3,928,826
including:		
non-current	1,200,922	1,292,571
current:	3,337,254	2,636,255
- trade payables	1,718,178	1,232,510
- other	1,619,076	1,403,745

⁽¹⁾ As one of the founders of the Polish National Foundation created in 2016 ("PFN"; number in the National Court Register: KRS 0000655791), Grupa LOTOS S.A. is required to make annual contributions for the next 10 years to finance the activities provided for in the foundation's constitutional documents. The total amount of the Company's commitment to finance PFN's activities was established at the amount of discounted future payments, equal to PLN 29,019 thousand (see Note 9.4). On December 30th 2016, the Company contributed PLN 5,000 thousand to PFN's founding capital, and the amount of the outstanding commitment under PFN's constitutional documents as at December 31st 2016 was PLN 24,019 thousand (including PLN 5,000 thousand presented under current financial liabilities and PLN 19,019 thousand presented under non-current financial liabilities).

⁽²⁾ Liabilities of LOTOS Exploration and Production Norge AS (LOTOS Petrobaltic Group, the upstream segment) under mutual settlements between the operator and consortium members in relation to individual Norwegian fields.

Trade payables do not bear interest and are typically paid in 7-60 days. Other liabilities do not bear interest, and their average payment period is one month. Amounts resulting from the difference between value added tax receivable and value added tax payable are paid to the relevant tax authorities on a monthly basis. Interest payable is usually settled on a monthly basis during a financial year.

For currency risk sensitivity analysis of trade payables and other liabilities, see Note 28.3.1.

For information on maturities of trade payables and other liabilities, see Note 28.5.

26.1 Provisions

	Provisions for decommissioning and reclamation costs							
	Note	Provision for oil and gas extraction facilities			Provisions for retired refining and other units	Total	Other provisions	Total
		Poland	Norway	Lithuania				
Jan 1 2016		191,837	986,439	14,133	25,770	1,218,179	194,165	1,412,344
Recognised		-	-	-	-	-	29,310	29,310
Remeasurement of decommissioning costs		(11,254)	(119,901) ⁽¹⁾	(1,523)	-	(132,678)	-	(132,678)
Remeasurement of estimated provision for contingent payments		-	-	-	-	-	(27,513)	(27,513)
Change in provisions for liabilities attributable to approaching maturity date (discount unwinding effect)	9.6	5,639	40,349	826	75	46,889	2,238	49,127
Interest on Oil and Gas Facility Decommissioning Fund		310	-	-	-	310	-	310
Exchange differences on translating foreign operations		-	93,610	532	-	94,142	11,491	105,633
Used		-	(41,861)	-	(158)	(42,019)	(105,652) ⁽²⁾	(147,671)
Reversed		-	-	-	(10,499)	(10,499)	(21,292)	(31,791)
Dec 31 2016		186,532	958,636	13,968	15,188	1,174,324	82,747	1,257,071
including:								
non-current		186,532	944,339	13,968	13,805	1,158,644	5,716	1,164,360
current		-	14,297	-	1,383	15,680	77,031	92,711

Provisions for decommissioning and reclamation costs:

Provision for oil and gas extraction facilities in Poland – a provision for future costs of decommissioning of the oil and gas extraction facilities in the B-3 and B-8 licence areas, and the Oil and Gas Extraction Facility Decommissioning Fund, set up to cover future costs of decommissioning of oil and gas extraction facilities, in accordance with the Geological and Mining Law of February 4th 1994 and the Minister of Economy's Regulation of June 24th 2002.

Provision for oil and gas extraction facilities in Norway – a provision for future costs of decommissioning of the oil extraction facilities in the YME field (including provision for future cost of MOPU removal), and the oil and gas extraction facilities in the Heimdal and Sleipner fields.

Provision for oil and gas extraction facilities in Lithuania – a provision for future costs of decommissioning of the Lithuanian oil extraction facilities.

Provisions for retired refining units and other installations – a provision for land reclamation and the cost of disassembly and decommissioning of the retired installations at LOTOS Terminale S.A., a provision for estimated cost of disassembly of the subsea pipeline operated by a subsidiary Energobaltic Sp. z o.o. (a company of the LOTOS Petrobaltic Group), as well as for land reclamation and clean-up.

⁽¹⁾ The amount includes mainly remeasurement of provisions for future costs of decommissioning of crude oil and gas extraction facilities related to the Heimdal and Sleipner assets.

⁽²⁾ Including PLN 103,003 thousand (NOK 217,995 thousand) related to a provision for contingent payments under the Sleipner assets acquisition agreement.

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	Provisions for decommissioning and reclamation costs							
	Note	Provision for oil and gas extraction facilities			Provisions for retired refining and other units	Total	Other provisions	Total
		Poland	Norway	Lithuania				
Jan 1 2015		183,579	497,194	14,302	30,504	725,579	52,849	778,428
Recognised		-	610,121 ⁽¹⁾	361	512	610,994	150,353 ⁽³⁾	761,347
Remeasurement of decommissioning costs		5,574	17,253	(1,245)	(2,319)	19,263	-	19,263
Remeasurement of estimated provision for contingent payments		-	-	-	-	-	4,794	4,794
Change in provisions for liabilities attributable to approaching maturity date (discount unwinding effect)	9.6	4,965	15,943	720	64	21,692	510	22,202
Interest on Oil and Gas Facility Decommissioning Fund		469	-	-	-	469	-	469
Exchange differences on translating foreign operations		-	(59,326)	(5)	-	(59,331)	(8,587)	(67,918)
Used		-	(94,746) ⁽²⁾	-	(480)	(95,226)	(2,008)	(97,234)
Reversed		(2,750)	-	-	(2,511)	(5,261)	(3,746)	(9,007)
Dec 31 2015		191,837	986,439	14,133	25,770	1,218,179	194,165	1,412,344
including:								
non-current		191,837	882,753	14,133	24,142	1,112,865	156,188	1,269,053
current		-	103,686	-	1,628	105,314	37,977	143,291

Provisions for decommissioning and reclamation costs:

Provision for oil and gas extraction facilities in Poland – a provision for future costs of decommissioning of the oil and gas extraction facilities in the B-3 and B-8 licence areas.

Provision for oil and gas extraction facilities in Norway – a provision for future costs of decommissioning of the oil extraction facilities in the YME field (including provision for future cost of MOPU removal), and the oil and gas extraction facilities in the Heimdal and Sleipner fields.

Provision for oil and gas extraction facilities in Lithuania – a provision for future costs of decommissioning of the Lithuanian oil extraction facilities.

Provisions for retired refining units and other installations – a provision for land reclamation and the cost of disassembly and decommissioning of the retired installations at LOTOS Terminale S.A., a provision for estimated cost of disassembly of the subsea pipeline operated by a subsidiary Energobaltic Sp. z o.o. (a company of the LOTOS Petrobaltic Group), as well as for land reclamation and clean-up.

⁽¹⁾ Recognition of a provision for decommissioning in connection with the acquisition of the Sleipner assets (see Note 13.1.3 to the [Consolidated financial statements for 2015](#)).

⁽²⁾ The amount mainly includes PLN 62,043 thousand of used provisions for future costs of removal of the MOPU and disassembly of plant and equipment in the YME field. The provision was recognised in connection with an agreement between Talisman (the YME field operator) and SBM (rig owner) made in March 2013 (see also Note 30.1 and 13.2.2).

⁽³⁾ Including PLN 133,157 thousand related to a provision for contingent payments under the Sleipner assets acquisition agreement (see Note 13.1.3 to the [Consolidated financial statements for 2015](#)).

Provision for oil and gas extraction facilities – Norway

Provision for decommissioning and reclamation of oil extraction facility in the YME field

As at December 31st 2016, the provision for decommissioning and reclamation of the extraction facility in the YME field, totalling PLN 159,156 thousand, was disclosed under other liabilities and provisions and reflected the current estimate, made based on the Group's best knowledge, of future costs of removal of the YME infrastructure and costs of land reclamation, assuming that the project is decommissioned in 2031. As at December 31st 2015, the provision was PLN 141,407 thousand.

Provision for removal of the defective MOPU from the YME field

As described in Note 30.1, in March 2013, the operator of the YME field, Talisman Energy Norge AS ("Talisman," "Operator"), and the supplier of the Mobile Offshore Production Unit (MOPU) to be operated in the YME field, Single Buoy Moorings Inc. ("SBM"), announced that an agreement had been reached to remove the defective MOPU (evacuated in mid-July 2012) from the YME field and to terminate all existing contracts and agreements between the parties in connection with the YME project. Following the agreement, the Group recognised a provision for the future removal of the MOPU from the YME field, in the amount of PLN 281,859 thousand. The provision was gradually used in subsequent years. In 2016, the provision amount was increased as a result of an increase of PLN 8,905 thousand in the estimated cost of the removal, see Note 9.4. As at December 31st 2016, the provision was PLN 13,065 thousand. In 2016, the Group used PLN 37,905 thousand of the provision.

For information on the YME project and details of the provision for decommissioning of the remaining subsea infrastructure associated with the YME field, see also Note 13.2.2.

Provision for decommissioning and reclamation of gas extraction facilities in the YME field

Decommissioning of the non-current assets of the offshore oil and gas extraction facility in the Heimdal field and reclamation work are scheduled for 2016–2035. As at December 31st 2016, the provision was disclosed in the Group's statement of financial position under other liabilities and provisions at PLN 203,636 thousand. As at December 31st 2015, the provision was PLN 230,767 thousand.

Provision for decommissioning and reclamation of gas extraction facilities in the Sleipner field

Decommissioning of the non-current assets of the offshore oil and gas extraction facility in the Sleipner field and reclamation work are scheduled for 2016–2033. As at December 31st 2016, the provision was disclosed in the Group's statement of financial position under other liabilities and provisions at PLN 582,739 thousand. As at December 31st 2015, the provision was PLN 575,178 thousand.

Other provisions

As at December 31st 2016, the provision for contingent payments under the Heimdal assets acquisition agreement was PLN 33,685 thousand. As at December 31st 2015, the provision was PLN 29,379 thousand.

As at December 31st 2016, the provision for contingent payments under the Sleipner assets acquisition agreement was PLN 5,413 thousand. As at December 31st 2015, the provision was PLN 126,506 thousand.

26.2 Grants

	2016	2015
At beginning of period	35,081	41,918
Grants received in period	5,047	516
Deferred grants	(5,724)	(7,353)
At end of period	34,404	35,081
including:		
non-current	10,093	11,157
current	24,311	23,924

The grants are primarily related to licences received free of charge and grants from the Eco Fund for the use of waste gas from an offshore oil extraction facility for heating purposes.

27. Financial instruments

27.1 Carrying amount

Classes of financial instruments	Note	Categories of financial instruments				Total
		Financial assets/liabilities at fair value through profit or loss – held for trading	Loans and receivables	Financial assets available for sale ⁽¹⁾	Financial liabilities at amortised cost	
Dec 31 2016						
Financial assets						
Derivative financial instruments	24	100,876	-	-	-	100,876
Trade receivables	16	-	2,251,727	-	-	2,251,727
Cash and cash equivalents	18	-	744,616	-	-	744,616
Other financial assets	16	-	615,064	9,752	-	624,816
Total		100,876	3,611,407	9,752	-	3,722,035
Financial liabilities						
Borrowings, other debt instruments and finance lease liabilities	23	-	-	-	5,557,276	5,557,276
Derivative financial instruments	24	209,236	-	-	-	209,236
Trade payables	26	-	-	-	1,718,178	1,718,178
Other financial liabilities	26	-	-	-	246,790	246,790
Total		209,236	-	-	7,522,244	7,731,480
Dec 31 2015						
Financial assets						
Derivative financial instruments	24	217,179	-	-	-	217,179
Trade receivables	16	-	1,550,900	-	-	1,550,900
Cash and cash equivalents	18	-	859,699	-	-	859,699
Other financial assets	16	-	808,705	9,752	-	818,457
Total		217,179	3,219,304	9,752	-	3,446,235
Financial liabilities						
Borrowings, other debt instruments and finance lease liabilities	23	-	-	-	6,999,308	6,999,308
Derivative financial instruments	24	165,151	-	-	-	165,151
Trade payables	26	-	-	-	1,232,510	1,232,510
Other financial liabilities	26	-	-	-	181,731	181,731
Total		165,151	-	-	8,413,549	8,578,700

⁽¹⁾ As at December 31st 2016 and December 31st 2015, the Group held shares in other entities measured at historical cost less impairment.

As at December 31st 2016 and December 31st 2015, the fair value of financial assets and liabilities did not materially differ from their carrying amounts.

27.2 Fair value hierarchy

	Dec 31 2016	Dec 31 2015
	Level 2	
Financial assets		
Commodity swap	58,734	198,591
Commodity options	411	363
Currency forward and spot contracts	8,667	14,082
Interest rate swap (IRS)	3,722	992
Currency swap	29,342	3,151
Total	100,876	217,179
Financial liabilities		
Commodity swap	18,402	58,055
Currency forward and spot contracts	101,642	909
Interest rate swap (IRS)	55,127	72,263
Currency swap	34,065	33,924
Total	209,236	165,151

27.3 Material items of income, expenses, gains and losses disclosed in the statement of comprehensive income by category of financial instrument

Classes of financial instruments	Note	Categories of financial instruments				Total
		Financial assets/ liabilities at fair value through profit or loss – held for trading	Loans and receivables	Financial assets available for sale	Financial liabilities at amortised cost	
		2016				
Trade receivables:						
Interest income	9.5	-	2,290	-	-	2,290
Foreign exchange (gains)/losses recognised in cost of sales	9.1	-	20,391	-	-	20,391
Other financial assets:						
Income from interest on deposits	9.5	-	11,919	-	-	11,919
Foreign exchange gains/(losses) on deposits and other cash and on non-bank borrowings and notes recognised in finance income	9.5	-	25,552	-	-	25,552
Derivative financial instruments (financial assets/liabilities):						
Gains/(losses) on fair value measurement of derivative financial instruments	9.6	206,567	-	-	-	206,567
Gains/(losses) on realisation of derivative financial instruments	9.6	(173,056)	-	-	-	(173,056)
Borrowings, other debt instruments and finance lease liabilities						
Interest expense	9.6	-	-	-	(179,409)	(179,409)
Gains/(losses) on cash flow hedge accounting charged to revenue	8	-	-	-	(111,721)	(111,721)
Foreign exchange gains/(losses) on bank borrowings, non-bank borrowings, notes, and realised foreign-currency transactions in bank accounts recognised in finance income	9.5	-	-	-	(18,274)	(18,274)
Gains/(losses) on measurement of cash flow hedges recognised in other comprehensive income	21	-	-	-	(138,178)	(138,178)
Trade and other payables:						
Foreign exchange (gains)/losses recognised in cost of sales	9.1	-	-	-	(17,671)	(17,671)
Total		33,511	60,152	-	(465,253)	(371,590)

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Classes of financial instruments	Note	Categories of financial instruments			Total
		Financial assets/ liabilities at fair value through profit or loss – held for trading	Loans and receivables	Financial assets available for sale	
			2015		
Trade receivables:					
Interest income	9.5	-	2,847	-	2,847
Foreign exchange (gains)/losses recognised in cost of sales	9.1	-	27,835	-	27,835
Other financial assets:					
Income from interest on deposits	9.5	-	16,181	-	16,181
Foreign exchange gains/(losses) on deposits and other cash and on non-bank borrowings and notes recognised in finance costs	9.6	-	55,127	-	55,127
Derivative financial instruments (financial assets/liabilities):					
Gains/(losses) on fair value measurement of derivative financial instruments	9.5	290,447	-	-	290,447
Gains/(losses) on realisation of derivative financial instruments	9.5	(211,638)	-	-	(211,638)
Borrowings, other debt instruments and finance lease liabilities					
Interest expense	9.6	-	-	(172,205)	(172,205)
Gains/(losses) on cash flow hedge accounting charged to revenue	8	-	-	(82,448)	(82,448)
Foreign exchange gains/(losses) on bank borrowings, non-bank borrowings, notes, and realised foreign-currency transactions in bank accounts recognised in finance costs	9.6	-	-	(399,387)	(399,387)
Gains/(losses) on measurement of cash flow hedges recognised in other comprehensive income	21	-	-	(355,973)	(355,973)
Trade and other payables:					
Foreign exchange (gains)/losses recognised in cost of sales	9.1	-	-	(16,728)	(16,728)
Total		78,809	101,990	-	(1,026,741)
					(845,942)

28. Objectives and policies of financial risk management

The Group is exposed to financial risks, including:

- market risk (risk related to prices of raw materials and petroleum products, risk related to prices of CO₂ allowances, currency risk, interest rate risk),
- liquidity risk,
- credit risk related to financial and trade transactions.

The Parent operates a Financial Risk Management Office, which coordinates and exercises ongoing supervision of the Group's financial risk management processes.

Furthermore, the Price Risk and Trading Committee, appointed by the Management Board, supervises the work on development of policies and procedures, and monitors implementation of the Group's strategy in the area of its responsibilities. Specifically, the Committee provides opinions on or initiates key price and trading risk management projects, makes recommendations, and submits proposals for actions that require the Management Board's approval.

In addition, to ensure effective management of liquidity, debt structure and external finance raising by companies of the LOTOS Group, the Management Board has appointed the Liquidity Optimisation and Financing Coordination Team.

Financial risk management seeks to achieve the following key objectives:

- increase the probability of budget and strategic objectives being met,
- limit cash flow volatility,
- ensure short-term financial liquidity,
- optimise the expected level of cash flows and risk,
- support operating, investment and financial processes, and create value in the long term.

With a view to implementing the above objectives, the Group has put in place relevant tools and developed a number of documents, approved at the relevant decision-making levels, defining the framework for ensuring effectiveness and safety of the Group's financial activities, including:

- the methodology for quantifying exposures to particular risks,
- the time horizon for hedging a given risk,
- acceptable financial instruments,
- the method of assessing financial risk management,
- limits within risk management,
- the reporting method,
- credit limits,
- documentation and operating standards,
- division of responsibilities for execution of transactions, risk analysis and control, as well as documentation of and accounting for transactions, among various corporate units.

The Parent monitors and reports all managed market risks on an ongoing basis. Grupa LOTOS S.A. uses liquid derivatives which can be measured by applying commonly used valuation models. Valuation of derivative financial instruments is performed based on market inputs provided by reliable sources. Opening positions with respect to risks which do not arise as part of the Group's core business is prohibited.

In 2016, the Parent continued to apply the hedge accounting policies implemented in 2011 and 2012 with respect to its cash flows (i.e. foreign-currency facilities used to finance the 10+ Programme, designated as hedges of future USD-denominated petroleum product sale transactions).

28.1 Risk related to raw material and petroleum product prices

The Group considers risk related to prices of raw materials and petroleum products to be particularly important.

The following risk factors are identified in this area:

- volatility of the refining margin, measured as the difference between liquid indices of a reference petroleum product basket (e.g. aviation fuel, gasoline, diesel oil, fuel oil) and a liquid index of a reference raw material (e.g. Urals crude),
- volatility of prices with respect to the raw material and product inventory volumes deviating from the required levels of emergency and operational stocks,
- volatility of differentials between the reference indices and indices used in commercial contracts (e.g. Urals-Brent differential, i.e. the difference between different types of crude oil),
- use of non-standard pricing formulae in commercial contracts.

On February 16th 2015, the Parent's Management Board approved the "rupa LOTOS S.A.'s raw material and petroleum products price risk management policy, which introduced the classification system for transaction portfolios, defined their business functions, described how risk is understood and how portfolio exposures are set, specified permitted financial instruments, limitations on their use, and transaction execution standards, and also provided guidelines on how to evaluate risk management performance and set relevant limits. Transaction limits falling within the scope of that policy are delegated by the Management Board to lower-level decision-makers.

To support the achievement of the policy objectives, the Company uses a leading ETRM system available on the market.

Under the approved policy, the Company may continue to offer its customers petroleum products at fixed prices. The transactions executed in 2016 covered bitumen components. To preserve the original price risk profile the Group entered into commodity swaps.

Acting within the framework of its approved policy, in order to take advantage of the contango environment on the futures market, improve the operating margin and get prepared for the maintenance shutdown in 2017, the Company entered into commodity swaps based on the ULSO 10 ppm CIF NWE index and purchased additional volumes of diesel oil (carried as inventory).

Open commodity swaps as at December 31st 2016

Type of contract	Underlying index	Valuation period	Amount in tonnes in the valuation period	Fair value	
				Financial assets	Financial liabilities
Commodity swap	3.5 PCT Barges FOB Rotterdam	Mar 2017–Nov 2018	181,526	58,532	(4,791)
Commodity swap	Gasoil 0.1 pct Crg CIF NWE_ARA	Mar 2017–Nov 2018	(16,201)	202	(6,649)
Commodity swap	ULSD 10 ppm CIF NWE	Apr 2017	(16,050)	-	(6,962)
			Total	58,734	(18,402)

The above swap transactions for a total of 181,526 tonnes based on the 3.5 PCT Barges FOB Rotterdam liquid index in the period from March 2017 to November 2018 and (16,201) tonnes based on the Gasoil 0.1 pct Crg CIF NWE ARA liquid index in the period from March 2017 to November 2018 were entered into to reverse the risk profile relating to the prices of raw materials and petroleum products in connection with sales of bitumen components at fixed prices. The swap transaction for (16,050) tonnes based on the ULSD 10 ppm CIF NWE index in April 2017 was entered into to benefit from contango.

Open commodity swaps as at December 31st 2015

Type of contract	Underlying index	Valuation period	Amount in tonnes in the valuation period	Fair value	
				Financial assets	Financial liabilities
Commodity swap	3.5 PCT Barges FOB Rotterdam	Mar 2016–Nov 2017	92,845	22	(58,042)
Commodity swap	Gasoil 0.1 pct Crg CIF NWE_ARA	May 2016–Nov 2017	(2,603)	839	(13)
Commodity swap	Brent (Dtd)	Mar 2016–May 2016	(249,931)	197,730	-
			Total	198,591	(58,055)

The above swaps for a total of 92,845 tonnes based on the 3.5 PCT Barges FOB Rotterdam liquid index in the period from March 2016 to November 2017 were entered into to reverse the risk profile relating to the prices of raw materials and petroleum products in connection with sales of bitumen components at fixed prices. The swap transactions for a total of (249,931) tonnes based on the Brent (Dtd) index in the period from March to May 2016 were entered into to benefit from contango.

Open commodity options as at December 31st 2016

Type of contract	Underlying index	Valuation period	Amount in tonnes in the valuation period	Fair value	
				Financial assets	Financial liabilities
Commodity options	3.5 PCT Barges FOB Rotterdam	Mar 2017–Oct 2018	10,646	411	-

The above options for a total of 10,646 tonnes based on the 3.5 PCT Barges FOB Rotterdam liquid index in the period from March 2017 to October 2017 were entered into to reverse the risk profile relating to the prices of raw materials and petroleum products in connection with sales of bitumen components at fixed prices.

Open commodity options as at December 31st 2015

Type of contract	Underlying index	Valuation period	Amount in tonnes in the valuation period	Fair value	
				Financial assets	Financial liabilities
Commodity options	3.5 PCT Barges FOB Rotterdam	Mar 2016–Oct 2017	27,105	363	-

The above options for a total of 27,105 tonnes based on the 3.5 PCT Barges FOB Rotterdam liquid index in the period from March 2016 to October 2017 were entered into to reverse the risk profile relating to the prices of raw materials and petroleum products in connection with sales of bitumen components at fixed prices.

28.1.1 Sensitivity analysis: market risk related to raw material and petroleum product price movements

Below is presented an analysis of the sensitivity of the Group's financial transactions to the risk of fluctuations in prices of raw materials and petroleum products as at December 31st 2016 and December 31st 2015, assuming price increase/decrease corresponding to the implied annual volatility of the underlying index.

	Dec 31 2016			Dec 31 2015		
	Carrying amount	Change*		Carrying amount	Change**	
		+ implied volatility	- implied volatility		+imp. vol.	-imp. vol.
Financial assets ⁽¹⁾	59,145	75,061	(72,911)	198,954	(93,473)	95,080
Financial liabilities ⁽¹⁾	(18,402)	(4,631)	4,631	(58,055)	27,125	(27,131)
Total	40,743	70,430	(68,280)	140,899	(66,348)	67,949

⁽¹⁾ Total commodity swaps and options.

* With respect to instruments held as at December 31st 2016, the above deviations of underlying index prices were calculated based on the implied annual volatility of the underlying index for December 31st 2016, as published by SuperDerivatives. The volatility was +/- 34.85% for the 3.5 PCT Barges FOB Rotterdam index, +/- 27.44 for the Gasoil 0.1 pct Crg CIF NWE_ARA index, and +/- 29.18% for the Brent (Dtd) index.

** With respect to instruments held as at December 31st 2015, the above deviations of underlying index prices were calculated based on the implied annual volatility of the underlying index for December 31st 2015, as published on the SuperDerivatives website. The volatility was +/- 43.48% for the 3.5 PCT Barges FOB Rotterdam index, +/- 32.9% for the Gasoil 0.1 pct Crg CIF NWE_ARA index, and +/- 35.65% for the Brent (Dtd) index.

The effect of the underlying index price changes on the fair value was examined assuming that the currency exchange rates remain unchanged.

28.2 Risk related to prices of carbon (CO₂) allowances

The risk related to prices of carbon dioxide emissions allowances is managed by the Parent on an ongoing basis in line with the assumptions set forth in the strategy for managing the risk related to prices of carbon dioxide (CO₂), approved by the Grupa LOTOS Management Board. The Group balances its future CO₂ emission allowance deficits and surpluses depending on the market situation and within defined limits. In line with the approved strategy and limits, the Parent executes the following transactions for emission units:

- EUA (Emission Unit Allowance) – representing an allowance to emit one tonne of CO₂,
- CER (Certified Emission Reduction unit) – representing one tonne of CO₂ equivalent (tCO₂e) effectively reduced; CERs are obtained in connection with investment projects implemented in developing countries where no CO₂ emission limits have been defined,
- ERU (Emission Reduction Unit) – representing one tonne of CO₂ equivalent (tCO₂e) effectively reduced; ERUs are certified emission units obtained through investment projects implemented in countries where the CO₂ reduction costs are lower.

As at December 31st 2016, the Parent's deficit of allowances in the 2013–2020 trading period (Phase III) was 1,231,057 tonnes. However, taking into account derivative transactions for a total of 1,752,000 tonnes, the Parent had surplus emission allowances for 520,943 tonnes, which were purchased in view of the market situation and the strategic nature of the emission allowances deficit expected after 2020.

As at December 31st 2015, the Parent's deficit of allowances in the 2013–2020 trading period (Phase III) was 1,095,003 tonnes. Taking into account derivative transactions for a total of 1,715,000 tonnes, the Parent had surplus emission allowances for 619,997 tonnes, purchased in view of the market situation and the anticipated strategic deficit in emission allowances after 2020.

To manage risk related to carbon dioxide emission allowances, the Group evaluates the risk of deficit of free emission allowances allocated under the National Allocation Plan on a case-by-case basis.

The CO₂ emission allowances for 2013-2020 presented below include allowances granted pursuant to the Regulations of the Polish Council of Ministers, as well as other free allowances allocated by the European Commission.

Number of free CO₂ emission allowances for 2013-2020 and actual CO₂ emissions:

'000 tonnes	2013	2014	2015	2016	2017	2018	2019	2020	Total
Allowances allocated under the National Allocation Plan ⁽¹⁾	1,766	1,688	1,652	1,613	1,576	1,540	1,505	1,461	12,801
Actual CO ₂ emissions ⁽²⁾	1,745	1,875	1,947	1,956	-	-	-	-	7,523

⁽¹⁾ Number of free CO₂ allowances in 2013–2020 as per the National Allocation Plan (NAP), based on the Regulation of the Polish Council of Ministers of March 31st 2014 (Dz.U. of 2014, item 439) and the Regulation of the Polish Council of Ministers of April 8th 2014 (Dz.U. of 2014, item 472), containing a list of installations covered by the greenhouse gas emission allowance trading scheme along with the number of allowances allocated to them. The figures also account for additional free emission allowances from the European Commission reserve, allocated in connection with the expansion of the refinery's production capacities following from the use of natural gas in hydrogen production.

⁽²⁾ (CO₂) emissions, calculated based on the production data for the installations covered by the emission trading scheme. The data for 2016 was verified in accordance with Art. 59 of the Act on Trading in Greenhouse Gas Emission Allowances of April 28th 2011.

As at December 31st 2016, considering the proposed amount of allowances to be allocated under the European Union Emissions Trading Scheme for 2016 and the actual volume of emissions, the Group reported a deficit of allocated CO₂ emission allowances, and therefore recognised a PLN 9,790 thousand provision as at December 31st 2016 (December 31st 2015: PLN 1,059 thousand). The PLN 8,731 thousand effect of the provision on EBIT (see Note 9.3) is presented under other expenses (2015: PLN 1,059 thousand; see Note 9.4).

If required, futures contracts to purchase carbon (CO₂) allowances open as at the last day of the reporting period are settled by the Group through physical delivery, with the intention to potentially use the allowances to offset the Group's actual CO₂ emissions. The valuation of contracts settled through physical delivery is not disclosed under financial assets/liabilities in the financial statements. However, the Group internally monitors and performs the valuation of such contracts as part of an overall assessment of the effectiveness of its CO₂ risk management (off balance sheet).

EUA futures contracts open as at December 31st 2015 which the Group considered likely to be settled through physical delivery and used for the Group's own purposes were not disclosed in the financial statements as at the last day of the reporting period, and their fair value was recorded only as an off-balance sheet item.

Contract position as at December 31st 2016 and 2015:

Open CO₂ allowances contracts as at December 31st 2016:

Type of contract	Contract settlement period	Number of allowances in the period	Phase	Fair value*	
				Financial assets	Financial liabilities
EUA Futures	Dec 2017–Dec 2019	1,752,000	Phase III	5,639	(5,255)

*Off-balance-sheet value, used exclusively for statistical purposes and as part of monitoring in risk management.

Open CO₂ allowances contracts as at December 31st 2015:

Type of contract	Contract settlement period	Number of allowances in the period	Phase	Fair value*	
				Financial assets	Financial liabilities
EUA Futures	Dec 2016–Dec 2019	1,715,000	Phase III	5,857	(191)

*Off-balance-sheet value, used exclusively for statistical purposes and as part of monitoring in risk management.

28.2.1 Sensitivity analysis: market risk related to movements in prices of carbon dioxide (CO₂) emission allowances

As at December 31st 2016 and December 31st 2015, the Group held futures for the purchase of carbon dioxide (CO₂) emission allowances.

The Group does not perform a sensitivity analysis for the fair value of futures contracts to purchase CO₂ emission allowances held by it as at the end of the reporting period if it intends to settle the contracts through physical delivery and use them to cover its own allowance deficits under the carbon emission reduction system. Therefore, no sensitivity analysis was performed with reference to the EUA futures held as at December 31st 2016 and 2015.

28.3 Currency risk

In its operations the Group is exposed to currency risks related to:

- trading in raw materials and petroleum products and other merchandise,
- investment cash flows,
- cash flows from financing activities, including deposits and borrowings,
- valuation of derivative instruments,

indexed to or denominated in a currency other than the Group's functional currency.

Since August 20th 2015, currency risk has been managed in line with the assumptions stipulated in the Grupa LOTOS S.A.'s currency risk management policy. Under the new policy, exposure is understood as material positions exposed to currency risk and affecting the liquidity in the management horizon in accordance with the scheduled payment dates. The central risk metric is Cash-Flow-at-Risk (CFaR), computed based on the CorporateMetrics™ methodology, with the CFaR value limit and the maximum hedge ratio being the key limits.

The exposure management horizon is linked with the budget forecast horizon, which varies from three to five consecutive quarters depending on the time of the year.

The Group actively manages its currency exposure by optimising the expected values of cash flows and risk within applicable limits, taking into account expected market developments.

As USD is used in market price quotations for crude oil and petroleum products, it was decided that it is the most appropriate currency for contracting and repaying long-term credit facilities to finance the 10+ Programme, as this would reduce the structural long position, and consequently also the strategic currency risk.

The Group has a structural long position in USD (it benefits from a rise in the USD/PLN exchange rate) as its cash inflows dependent on the USD exchange rate (mainly revenue from sale of petroleum products) are higher than the corresponding cash outflows (e.g. on purchase of crude oil, credit facility repayments).

Under the EFRA Project, the Group concluded EUR/USD currency contracts designed to hedge EUR-denominated capital expenditure against USD as the main financing currency.

Open currency contracts as at December 31st 2016

Type of contract	Purchase/sale	Contract settlement period	Currency pair (base/quote)	Amount in base currency	Fair value	
					Financial assets	Financial liabilities
Currency forward	Purchase	Jan–Mar 2017	USD/PLN	53,000	8,618	(581)
Currency forward	Purchase	Jan 2017–Jun 2018	EUR/USD	215,200	-	(27,741)
Currency forward	Sale	Apr–Oct 2017	USD/PLN	(230,000)	-	(73,284)
Currency forward	Sale	Jan 2017	EUR/PLN	(4,600)	49	(36)
Currency swap	Purchase	Dec 2017	USD/PLN	70,000	26,157	-
Currency swap	Purchase	Jan 2017	EUR/USD	2,000	113	-
Currency swap	Sale	Jan–Dec 2017	USD/PLN	(267,064)	3,017	(33,240)
Currency swap	Sale	Jan 2017–Jul 2017	EUR/PLN	(19,054)	55	(825)
Total					38,009	(135,707)

Open currency contracts as at December 31st 2015

Type of contract	Purchase/sale	Contract settlement period	Currency pair (base/quote)	Amount in base currency	Fair value	
					Financial assets	Financial liabilities
Currency spot	Purchase	Jan 2016	USD/PLN	13,000	227	-
Currency spot	Purchase	Jan 2016	EUR/PLN	500	-	-
Currency forward	Purchase	Oct 2016–Jun 2018	EUR/USD	186,700	8,663	(6)
Currency forward	Sale	Jan–Sep 2016	USD/PLN	(128,000)	5,192	(903)
Currency swap	Purchase	Feb 2016	USD/PLN	100,000	2,088	-
Currency swap	Sale	Jan–Jul 2016	USD/PLN	(362,000)	1,063	(33,924)
Total					117,233	(34,833)

28.3.1 Sensitivity analysis: market risk related to currency exchange movements

Currency structure of selected financial instruments as at December 31st 2016

Dec 31 2016		USD '000	USD translated into PLN	EUR '000	EUR translated into PLN	Carrying amount in foreign currency translated into PLN
(PLN '000)	Note					
Classes of financial instruments						
Financial assets						
Trade receivables		86,971	363,485	5,141	22,743	386,228
Cash and cash equivalents		12,964	54,191	10,637	47,059	101,250
Derivative financial instruments		-	-	-	-	-
Notes		85,542	357,504	-	-	357,504
Other financial assets:		178,922	749,403	9,122	40,355	789,758
Loans advanced to related entities		152,687	639,458	4,654	20,589	660,047
Deposits		7,564	31,612	-	-	31,612
Security deposit (margin)		-	-	4,467	19,763	19,763
Cash for removal of the MOPU from the YME field	16	17,941	75,284	-	-	75,284
Other		730	3,049	1	3	3,052
Total		364,399	1,524,583	24,900	110,157	1,634,740
Financial liabilities						
Borrowings		1,284,740	5,325,141	-	1	5,325,142
Notes		136,526	571,965	-	-	571,965
Finance lease liabilities		-	-	13,473	59,603	59,603
Trade payables		281,376	1,175,952	12,916	57,132	1,233,084
Other financial liabilities		4,706	19,710	17,815	78,750	98,460
Total		1,707,348	7,092,768	44,204	195,486	7,288,254

Currency structure of selected financial instruments as at December 31st 2015

Dec 31 2015 (PLN '000)	Note	USD '000	USD translated into PLN	EUR '000	EUR translated into PLN	Carrying amount in foreign currency translated into PLN
Classes of financial instruments						
Financial assets						
Trade receivables		61,664	240,553	5,917	25,043	265,596
Cash and cash equivalents		33,184	129,511	16,415	69,957	199,468
Notes		71,567	279,191	-	-	279,191
Other financial assets:		250,322	976,577	43,791	186,604	1,163,181
Loans advanced to related entities		200,776	783,232	-	-	783,232
Deposits		7,750	30,238	42,934	182,965	213,203
Security deposit (margin)		-	-	745	3,176	3,176
Cash for removal of the MOPU from the YME field	16	27,808	108,540	-	-	108,540
Other		13,988	54,567	112	463	55,030
Total		416,737	1,625,832	66,123	281,604	1,907,436
Financial liabilities						
Borrowings		1,601,594	6,268,236	2,257	9,620	6,277,856
Notes		127,465	497,410	-	-	497,410
Finance lease liabilities		-	-	16,170	68,907	68,907
Trade payables		208,414	813,054	7,855	34,100	847,154
Other financial liabilities		6,915	26,368	9,472	40,364	66,732
Total		1,944,388	7,605,068	35,754	152,991	7,758,059

For the purposes of sensitivity analysis, the currency structure presented above also accounts for intercompany foreign currency transactions sensitive to changes in foreign exchange rates, which affect the Group's currency risk in accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates* with respect to recognition of relevant foreign exchange gains or losses in the Group's net profit or loss.

Apart from currency spots, forwards and swaps, the Group held foreign-currency derivatives, including commodity swaps, commodity options, interest-rate swaps and futures. Depending on the type of derivative, the Group applies the appropriate method of fair value measurement, which also determines the method of calculating the effect of changes of foreign exchange rates on the value of individual derivatives (for more detailed information on the derivative measurement methods, see Note 7.24). The tables below, presenting sensitivity of financial instruments to currency risk as at December 31st 2016 and December 31st 2015, also present the effect of currency rate movements on the carrying amounts of the derivative financial instruments.

Analysis of the sensitivity to currency risk as at December 31st 2016, showing the effect of a +/- 12.9% change in the USD/PLN exchange rate and a +/- 7.375% change in the EUR/PLN exchange rate on net profit or loss

Dec 31 2016	Effect of exchange rate increase/decrease on profit/loss for the year			
	+12.9%	+7.375%	-12.9%	-7.375%
	USD	EUR	USD	EUR
Classes of financial instruments				
Financial assets				
Derivative financial instruments	15,761	(1,729)	(15,374)	1,729
Trade receivables	46,890	1,677	(46,890)	(1,677)
Cash and cash equivalents	6,991	3,471	(6,991)	(3,471)
Notes	46,118	-	(46,118)	-
Other financial assets:	96,673	2,976	(96,673)	(2,976)
Loans advanced to related entities	82,490	1,518	(82,490)	(1,518)
Deposits	4,078	-	(4,078)	-
Security deposits (margins)	-	1,458	-	(1,458)
Cash for removal of the MOPU from the YME field	9,712	-	(9,712)	-
Other	393	-	(393)	-
Total financial assets	212,433	6,395	(212,046)	(6,395)
Financial liabilities				
Borrowings	202,245 ⁽¹⁾	-	(202,245) ⁽¹⁾	-
Notes	73,783	-	(73,783)	-
Finance lease liabilities	-	4,396	-	(4,396)
Derivative financial instruments	345,801	(65,050)	(345,801)	65,050
Trade payables	151,698	4,213	(151,698)	(4,213)
Other financial liabilities	2,543	5,808	(2,543)	(5,808)
Total financial liabilities	776,070	(50,633)	(776,070)	50,633
Total	(563,637)	57,028	564,024	(57,028)

⁽¹⁾ The calculation of the effect of an exchange rate movement on the balance-sheet item takes into account the effect of cash flow hedge accounting. Assuming a +/- 12.9% change in the USD/PLN exchange rate, the effect of cash flow hedge accounting would potentially lead to a change of PLN (489,521) thousand/PLN 489,521 thousand in the fair value of borrowings. Furthermore, the calculation takes into account the effect of paid front-end arrangement fees (measured at the exchange rate effective on the payment date), reducing financial liabilities under borrowings, which would potentially result in a change of PLN 4,823 thousand/PLN (4,823) thousand in the fair value of borrowings, assuming a +/- 12.9% change in the USD/PLN exchange rate.

The above deviations of carrying amounts in the zloty that are dependent on currency exchange rates were calculated on the basis of the implied annual exchange rate volatility for December 31st 2016, which was 12.9% for USD/PLN and 7.375% for EUR/PLN, as published by Reuters. The sensitivity analysis was performed with reference to the balance of instruments held as at December 31st 2016.

Analysis of the sensitivity to currency risk as at December 31st 2015, showing the effect of a +/- 10.675% change in the USD/PLN exchange rate and a +/- 6.9% change in the EUR/PLN exchange rate on net profit or loss

Dec 31 2015	Effect of exchange rate increase/decrease on profit/loss for the year			
	+10.675%	+6.9%	-10.675%	-6.9%
	USD	EUR	USD	EUR
Classes of financial instruments				
Financial assets				
Derivative financial instruments	(58,908)	54,659	59,510	(54,659)
Trade receivables	25,679	1,728	(25,679)	(1,728)
Cash and cash equivalents	13,825	4,827	(13,825)	(4,827)
Notes	29,804	-	(29,804)	-
Other financial assets:	104,250	12,876	(104,250)	(12,876)
Loans advanced to related entities	83,610	-	(83,610)	-
Deposits	3,228	12,625	(3,228)	(12,625)
Security deposits (margins)	-	219	-	(219)
Cash for removal of the MOPU from the YME field	11,587	-	(11,587)	-
Other	5,825	32	(5,825)	(32)
Total financial assets	114,650	74,090	(114,048)	(74,090)
Financial liabilities				
Borrowings	177,753 ⁽¹⁾	664	(177,753) ⁽¹⁾	(664)
Notes	53,099	-	(53,099)	-
Finance lease liabilities	-	4,755	-	(4,755)
Derivative financial instruments	173,924	(305)	(173,918)	305
Trade payables	86,794	2,353	(86,794)	(2,353)
Other financial liabilities	2,815	2,785	(2,815)	(2,785)
Total financial liabilities	494,385	10,252	(494,379)	(10,252)
Total	(379,735)	63,838	380,331	(63,838)

⁽¹⁾ The calculation of the effect of an exchange rate movement on the balance-sheet item takes into account the effect of cash flow hedge accounting. Assuming a +/- 10.675% change in the USD/PLN exchange rate, the effect of cash flow hedge accounting would potentially lead to a change of PLN (434,990) thousand/PLN 434,990 thousand in the fair value of borrowings. Furthermore, the calculation takes into account the effect of paid front-end arrangement fees (measured at the exchange rate effective on the payment date), reducing financial liabilities under borrowings, which would potentially result in a change of PLN 4,968 thousand/PLN (4,968) thousand in the fair value of borrowings, assuming a +/- 10.675% change in the USD/PLN exchange rate.

The above deviations of carrying amounts in the zloty that are dependent on currency exchange rates were calculated on the basis of the implied annual exchange rate volatility for December 31st 2015, which was 10.675% for USD/PLN and 6.9% for EUR/PLN, as published by Reuters. The sensitivity analysis was performed with reference to the balance of instruments held as at December 31st 2015. The purpose of taking a different approach to calculating the percentage change in exchange rates in 2015 was to better reflect the fluctuations in exchange rates on financial markets.

28.4 Interest rate risk

The Parent is exposed to the risk of changes in cash flows caused by interest rate movements as interest income and interest expense related to certain assets and liabilities accrue based on floating interest rates, including in particular investment credit facilities under the 10+ Programme and the EFRA Project, as well as the financing and refinancing credit facility where the amount of interest is computed by reference to the floating LIBOR USD rate. The Parent manages the interest rate risk within the granted limits using interest rate swaps.

In a long-term perspective, a partial risk mitigation effect was achieved through the choice of the fixed interest rate for a tranche of the term facility contracted to finance the 10+ Programme.

Open interest rate contracts as at December 31st 2016

Type of contract	Period	Notional amount (USD '000)	Company receives	Financial assets	Financial liabilities
Interest rate swap (IRS)	Jul 2011–Jun 2019	212,500	6M LIBOR	82	(43,711)
Interest rate swap (IRS)	Jan 2015–Dec 2021	494,000	3M LIBOR	3,640	(11,416)
			Total	3,722	(55,127)

In the table above, IRS contracts are aggregated according to the currency of the notional amount and the reference rate. The "Period" column shows the earliest start date and the latest end date of the period for contracts classified in a given group.

Open interest rate contracts as at December 31st 2015

Type of contract	Period	Notional amount (USD '000)	Company receives	Financial assets	Financial liabilities
Interest rate swap (IRS)	Jul 2011–Jan 2018	200,000	6M LIBOR	-	(61,260)
Interest rate swap (IRS)	Jan 2015–Jan 2019	50,000	3M LIBOR	992	(11,003)
Total				992	(72,263)

28.4.1 Sensitivity analysis: market risk related to interest rate movements

Analysis of the sensitivity to interest rate risk as at December 31st 2016, assuming a +/- 0.35% change in interest rates

Dec 31 2016	Note	Carrying amount	Change	
			+0.35%	-0.35%
Classes of financial instruments				
Financial assets				
Derivative financial instruments ⁽¹⁾	24	3,722	2,660	(2,700)
Cash and cash equivalents	18	744,616	2,606	(2,606)
Other financial assets:		509,256	1,782	(1,782)
Oil and Gas Extraction Facility Decommissioning Fund	16	33,195	116	(116)
Deposits	16	189,196	662	(662)
Security deposits (margins)	16	19,564	68	(68)
Cash securing contractual obligations related to future decommissioning of assets	16	192,017	672	(672)
Cash for removal of the MOPU from the YME field	16	75,284	264	(264)
Total		1,257,594	7,048	(7,088)
Financial liabilities				
Bank borrowings	23.1	5,082,926	14,512 ⁽¹⁾	(14,512) ⁽¹⁾
Non-bank borrowings	23.2	81,833	286	(286)
Notes	23.3	213,014	746	(746)
Finance lease liabilities	23.4	179,503	628	(628)
Derivative financial instruments ⁽²⁾	24	55,127	(15,158)	15,401
Total		5,612,403	1,014	(771)

⁽¹⁾ Net of fixed-rate borrowings and paid arrangement fees reducing liabilities under borrowings.

⁽²⁾ Interest rate swap (IRS). The difference between the change in the valuation amount when the interest rate curve moves up or down 0.35% arises at the time of calculating and discounting future cash flows (relating to the contract settlement) as at the valuation date. The cash flows are discounted at different interest rates (in the first case the interest rate curve movement increases the interest rate by 0.35%, in the second case reduces the interest rate by 0.35%).

Analysis of the sensitivity to interest rate risk as at December 31st 2015, assuming a +/- 1.14% change in interest rates

Dec 31 2015	Note	Carrying amount	Change	
			+1.14%	-1.14%
Classes of financial instruments				
Financial assets				
Derivative financial instruments ⁽¹⁾	24	992	(33,397)	36,285
Cash and cash equivalents	18	859,699	9,801	(9,801)
Other financial assets:		677,978	7,728	(7,728)
Oil and Gas Extraction Facility Decommissioning Fund	16	31,794	362	(362)
Deposits	16	85,519	975	(975)
Security deposits (margins)	16	3,176	36	(36)
Cash earmarked for the EFRA Project	16	438,329	4,997	(4,997)
Cash for removal of the MOPU from the YME field	16	108,540	1,237	(1,237)
Cash for other capital expenditure commitments	16	10,620	121	(121)
Total		1,538,669	(15,868)	18,756
Financial liabilities				
Bank borrowings	23.1	6,481,034	61,685 ⁽¹⁾	(61,685) ⁽¹⁾
Non-bank borrowings	23.2	92,146	1,050	(1,050)
Notes	23.3	218,100	2,486	(2,486)
Finance lease liabilities	23.4	208,028	2,372	(2,372)
Derivative financial instruments ⁽²⁾	24	72,263	(25,352)	26,330
Total		7,071,571	42,241	(41,263)

⁽¹⁾ Net of fixed-rate borrowings and paid arrangement fees reducing liabilities under borrowings.

⁽²⁾ Interest rate swap (IRS). The difference between the change in the valuation amount when the interest rate curve moves up or down 1.14% arises at the time of calculating and discounting future cash flows (relating to the contract settlement) as at the valuation date. The cash flows are discounted at different interest rates (in the first case the interest rate curve movement increases the interest rate by 1.14%, in the second case reduces the interest rate by 1.14%).

The sensitivity analysis was performed for the balance of instruments held as at December 31st 2016 and December 31st 2015. The effect of the interest rate changes on the fair value was examined assuming that the currency exchange rates remain unchanged. In the case of derivative instruments held as at December 31st 2016 and December 31st 2015, for the purpose of the interest rate sensitivity analysis the interest rate curve was moved up or down by the historical annual volatility for December 31st 2016 and December 31st 2015, calculated based on historical volatility data for interest rates on interest rate swaps expiring in two years and three years, respectively, as published by Reuters.

28.5 Liquidity risk

The liquidity risk management process at the Group consists in monitoring projected cash flows and the portfolio of financial assets and liabilities, matching maturities of the assets and liabilities, analysing working capital, and optimising cash flows within the Group. This process requires that units operating in different business areas closely cooperate in activities undertaken in order to ensure safe and effective allocation of the liquidity.

The majority of the Group's Polish subsidiaries participate in a real cash-pooling arrangement, whereby the Parent manages the structure on an on-going basis to optimise liquidity and interest balances.

In the period covered by the budget, liquidity is monitored on an ongoing basis across the Group as part of the financial risk management. In the mid- and long term, it is monitored as part of the planning process, which helps to develop a long-term financial strategy.

In the area of financial risk, in addition to active management of market risk, the Group observes the following liquidity management rules:

- no margins in derivative financial instrument trading on the OTC market,
- limited possibility of early termination of financial transactions,
- limits for low-liquidity spot financial instruments,
- credit limits for counterparties in financial and trade transactions,
- ensuring adequate quality and diversification of available financing sources,
- internal control processes and organisational efficiency facilitating prompt contingency response.

Contractual maturities of financial liabilities as at December 31st 2016 and December 31st 2015 are presented below.

Contractual maturities of financial liabilities:

Dec 31 2016	Note	Carrying amount	Contractual cash flows	Up to 6 months	6–12 months	1–2 years	2–5 years	Over 5 years
Borrowings (other than overdraft facilities)	23.1	5,069,068	6,167,739	(305,473)	1,108,058	790,299	3,641,138	933,717
Overdraft facilities	23.1	13,858	13,858	13,858	-	-	-	-
Non-bank borrowings	23.2	81,833	83,153	6,257	6,534	11,895	56,014	2,453
Notes	23.3	213,014	213,080	79,770	133,310	-	-	-
Finance lease liabilities	23.4	179,503	235,835	28,759	29,012	56,728	116,991	4,345
Trade payables	26	1,718,178	1,718,178	1,718,178	-	-	-	-
Other financial liabilities	26	246,790	246,790	221,011	2,301	9,237	7,271	6,970
Total		7,522,244	8,678,633	1,762,360	1,279,215	868,159	3,821,414	947,485
Dec 31 2015								
Borrowings (other than overdraft facilities)	23.1	5,899,405	6,993,805	437,891	1,353,819	132,216	2,797,770	2,272,109
Overdraft facilities	23.1	581,629	581,629	581,629	-	-	-	-
Non-bank borrowings	23.2	92,146	106,994	7,698	7,687	15,586	42,838	33,185
Notes	23.3	218,100	218,100	-	218,100	-	-	-
Finance lease liabilities	23.4	208,028	287,491	25,901	28,747	57,162	141,546	34,135
Trade payables	26	1,232,510	1,232,510	1,232,494	16	-	-	-
Other financial liabilities	26	181,731	181,731	168,498	4,325	6,360	956	1,592
Total		8,413,549	9,602,260	2,454,111	1,612,694	211,324	2,983,110	2,341,021

Maturity structure of derivative financial instruments:

Dec 31 2016	Note	Carrying amount*	Contractual cash flows	Up to 6 months	6–12 months	1–2 years	2–5 years	Over 5 years
Commodity swap		40,332	40,842	(360)	25,918	15,284	-	-
Commodity options		411	411	58	353	-	-	-
Currency forward and spot contracts	24	(92,975)	(93,463)	(52,147)	(38,535)	(2,781)	-	-
Interest rate swap (IRS)		(51,405)	(51,878)	(30,542)	3,830	(19,452)	(5,714)	-
Currency swap		(4,723)	(4,545)	(23,938)	19,393	-	-	-
Total		(108,360)	(108,633)	(106,929)	10,959	(6,949)	(5,714)	-

Dec 31 2015	Note	Carrying amount*	Contractual cash flows	Up to 6 months	6–12 months	1–2 years	2–5 years	Over 5 years
Commodity swap		140,536	140,559	191,269	(42,405)	(8,305)	-	-
Commodity options		363	363	3	46	314	-	-
Currency forward and spot contracts	24	13,173	13,875	(629)	6,878	6,815	811	-
Interest rate swap (IRS)		(71,271)	(72,032)	(30,911)	3,946	(20,963)	(25,944)	1,840
Currency swap		(30,773)	(30,915)	(30,915)	-	-	-	-
Total		52,028	51,850	128,817	(31,535)	(22,139)	(25,133)	1,840

*Carrying amount (positive fair value of derivative financial instruments plus negative fair value of derivative financial instruments) represents the fair value of derivative financial instruments disclosed in the statement of financial position (excluding CO₂ emission allowance futures purchased with the intention of settlement through physical delivery).

28.6 Credit risk

Management of credit risk related to counterparties in financial transactions consists in the verification of creditworthiness of the current and potential counterparties and monitoring of the credit exposure against the granted limits. The credit exposure is attributable to bank deposits and derivatives measurement.

The counterparties must have an appropriate credit rating assigned by leading rating agencies or hold guarantees from institutions meeting the minimum rating requirement. The Group enters into financial transactions with reputable firms with sound credit standing, and diversifies the group of institutions with which it maintains relationships.

As at December 31st 2016 and December 31st 2015, the concentration of credit risk exposure to any single counterparty in financial transactions of the Group did not exceed PLN 575,847 thousand (8.15% of the Parent's equity) and PLN 839,799 thousand (13.95% of the Parent's equity), respectively.

As regards management of counterparty risk in non-financial transactions, all customers who request trading on credit terms are subject to credit assessment, whose results determine the level of possible credit limits. In 2016, the Parent completed development of a rating model which supports assigning credit limits to counterparties. The Parent defines guidelines for managing counterparty risk in non-financial transactions to ensure that appropriate standards of credit analysis and operational security are observed across the entire Group.

As at December 31st 2016 and December 31st 2015, the concentration of credit risk exposure to any single counterparty in trade transactions of the Group did not exceed PLN 238,895 thousand and PLN 163,009 thousand, respectively (or 3.38% and 2.71% of the Parent's equity, respectively).

Credit risk is measured by the maximum exposure to risk of individual classes of financial assets. Carrying amounts of financial assets represent the maximum credit risk exposure.

Maximum financial assets credit risk exposures	Note	Dec 31 2016	Dec 31 2015
Derivative financial instruments	24	100,876	217,179
Trade receivables	16	2,251,727	1,550,900
Cash and cash equivalents	18	744,616	859,699
Other financial assets	16	624,816	818,457
Total		3,722,035	3,446,235

In the Management Board's opinion, the risk related to non-performing financial assets is reflected in the recognised impairment losses. For information on impairment of financial assets, see Notes 9.4 and 16.1.

For information on concentrations of trade receivables credit risk, see Note 16.1.

For ageing analysis of unimpaired past due receivables, see Note 16.1.

29. Capital management

The objective of the LOTOS Group financial policy is to maintain long-term liquidity, while using an appropriate level of financial leverage to support the achievement of the principal objective of maximising the return on equity for shareholders.

This is achieved through constant effort to develop the desired capital structure at the Group level.

The LOTOS Group uses the debt to equity ratio, calculated as net debt to equity, to monitor its financing structure.

Net debt comprises bank and non-bank borrowings, notes and liabilities under finance leases less cash and cash equivalents and restricted cash earmarked for the implementation of the objectives of the issue of Grupa LOTOS S.A. Series D shares (see Note 18 to the [Consolidated financial statements for 2015](#)). Equity includes equity attributable to owners of the Parent plus non-controlling interests.

	Note	Dec 31 2016	Dec 31 2015
Non-current liabilities			
Bank borrowings	23.1	3,769,785	4,197,008
Non-bank borrowings	23.2	69,366	80,966
Notes	23.3	-	-
Finance lease liabilities	23.4	141,386	176,486
Total		3,980,537	4,454,460
Current liabilities			
Bank borrowings	23.1	1,313,141	2,284,026
Non-bank borrowings	23.2	12,467	11,180
Notes	23.3	213,014	218,100
Finance lease liabilities	23.4	38,117	31,542
Total		1,576,739	2,544,848
Restricted cash – share issue objectives ⁽¹⁾	16	-	(438,329)
Cash and cash equivalents	18	(744,616)	(859,699)
Net debt		4,812,660	5,701,280
Equity attributable to owners of the Parent		8,610,786	7,712,060
Non-controlling interests		108	138
Total equity		8,610,894	7,712,198
Net debt to equity		0.56	0.74

⁽¹⁾ As at December 31st 2015, cash earmarked for the EFRA Project (see issue objectives in Note 18 to the [Consolidated financial statements for 2015](#)).

30. Contingent liabilities and assets

30.1 Material court, arbitration and administrative proceedings and other risks to the Parent or its subsidiaries

Material court proceedings to which the Parent is a party

There were no significant changes with respect to pending material court, arbitration, and administrative proceedings or with respect to other risks to the Company or its subsidiaries in the period between the end of the previous financial year, i.e. December 31st 2015, and the date of issue of these financial statements. For information on pending material proceedings, see Note 35.1 to the consolidated financial statements for 2015.

Tax settlements

In 2015, the Company's VAT settlements for 2010–2011 were subject to two inspections by tax inspection authorities. On June 23rd 2015, the Company received post-inspection reports and challenged some of the findings contained in them. On September 30th 2015, the Company received two decisions issued by the Director of the Tax Audit Office in Bydgoszcz, by way of which the tax authority assessed the VAT payable by the Company for the period from January to December 2010 and from January to December 2011, identifying VAT arrears of PLN 48.4m for 2010 and PLN 112.5m for 2011. The Director of the Tax Audit Office stated in those decisions that certain transactions with two of the Company's trade partners involved fraudulent tax practices, arguing that the Company failed to exercise due care in executing transactions with those trade partners and that it should at least have been aware that the transactions were connected to and resulted from a tax fraud committed at an earlier stage, and therefore the Company had no right to make VAT deductions. Having reviewed the decisions, the Company dismissed the allegations of the Director of the Tax Audit Office as entirely groundless and on October 14th 2015 filed an appeal with the Director of the Tax Chamber in Gdańsk, who then upheld the decisions of the Director of the Tax Audit Office in Bydgoszcz, whereas the complaint lodged by the Company in the first half of 2016 with the Provincial Administrative Court was dismissed. As at the date of issue of these financial statements, both decisions of the Director of the Tax Audit Office in Bydgoszcz, assessing the VAT payable by the Company for individual months of 2010 and 2011, remained upheld. In Q3 2016, the Company lodged cassation complaints with the Supreme Administrative Court of Warsaw.

In 2016, the Company's VAT settlements for the period from November 2014 to September 2015 were subject to inspection by the Director of the Tax Audit Office in Gdańsk. In connection with the proceedings, following receipt of a post-inspection report on December 7th 2016, the Company submitted corrected VAT returns in which the input VAT amount was reduced by PLN 34.3m.

Regulations on value added tax, corporate income tax, and social security contributions are subject to frequent amendments, with the effect being lack of appropriate points of reference, conflicting interpretations, and scarcity of established precedents which could be followed. Furthermore, the applicable tax laws lack clarity, which leads to differences in opinions and diverse interpretations of tax regulations, both between various public authorities and between public authorities and businesses. Tax settlements and other areas of activity (e.g. customs or foreign exchange control) are subject to inspection by bodies which are authorised to impose high penalties and fines, and any additional tax liabilities arising from such inspections need to be paid with high interest. Consequently, tax risk in Poland is higher than in countries with more mature tax systems. The amounts presented and disclosed in the financial statements may therefore change in the future as a result of a final decision by a tax inspection authority.

On July 15th 2016, the Polish tax legislation was amended to reflect the provisions of the General Anti-Abuse Rule ("GAAR"). GAAR is intended to prevent creation and use of abusive arrangements to avoid paying taxes in Poland. Under GAAR, tax avoidance is an arrangement the main purpose of which is obtaining a tax advantage that is contrary to the objectives and purpose of the tax legislation. In accordance with GAAR, no tax advantage can be obtained through an arrangement if the arrangement was abusive. Any arrangements involving (i) separation of transactions or operations without a sufficient rationale, (ii) engaging intermediaries where no business or economic rationale exists, (iii) any offsetting elements, and (iv) any arrangements operating in a similar way, may be viewed as an indication of the existence of an abusive arrangement subject to GAAR. The new regulations will require much more judgment to be exercised when assessing the tax consequences of particular transactions.

The GAAR clause should be applied with respect to arrangements made after its effective date as well as arrangements that were made before its effective date but the benefit of the tax advantage obtained through the arrangement continued or still continues after that date. After the new regulations are implemented, Polish tax inspection authorities will be able to challenge certain legal agreements and arrangements made by taxpayers, such as corporate restructurings.

Court proceedings instigated by or against companies of the LOTOS Group

Agreement signed by LOTOS Exploration and Production Norge AS

LOTOS Exploration and Production Norge AS ("LOTOS E&P Norge AS") was a party to proceedings held before an arbitration court in Norway in connection with claims filed by Single Buoy Moorings Inc. ("SBM"), the supplier of a MOPU (Mobile Offshore Production Unit) for the operation of the YME field, against Talisman Energy Norge AS, the operator of the YME field ("Talisman", the "Operator") and the other YME licence holders. The share of SBM's claims attributable to LOTOS E&P Norge AS was 20%.

In 2013, Talisman Energy Norge AS ("Talisman", the then operator of the YME field) and Single Buoy Moorings Inc. ("SBM", owner of the MOPU) announced that an agreement was reached to terminate all existing contracts and agreements executed by the parties in connection with the YME project and remove the defective MOPU from the YME field.

SBM paid USD 470m to the consortium members, and Talisman Energy, on behalf of the licence holders, agreed to make the necessary preparations and remove the platform from the field. Under the agreement, SBM was responsible for towing the MOPU to the port and its scrapping, whereas following completion of certain works, the ownership of elements of the YME field in situ subsea infrastructure delivered by SBM should be transferred to the consortium members, who would be required to perform reclamation (and disassembly) activities related to the infrastructure. Each of the parties will cover the costs of its scope of decommissioning work as set out in the agreement.

In accordance with the provisions of the agreement made with SBM, the balance of the Group's share in the amount due to the consortium members under the agreement, that is USD 81.78m, was transferred to the YME project escrow account, to be gradually released to finance the removal of the MOPU and related infrastructure from the field, in accordance with the agreement.

On August 22nd 2016, the YME project partners completed evacuation of the defective MOPU from the field. The remaining work, i.e. cutting the MOPU legs and installation of the temporary caisson support (element of the subsea infrastructure), is under way and should be completed by June 2017 at the latest.

As at December 31st 2016, available cash deposited in the escrow account, denominated in the presentation currency, was recognised in the amount of PLN 75,284 thousand under **other assets** in the statement of financial position. The available provision for future costs of removal of the MOPU and disassembly of the related fixed assets was recognised in the amount of PLN 13,065 thousand under the current portion of **other liabilities and provisions**. The amount of expected costs of the operation (most of which had been already contracted) was correctly reflected in these financial statements by updating relevant provisions in accordance with the best current knowledge of the Company's Management Board as at the date of these statements (see Note 26.1).

Tax settlements of LOTOS Exploration and Production Norge AS

In the twelve months ended December 31st 2016, the income tax settlements of LOTOS Exploration and Production Norge AS ("LOTOS E&P Norge AS") for 2013–2014 were investigated by the Norwegian Oil Taxation Office (the "OTO"). On June 1st 2016, LOTOS E&P Norge AS received a notice of May 31st 2016 requesting the company to provide explanations. In the notice, the OTO questioned recognition of some of the finance costs incurred by LOTOS E&P Norge AS in 2013–2014 as tax deductible expenses due to the company's thin capitalisation in that period. Considering the risk of a dispute with the taxation authority and the company's financial position in the period 2013–2014, to which the OTO referred, as well as the fact that the company applies the same approach to the period 2015–2016, LOTOS E&P Norge AS, taking into account the adverse effect of its thin capitalisation, made an assessment as at December 31st 2016 of its ability to realise deferred tax assets on account of tax losses carried forward, and in 2016 made a downward revision of the deferred tax asset amount by PLN 80.9m. As at the date of issue of these financial statements, the proceedings were pending.

In the twelve months ended December 31st 2016, there were no material settlements under court or other proceedings, save for those presented above.

30.2 Other contingent liabilities

In the period between the end of the previous financial year, i.e. December 31st 2015, and the date of issue of these financial statements, there were no changes in the Company's or its subsidiaries' other material contingent liabilities (see Note 35.2 to the consolidated financial statements for 2015).

For presentation of the Group's off-balance-sheet future investment commitments, see Note 13.3.

31. Related parties

31.1 Transactions with related entities in which the Group holds equity interests

Equity-accounted joint ventures		2016	2015
Sales		209,926	200,263
Purchases		43	117
	Note	Dec 31 2016	Dec 31 2015
Receivables	16	16,149	12,219
Liabilities		188	-

In 2016 and 2015, material transactions were made by the Group with LOTOS-Air BP Polska Sp. z o.o. and involved mainly sale of aviation fuel. The aggregate value of these transactions executed in 2016 was PLN 209,710 thousand (2015: PLN 198,816 thousand). As at December 31st 2016, the balance of outstanding receivables under these transactions was PLN 16,141 thousand (December 31st 2015: PLN 12,219 thousand).

For general information on joint ventures in which the Group holds interests, see Note 14.

31.2 Entity having control of the Group

As at December 31st 2016 and December 31st 2015, the State Treasury held a 53.19% interest in Grupa LOTOS S.A. In 2015 and 2016, no transactions were concluded between Grupa LOTOS S.A. and the State Treasury.

31.3 Transactions with related entities of which the State Treasury has control or joint control or on which the State Treasury has significant influence

In 2016 and 2015, the Group executed transactions with parties related to it through the State Treasury, the aggregate value of which was material. They were concluded on an arm's length basis in the course of the Group's day-to-day operations and involved mainly sale of fuels, sale and purchase of storage services, sale and purchase of transport services, purchase of electricity, natural gas and other fuels.

	2016	2015
Sales	370,118	335,843
Purchases	1,237,567	1,757,779
	Dec 31 2016	Dec 31 2015
Receivables	28,894	27,859
Liabilities	247,109	130,356

31.4 Remuneration of members of the Management and Supervisory Boards; loans and other similar benefits granted to members of the management and supervisory staff

Remuneration paid to members of the Company's Management and Supervisory Boards	2016	2015
Management Board		
Short-term employee benefits (salaries)	1,493	1,183
Management Board – subsidiaries ⁽¹⁾		
Short-term employee benefits (salaries)	2,986	3,631
Supervisory Board		
Short-term employee benefits (salaries)	338	252
Total ⁽²⁾	4,817	5,066
Other employee benefits	Dec 31 2016	Dec 31 2015
Management Board		
Post-employment benefits, length-of-service awards and other benefits	334	654
Current liabilities under annual bonus ⁽³⁾	77	311
Total	411	965

⁽¹⁾ Remuneration paid to members of the Company's Management Board for serving on governing bodies of direct and indirect subsidiaries.

⁽²⁾ The amount reflects changes in the composition of the Company's Management and Supervisory Boards.

⁽³⁾ Pursuant to the Act on Remunerating Persons Who Manage Certain Legal Entities (the Public Sector Salary Cap Act).

In 2016 and 2015, the Group did not enter into material transactions with any Management Board or Supervisory Board members, did not advance any loans, make any advance payments, issue any guarantees to or conclude any other agreements with any Management Board or Supervisory Board member, which would be advanced, made, issued or concluded otherwise than on an arm's length basis or which would have a material bearing on these financial statements.

Based on representations submitted by members of the Company's Management and Supervisory Boards, in 2015 and 2016 Grupa LOTOS S.A. was not aware of any transactions concluded with the Company or another company of the LOTOS Group by the spouses, relatives, or relatives by affinity in the direct line up to the second degree, of members of the Management and Supervisory Boards, or persons related to them through guardianship or adoption or other persons with whom they have personal relationships.

31.5 Remuneration paid or payable to other members of key management staff

Remuneration paid to members of key management staff (other than members of the Grupa LOTOS Management Board)	2016	2015
Short-term employee benefits (salaries), including:	33,660	26,032
- annual bonus paid	7,377 ⁽¹⁾	3,339 ⁽²⁾
- length-of-service award paid	572	777
Other employee benefits	Dec 31 2016	Dec 31 2015
Post-employment benefits, length-of-service awards and other benefits	11,483	11,903
Current liabilities under annual bonus	8,972	7,171
Loans and other similar benefits	5	26
Total	20,460	19,100

⁽¹⁾ Remuneration paid in 2016 on account of annual bonus for 2015.

⁽²⁾ Remuneration paid in 2015 on account of annual bonus for 2014.

In 2016 and 2015, the Group did not advance any loans to its key management personnel.

31.6 Transactions with parties related to the Group through members of the Management and Supervisory Boards

In 2016, the Group executed transactions with parties related to it through members of the Management Board and Supervisory Board. The transactions were executed on an arm's length basis in connection with the Group's day-to-day operations, and included mainly purchase of civil liability and property insurance policies for a total amount of PLN 9,935 thousand. As at December 31st 2016, unsettled transactions with parties related to the Group through members of the Management and Supervisory Boards totalled PLN 792 thousand. In the comparative period, the Group did not execute any material transactions with parties related to it through members of the Management and Supervisory Boards.

AUTHORISATION OF THE CONSOLIDATED FINANCIAL STATEMENTS FOR ISSUE

These consolidated financial statements were authorised for issue by the Management Board on March 2nd 2017.

Signatures of the Management Board members and the person responsible for keeping the accounting books of Grupa LOTOS S.A.

President of the Management Board

Marcin Jastrzęski

Chief Strategy and Development Officer

Mateusz Aleksander Bonca

Chief Refining Officer

Jarosław Kawula

Chief Financial Officer

Mariusz Machajewski

Chief Accountant

Tomasz Południewski



Directors' Report on the operations of Grupa LOTOS S.A. and the LOTOS Group in 2016

This is the translated version of a document originally published in Polish



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Overview of the LOTOS Group



1 Overview of Grupa LOTOS S.A. and its Group

1.1. Key assets, principal business and results

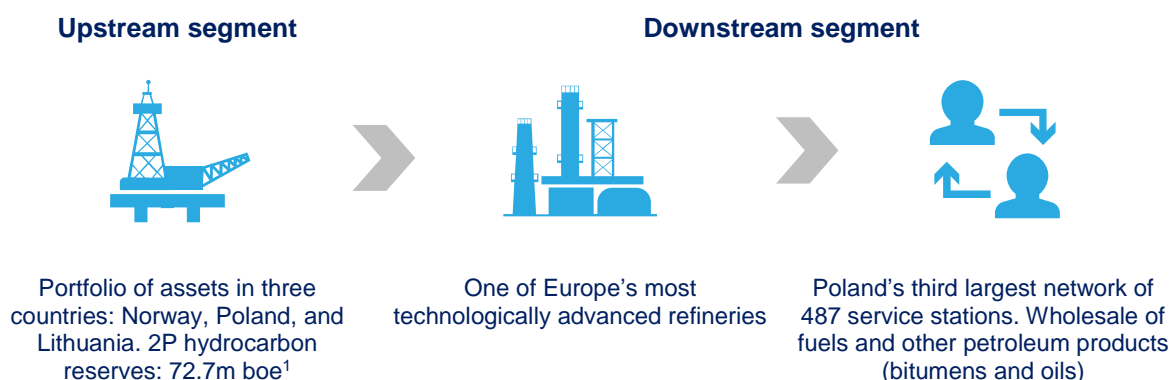
Key assets and principal business

The LOTOS Group is the second largest fuel producer in Poland. The refinery in Gdańsk is one of the youngest and most advanced refineries in Europe in terms of technology and environmental protection.

The LOTOS Group is the sole producer of hydrocarbons in Poland's Exclusive Economic Zone of the Baltic Sea. It also produces oil and natural gas from fields located on the Norwegian Continental Shelf and in Lithuania.

The Group's business is organised into two segments: Upstream and Downstream.

Apart from Grupa LOTOS (the parent, operator of the Gdańsk refinery), the LOTOS Group comprises 14 other companies operating under the LOTOS brand, two of which are based outside Poland, in Lithuania and Norway.



The LOTOS Group's core business involves production and processing of crude oil, as well as wholesale and retail sale of oil products, including:

- fuels (unleaded gasoline, diesel oil and light fuel oil),
- heavy fuel oil,
- bitumens,
- aviation fuel,
- naphtha,
- propane-butane (LPG),
- base oils.

Grupa LOTOS shares have been listed on the Warsaw Stock Exchange since June 30th 2005.

¹ Boe – barrels of oil equivalent, data as at December 31st 2016

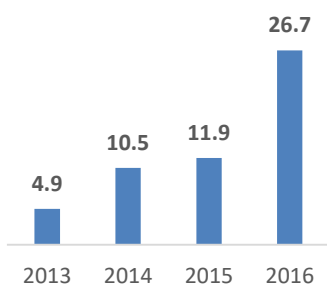
Vision

The LOTOS Group is:

- a producer of premium quality fuels and chemicals, with the optimal degree of vertical integration
- a provider of highly specialist logistics and maintenance services,
- a national innovation leader implementing advanced solutions in its core business.

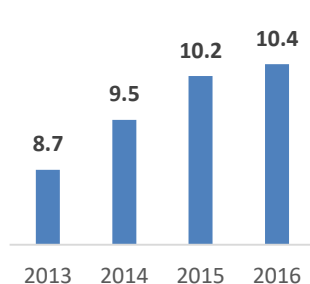
Operations

Crude oil and gas production
(²000 boe/day²)



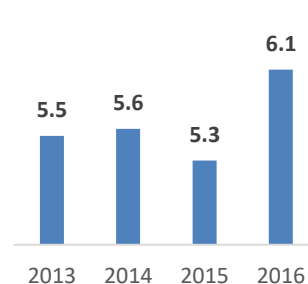
Strong production growth following acquisition of the Sleipner assets on the Norwegian Continental Shelf.

Crude oil throughput (m tonnes/year)



Optimal utilization of the processing capacities for the second consecutive year, at 99.4% in 2016.

Domestic fuel sales (m tonnes/year)

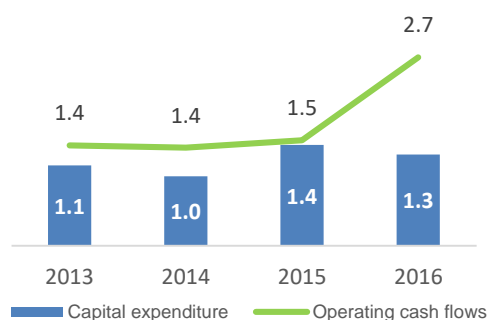


Improved profitability in the downstream segment on larger volumes of domestic fuel sales.

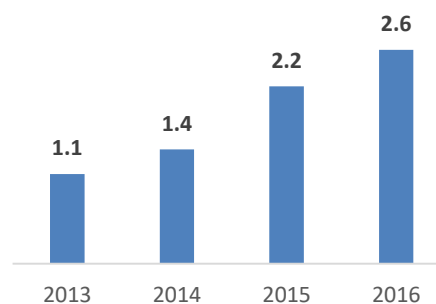
In 2016, the LOTOS Group posted record high hydrocarbon production of 9.8m boe, with crude oil representing 42% of the output and natural gas – 58%. Norway accounted for 75% of the production, Poland for 21%, and Lithuania for 4%.

² Daily production = production in a period/number of calendar days – change in methodology relative to the previous periodic report

Operating cash flows and capex (PLNbn)



LIFO-based EBITDA⁴ (PLNbn)



High-quality assets generate operating cash flows which are then used to finance business development projects.

Continued growth of EBITDA lends credibility to the Group's objectives outlined in the new business strategy for 2017–2022.

In 2016, the Gdańsk refinery processed nearly 10.4 million tonnes of crude. Grupa LOTOS sold its products in Poland and abroad, on the wholesale market and through its own network of services stations. In 2016, the number of service stations increased to 487.

Key financial metrics

In 2016, the Group improved its operating profit again. Consolidated **revenue** was **PLN 20,931m**. Clean **LIFO-based EBITDA³** was record high at **PLN 2.59bn**. In 2016, the Group earned consolidated net profit of **PLN 1,015m**.

1.2 Overview of the Group's organisation and management

1.2.1 Structure of Grupa LOTOS S.A. and of the LOTOS Group

The Group's operations comprise two reportable operating segments:

- **Upstream segment** – acquisition of crude oil and natural gas reserves, and crude oil and natural gas production;
- **Downstream segment** – production and processing of refined petroleum products and their wholesale and retail sale; auxiliary, transport, and maintenance activities.

Within the LOTOS Group, the role of Grupa LOTOS S.A. as the parent is to integrate the key management and support functions.

To perform its role, Grupa LOTOS S.A. has implemented a **segmental management model**. A segment is a separate business area which within the Group is managed by a designated member of the Management Board of Grupa LOTOS S.A., who is responsible for the oversight of operations (business), and for management and support functions. This approach helps to ensure that the Group is managed in an efficient manner and enables it to achieve cost and revenue synergies across the organisation. Segmental

³ Management estimates; EBIT before depreciation and amortisation, and the LIFO effect (the difference arising from the application of the Last In First Out (LIFO) method and the weighted average cost method to account for inventory flows), excluding one-off items and theoretical write-downs on LIFO-measured inventories.

⁴ Management estimates; EBIT before depreciation and amortisation, and the LIFO effect (the difference arising from the application of the Last In First Out (LIFO) method and the weighted average cost method to account for inventory flows), excluding one-off items and theoretical write-downs on LIFO-measured inventories.

management involves implementation of a consistent strategy; planning and controlling; integrated operational management; and maintenance of uniform corporate standards.

As at the end of 2016, the operating activities of the LOTOS Group were divided into three distinctive, equally ranking business segments covering the upstream and downstream areas:

- **Exploration and production (upstream) segment** – falls within the remit of Grupa LOTOS's Chief Operating Officer, head of the exploration & production segment. This segment involves acquisition of crude oil and natural gas reserves, and production of crude oil and natural gas. The Group's business objectives in the exploration and production segment are pursued by LOTOS Petrobaltic and its subsidiaries.
- **Marketing segment** – falls within the remit of Grupa LOTOS's Chief Operating Officer, head of the marketing segment. The segment involves overall management of activities aimed at maximising the integrated margin, crude oil procurement, and execution of the Group's policy of procurement and sale of oil products, energy carriers and electricity. The segment is also responsible for the retail business (expanding the service station network) and developing trading activities. The Group's business objectives in the marketing segment are pursued by LOTOS Oil, LOTOS Paliwa, and LOTOS Asfalt.
- **Refining segment** – falls within the remit of Grupa LOTOS's Corporate Affairs Director, head of the refining segment. The segment involves activities related to the refining and technological processes, including integration of production activities, refining operations, maintaining the required operability and availability of the refining assets and their optimal utilization, to ensure delivery of strategic objectives, including successful execution of replacement and modernisation projects necessary to maintain the required technical condition of the refining units. The refining segment comprises LOTOS Infrastruktura and its subsidiary, LOTOS Kolej, LOTOS Serwis, and LOTOS Terminale (along with its group companies).

The remaining segments are responsible for setting operating objectives and monitoring of their implementation, and provide services to the business (operating) segments.

- **Management segment** – falls within the remit of Grupa LOTOS's Chief Executive Officer, head of the management segment.

The segment's activities focus on increasing the LOTOS Group's value through overall management of its operations and coordination of process support functions, including human resources management, ensuring effective communication, corporate social responsibility, management of international relations, investor relations, brand management, management of marketing activities, corporate organisation, management of business processes and systems, and maintenance of the internal control system. The management segment comprises LOTOS Ochrona.

- **Strategy and development segment** – falls within the remit of Grupa LOTOS's Chief Strategy and Development Officer, head of the strategy and development segment.

The segment's responsibilities include developing the strategy for the LOTOS Group and monitoring its delivery; conducting research and development activities and innovation projects; defining directions for development and investment activities; execution of the EFRA Project; project management; and corporate risk management. The strategy and development segment comprises LOTOS Lab.

- **Finance segment** – falls within the remit of Grupa LOTOS's Chief Financial Officer, head of the finance segment.

This segment's tasks include overall management of financial and accounting processes, including formulation of financial, fiscal and insurance strategies and monitoring of their implementation; managing the budgeting and controlling processes; development and execution of financial risk management strategies; and overall management of assets and restructuring processes. The

financial segment comprises Infrastruktura Kolejowa and LOTOS Gaz w likwidacji (in liquidation) and its subsidiary.

- **Corporate support segment** – falls within the remit of Grupa LOTOS's Corporate Affairs Director, head of the corporate support segment.

This segment's tasks include coordination of activities related to procurement of goods and services; selection of trading partners; execution of contracts and agreements; development and operation of the IT and telecommunications systems; environmental protection; and health and safety at work. The corporate support segment comprises LOTOS Straż.

Changes in key management policies of Grupa LOTOS S.A. and the LOTOS Group

1. In 2016, in response to the challenges posed by the market environment and following changes in the composition of the Grupa LOTOS Management Board, significant modifications were made in the Company's organisational structure.

These included in particular:

- closing down of the division of Chief Refining and Marketing Officer,
- establishment of the division of Corporate Affairs Director,
- establishment of the division of Chief Operating Officer,

The modifications are described in detail below.

The changes allowed the Group to:

- reduce costs of the LOTOS Group through centralisation of operating activities, and therefore to improve efficiency and flexibility,
- optimise processes,
- achieve synergies through integration and coordination of activities in core business and support areas,
- share best practices across the Group,
- introduce uniform corporate standards without adding new functions or positions at each company, and thus ensure effective delivery of the Group's strategic objectives.

Except changes in the composition of the Management Board and in the Company's organisational structure, there were no other changes of key management policies of Grupa LOTOS S.A. and the LOTOS Group.

Changes in organisational structure

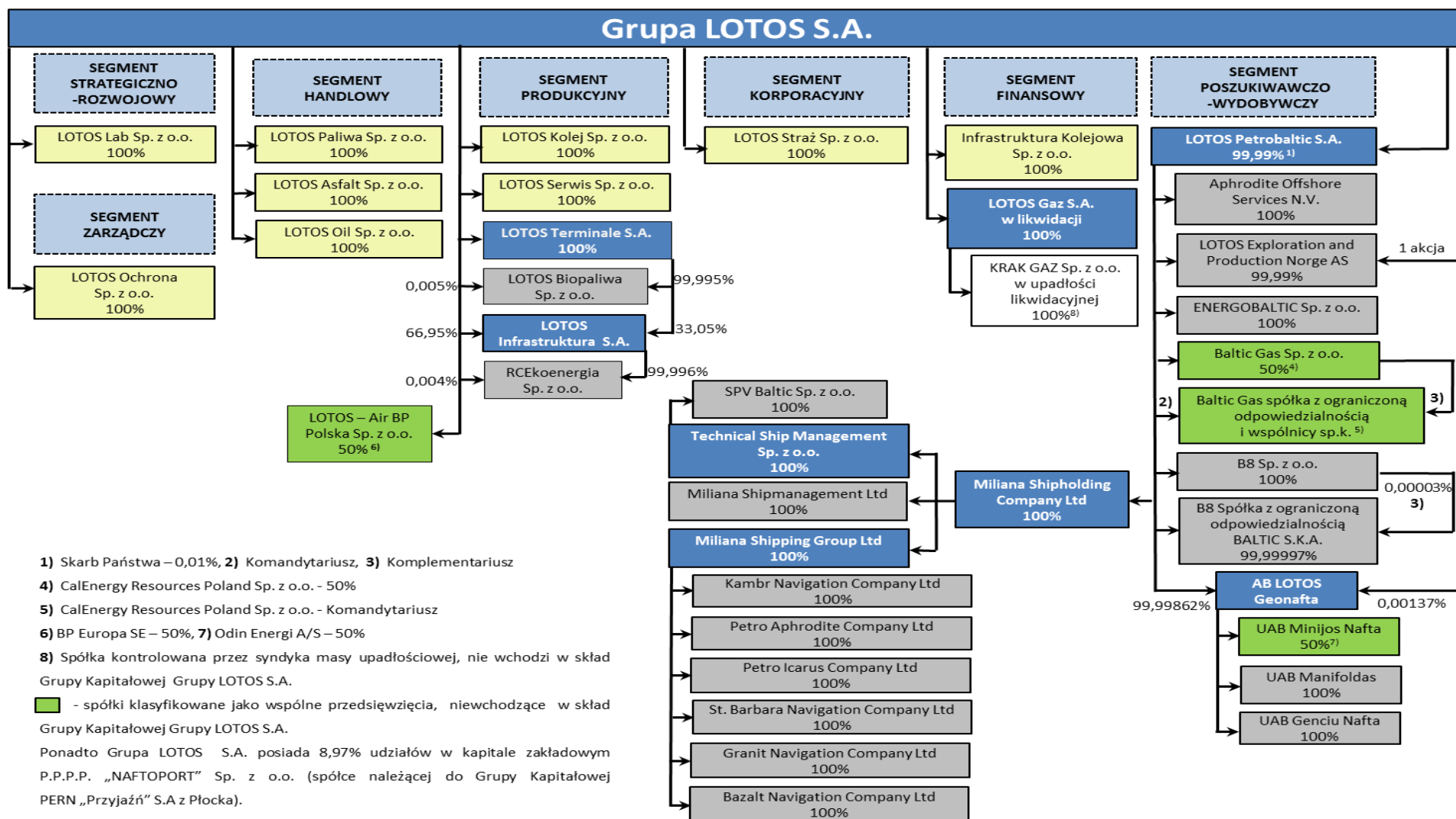
- 1.1. Pursuant to Resolution of the Grupa LOTOS Management Board No. 13/IX/2015 of August 31st 2015, as of January 1st 2016 the LOTOS Group comprised the following business segments:

- **Management segment** – falling within the remit of Chief Executive Officer, head of the management segment;
- **Exploration and production (upstream) segment** – falling within the remit of Chief Exploration and Production Officer, head of the exploration and production segment. The segment comprised LOTOS Petrobaltic (along with its group companies);
- **Refining and marketing (downstream) segment** – falling within the remit of Chief Refining and Marketing Officer, head of the refining and marketing segment. The segment comprised LOTOS Asfalt, LOTOS Infrastruktura and its subsidiary, LOTOS Kolej, LOTOS Oil, LOTOS Paliwa, LOTOS Serwis, LOTOS Straż and LOTOS Terminale (along with its group companies);

- **Strategy and development segment** – falling within the remit of Chief Strategy and Development Officer, head of the strategy and development segment. The segment comprised LOTOS Lab and LOTOS Ochrona.
 - **Finance segment** – falls within the remit of Chief Financial Officer, head of the finance segment. The segment comprised Infrastruktura Kolejowa and LOTOS Gaz w likwidacji (in liquidation), and its subsidiary.
- 1.2. Pursuant to Resolution of the Grupa LOTOS Management Board No. 55/IX/2016 of May 5th 2016, in the period from May 16th 2016 to September 30th 2016, the following changes occurred in the organisation of the Group's business segments:
- **Management segment** – falling within the remit of Chief Executive Officer, head of the management segment;
 - **Exploration and production (upstream) segment** – falling within the remit of Chief Exploration and Production Officer, head of the exploration and production segment. The segment comprised LOTOS Petrobaltic (along with its group companies);
 - **Refining and marketing (downstream) segment** – falling within the remit of Chief Refining and Marketing Officer, head of the refining and marketing segment. The segment comprised LOTOS Asfalt, LOTOS Infrastruktura and its subsidiary, LOTOS Kolej, LOTOS Oil, LOTOS Paliwa, LOTOS Serwis, LOTOS Straż and LOTOS Terminale (along with its group companies);
 - **Strategy and development segment** – falling within the remit of Chief Strategy and Development Officer, head of the strategy and development segment. The segment comprised LOTOS Lab;
 - **Finance segment** – falling within the remit of Chief Financial Officer, head of the finance segment. The segment comprised Infrastruktura Kolejowa and LOTOS Gaz w likwidacji (in liquidation), and its subsidiary.
 - **Corporate support segment** – falling within the remit of Corporate Affairs Director, head of the corporate support segment. The segment comprised LOTOS Ochrona.
- 1.3. Following the approval by the Grupa LOTOS Supervisory Board of new Rules of Procedure for the Management Board of Grupa LOTOS S.A., by Resolution No. 140/IX/2016 of September 20th 2016, which established a new division of responsibilities between Management Board Members, and pursuant to Resolution of the Grupa LOTOS Management Board No. 106/IX/2016 of September 29th 2016, the refining and marketing segment was closed down. In the period from October 1st 2016 to October 31st 2016, the following segments operated within the LOTOS Group:
- **Management segment** – falling within the remit of Chief Executive Officer, head of the management segment;
 - **Exploration and production (upstream) segment** – falling within the remit of Chief Operating Officer, head of the exploration and production segment. The segment comprised LOTOS Petrobaltic (along with its group companies);
 - **Marketing segment** – falling within the remit of Chief Operating Officer, head of the marketing segment. The segment comprised LOTOS Oil, LOTOS Paliwa and LOTOS Asfalt;
 - **Refining (downstream) segment** – falling within the remit of Corporate Affairs Director, head of the refining segment. The segment comprised LOTOS Infrastruktura and its subsidiary, LOTOS Kolej, LOTOS Serwis and LOTOS Terminale (along with its group companies);
 - **Strategy and development segment** – falling within the remit of Chief Strategy & Development Officer, head of the strategy and development segment. The segment comprised LOTOS Lab;
 - **Finance segment** – falling within the remit of Chief Financial Officer, head of the finance segment. The segment comprised Infrastruktura Kolejowa and LOTOS Gaz w likwidacji (in liquidation), and its subsidiary.

- **Corporate support segment** – falling within the remit of Corporate Affairs Director, head of the corporate support segment. The segment comprised LOTOS Straż and LOTOS Ochrona.
- 1.4. Pursuant to the Grupa LOTOS Management Board's Resolution No. 110/IX/2016 of October 25th 2016, in the period from November 1st to December 31st 2016, there was a change in the assignment of individual companies to the segments at the LOTOS Group:
- **Management segment** – falling within the remit of Chief Executive Officer, head of the management segment. The segment comprised LOTOS Ochrona;
 - **Exploration and production (upstream) segment** – falling within the remit of Chief Operating Officer, head of the exploration and production segment. The segment comprised LOTOS Petrobaltic (along with its group companies);
 - **Marketing segment** – falling within the remit of Chief Operating Officer, head of the marketing segment. The segment comprised LOTOS Oil, LOTOS Paliwa and LOTOS Asfalt;
 - **Refining (downstream) segment** – falling within the remit of Corporate Affairs Director, head of the refining segment. The segment comprised LOTOS Infrastruktura and its subsidiary, LOTOS Kolej, LOTOS Serwis and LOTOS Terminale (along with its group companies);
 - **Strategy and development segment** – falling within the remit of Chief Strategy and Development Officer, head of the strategy and development segment. The segment comprised LOTOS Lab;
 - **Finance segment** – falling within the remit of Chief Financial Officer, head of the finance segment. The segment comprised Infrastruktura Kolejowa and LOTOS Gaz w likwidacji (in liquidation), and its subsidiary.
 - **Corporate support segment** – falling within the remit of Corporate Affairs Director, head of the corporate support segment. The segment comprised LOTOS Ochrona.

Figure 1. Organisational structure of the LOTOS Group by business segments as at December 31st 2016



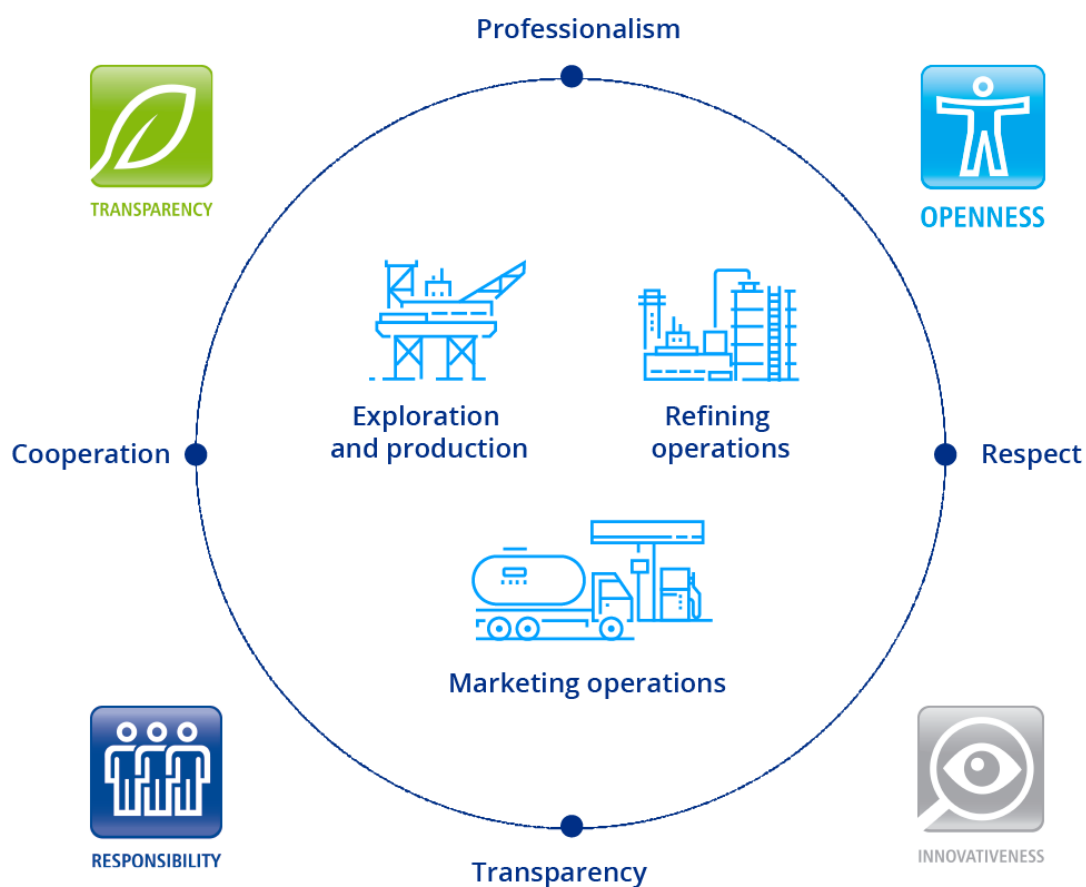
1.2.2 Value chain and business model of the LOTOS Group



In 2011–2016, the LOTOS Group focused on its core business activities, comprising:

- oil and gas exploration and production,
- crude oil refining, and
- marketing of and trading in petroleum products.

The Group was seeking to improve its marketing efficiency by optimising the refining and logistics processes. The goal of the strategy was to extend the value chain and increase product margins.



1.3 Corporate Social Responsibility

In all areas of its business the LOTOS Group strives to operate in a sustainable manner, with due regard to all legal requirements and in accordance with the principles of corporate social responsibility. The Company believes that business should be conducted according to ethical standards, in harmony with the natural environment and social needs. This is why the Group has adopted a system of values, which it sees as a long-term pledge towards all its stakeholders.

The four primary values underlying the LOTOS Group's corporate social responsibility are:

transparency – stands for the duty to comply with the most exacting environmental standards, commitment to ethical and fair competition, and counteracting the abuse of human rights;

openness – the LOTOS Group's attitude to changes, the world's needs and people's expectations;

innovativeness – recognition and protection of the intellectual capital within the LOTOS Group, as well as the competencies of its employees;

responsibility – the right attitude towards mankind and its future, the environment, the home country and its international security.

In 2016, as part of its CSR activities, Grupa LOTOS continued the projects and initiatives from previous years. Its efforts focused on three key areas:

- Environmental protection and ecology– with special focus on the biodiversity of the Baltic Sea (given the seaboard location of our refinery), as well as other areas of outstanding natural value located in the Company's immediate vicinity,
- Road traffic safety– which we influence through the quality of our products as well as comprehensive educational campaigns,
- Ensuring equal opportunities and supporting the education and development of children and young people– who are the target group of our CSR sports programmes and various other projects focusing on the support of talented youth.

To learn more, go to: www.odpowiedzialny.lotos.pl.

In 2016, Grupa LOTOS continued its cooperation with the UN Global Compact as part of the Baltic Sea Programme. The Baltic Sea 2015-2020 Programme is designed to develop optimum directions for sustainable development of the Baltic Sea region and make wise use of the economic, transport, energy, environmental and tourism opportunities the region presents.

CSR reporting

One of Grupa LOTOS' commitments towards its stakeholders, made in the 2008 CSR Strategy, concerned the implementation of a comprehensive system for performance reporting. Guidelines for sustainability reporting, developed by Global Reporting Initiative (GRI), were chosen as the best framework for preparing performance reports. The GRI standards are recognised as the only standards which enable a comprehensive presentation of CSR matters while ensuring comparability and measurability of an organisation's achievements in individual areas of its activity. The Company has used the framework to report on its performance since 2006. Since 2011, all reports have been externally assured. Link to the 2015 Integrated Annual Report:

www.raportroczny.lotos.pl

LOTOS Foundation



In 2015, the Grupa LOTOS Management Board resolved to establish the LOTOS Foundation. Its main task is to manage the organisation's philanthropic policy. The Foundation's mission is the wide-ranging social activity to make a positive contribution to its social and natural environment. In 2016, the LOTOS Foundation supported social projects with a total amount of PLN 3,645,128.

Table 1. **LOTOS Foundation spending by area (PLN).**

Area	Amount	Number of supported entities
Sports	2,379,500	28
Health protection and promotion	264,163	25
Preservation of tradition	252,872	15
Culture and arts	246,610	14
Community and charity initiatives	171,683	10
Environmental protection	157,000	6
Science and education	142,300	16
Security	21,000	3
Social development	10,000	1
Total	3,645,128	118

Strategy of the LOTOS Group



2. Strategy of the LOTOS Group

2.1. Summary of execution of the 2011–2015 strategy

In 2011–2015, the LOTOS Group pursued its strategy in the upstream and downstream segments based on its mission, vision, and strategic objectives.

The LOTOS Group's mission was to pursue innovation-driven, sustainable growth in the exploration, production and processing of hydrocarbons and in the marketing of high-quality petroleum products in a socially-responsible and environmentally-friendly manner which is conducive to creating lasting value for shareholders, ensuring customer satisfaction, and enhancing and leveraging the employees' potential; and which is consistent with Poland's energy security policy.

Table 2. **Strategic business objectives in 2011–2015.**

Strategic business objectives	Implementation
Achieve growth of the LOTOS brand equity, understood as the effect of synergies between image and strength among the brand's key target groups.	✓
Implement the CSR strategy to support the business strategy objectives.	✓
Increase hydrocarbon production to 1.2m toe in 2015 (24 thousand boe/d).	✓
Maintain at least a 30% share of the domestic fuel market.	✓
Achieve a 10% share of the domestic retail fuel market by the end of 2015.	✓
Achieve sales volume 15% above the Grupa LOTOS refinery's fuel production capacity.	✗
Maintain the leading position on the Polish lubricants market.	✓
Maintain high competitiveness of the Grupa LOTOS refinery.	✓
Achieve best production standards in the refining industry in terms of energy management, use of the natural environment, and accident rates.	✓
Ensure safety of the technological processes at the LOTOS Group.	✓
Increase depth of conversion and distillate yields at the Gdańsk refinery.	✓

The production target of 24,000 boe/d set in the 2011-2015 Strategy was exceeded thanks to, among other things, the successful acquisition of the Sleipner production assets in Norway and launch of production from the B8 oil field.

The increased processing capacity and flexibility of the units constructed as part of the 10+ Programme, completed in 2010, were utilised in 2015, as a result of which 10.2 million tonnes of crude oil were processed.

The target share in the domestic fuel market of 30% set in the 2011–2015 strategy. The Group secured a 10% share in Poland's retail market at the end of 2015.

At the same time, however, the macroeconomic environment was among the factors which prevented the Group from achieving the levels of financial ratios (such as debt, ROACE, and EBITDA margin) defined in the Strategy, with the performance affected mainly by the differences between actual prices of crude

oil and refined products as well as exchange rates on the one hand and the underlying assumptions of the financial forecasts on the other.

In addition to the impact of sharp oil price declines and other macroeconomic factors, the results delivered by the upstream area were to a significant extent affected by the absence of expected inflows from crude oil production from the YME project.

Accumulation of factors, both internal and external, either delayed launch of certain development projects or necessitated a more extensive use of debt financing than originally assumed, and subsequently led to recognition of impairment losses on upstream assets.

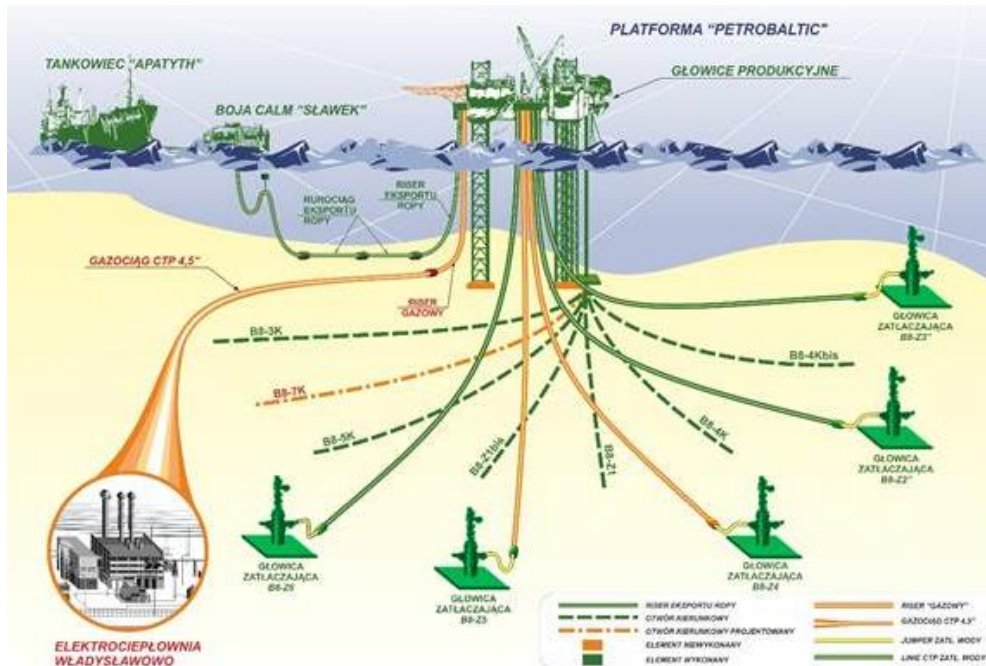
2.2. Status of key development projects in 2016

In 2016, the upstream segment of the LOTOS Group delivered record high hydrocarbon production, driven by output from the B3 and B8 oil fields in the Baltic Sea in Poland, and from the Heimdal and Sleipner upstream assets in Norway.

At the end of 2016, the LOTOS Group held a diversified and economically attractive portfolio of new development projects, highly resilient to fluctuations on the commodity market.

Key development projects in the upstream segment:

- Under the B8 project, hydrocarbons are to be produced from a field located in Poland's Exclusive Economic Zone on the Baltic Sea.



The B8 site is the third largest oil production facility in Poland; the field holds the largest recoverable oil reserves in the Polish part of the Baltic Sea. The purpose of the project is to develop the oilfield and commence full production with the use of the converted Petrobaltic platform. On September 30th 2015, initial production from the B8 field was launched using LOTOS Petrobaltic's drilling rig. As a result, the LOTOS Group doubled its hydrocarbon production on the Baltic Sea. Once the Petrobaltic rig is converted into a production hub and secured on the B8 field, and the gas pipeline is constructed, full production from the field will be launched, with expected daily output of approximately 5,000 boe of crude oil (250,000 tonnes annually).

2P reserves⁵: 29.5m boe (chiefly oil)

Current production: 2.8 thousand boe per day⁶

Planned production⁷: 5 thousand boe per day

CAPEX⁸: PLN 250m

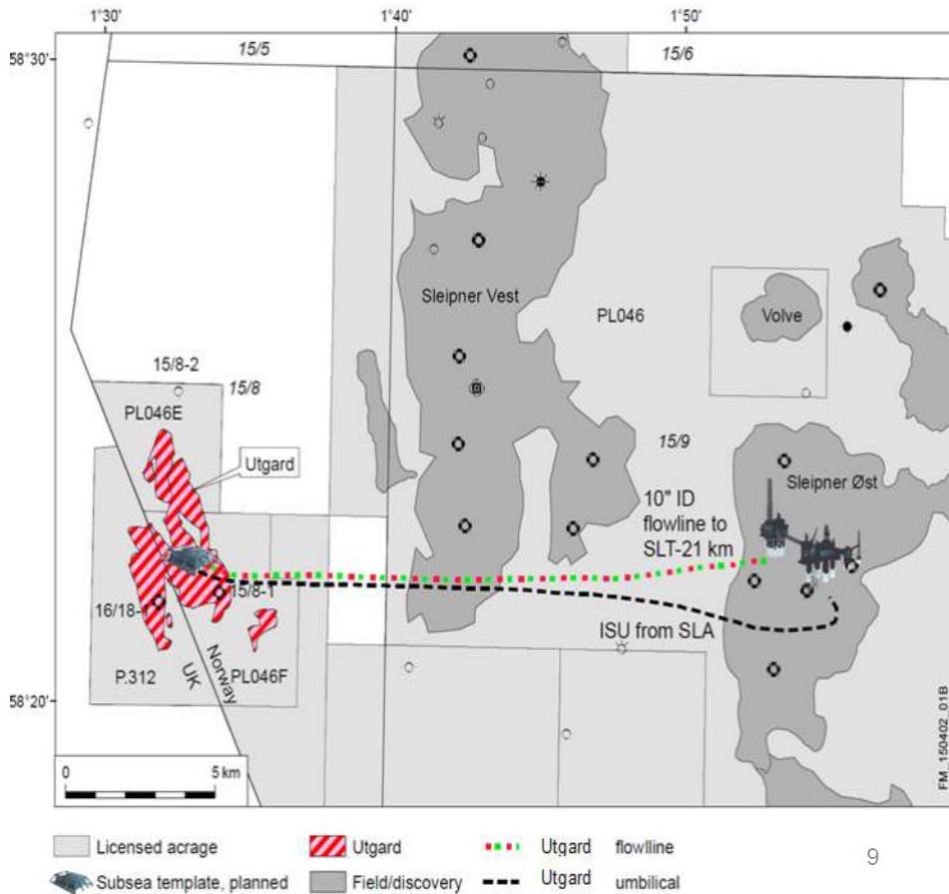
⁵ 2P – proved and probable reserves (according to the SPE international classification); data as at December 31st 2016

⁶ Boe – barrells of oil equivalent

⁷ Average daily hydrocarbons production in the first five years of the field's life

⁸ Capital expenditure to be incurred from 2017

- The objective of the **Utgard project** is to develop a new field in Norway through a tie-in with the nearby Sleipner area infrastructure, and to launch of hydrocarbon production of hydrocarbons in 2019/2020.



The project partners made a final investment decision to develop the Utgard field before the end of 2016. In January 2017, the Norwegian Ministry of Petroleum and Energy formally approved the plan for development and operations (PDO) for the Utgard gas and condensate field. The field's operator is Statoil. LOTOS Norge holds a 17.36% share in the project. Launch of production is planned at the end of 2019.

2P reserves: 8.1 million boe⁹ (55% crude oil vs 45% natural gas)

Planned production: 4 thousand boe/day¹⁰

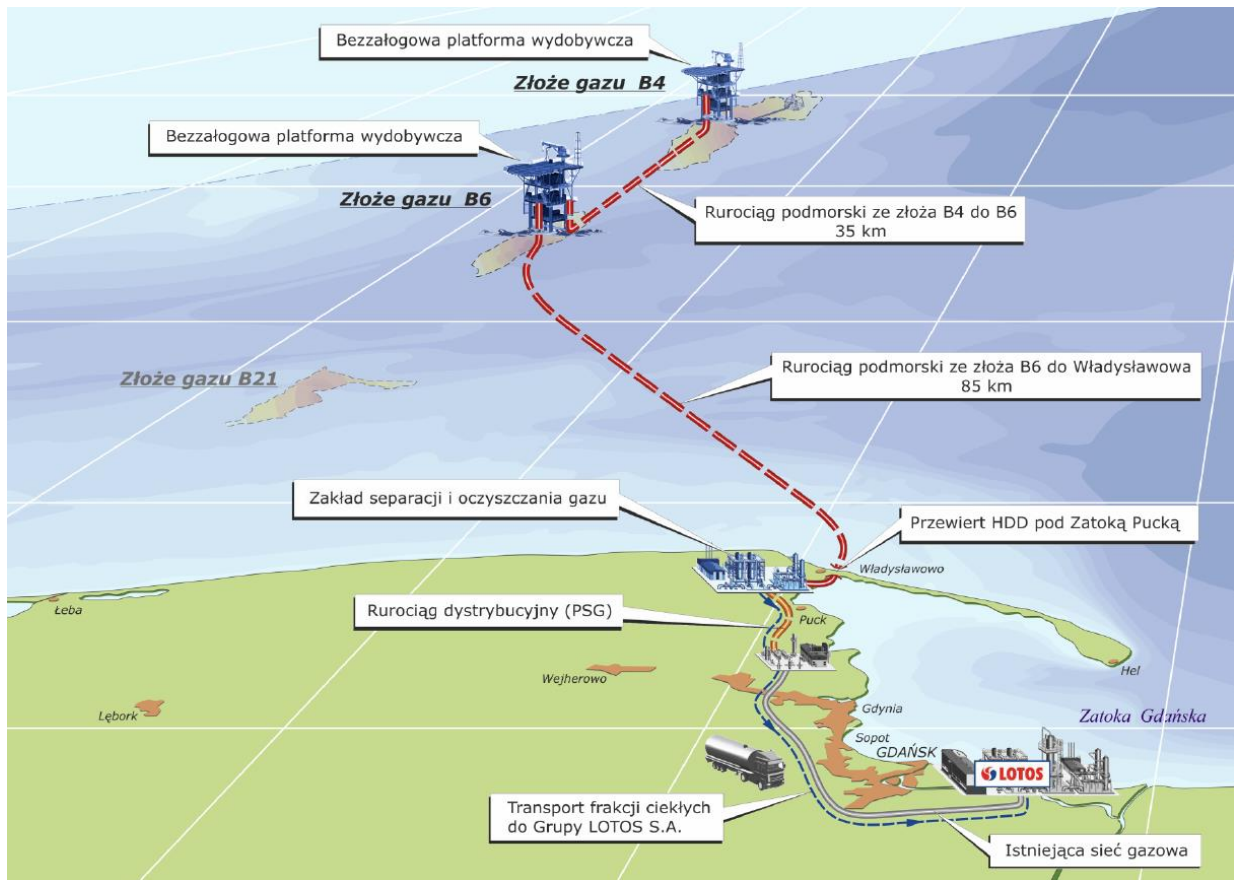
CAPEX¹¹: PLN 250m

⁹ Boe – barrels of oil equivalent

¹⁰ Average daily hydrocarbons production in the first five years of the field's life

¹¹ Capital expenditure to be incurred from 2017

- **B4/B6** is the first project to develop Baltic Sea natural gas deposits, and it is carried out by Baltic Gas Sp. z o.o. i wspólnicy Spółka komandytowa.



In 2016, a detailed development project (including platforms, the onshore plant and offshore gas pipelines) for the fields was prepared. At this stage the goal is to prepare an optimal and cost-effective development concept, and to present recommendations for the investment decision. Technology optimisation efforts are conducted jointly with CalEnergy. At the same time, negotiations were conducted with Polska Spółka Gazownictwa on construction of a pipeline which would connect the onshore plant in Władysławowo with the OGP Gaz System transmission network.

The goal of the project is to develop and produce natural gas from the B4 and B6 fields in the Baltic Sea in partnership with CalEnergy Resources Poland (the partner holds a 49% interest in the project). The produced mixture of hydrocarbons (raw gas) will be transported onshore via underwater pipelines and processed into commercial products: natural gas, LPG and condensate, to be subsequently delivered to end users. The fields are expected to be put on stream in 2018–2019.

2C resources: 17.9 million boe (ca. 100% natural gas, small amount of condensate)

Planned production: 4.3 thousand boe/day¹²

Capital expenditure: PLN 880m (Grupa LOTOS' share of 51%)

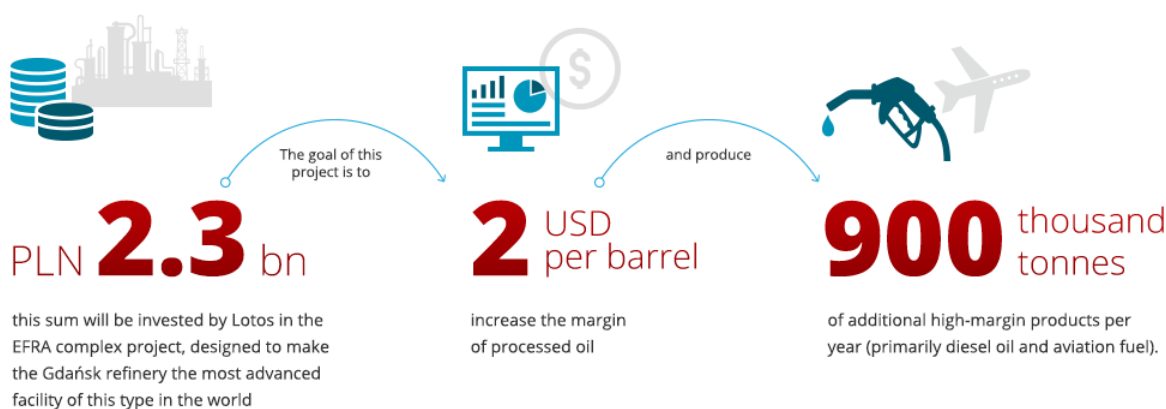
¹² Average daily hydrocarbons production in the first five years of the field's life

EFRA (Effective Refining) Project

EFRA Project is a continuation of the wider effort to technologically modernise the refinery, and natural completion of the deep crude oil processing chain created as part of the 10+ Programme. It is the LOTOS Group's key investment project, launched on June 26th 2015 in cooperation with LOTOS Asphalt.

Further enhancement of the deep conversion complexity, supported by synergies offered by the Gdańsk refinery's existing infrastructure, will help increase the refining margin on every processed barrel of oil by around USD 2/bbl. The units constructed as part of the EFRA Programme will produce some 900,000 tonnes of high-margin fuels which, by the Company's estimates, will add approximately PLN 0.6bn to EBITDA annually, assuming stable USD/PLN exchange rate.

The project is scheduled for completion in the first half of 2018. For more information, see the project's [website](#). The EFRA Programme will allow the Gdańsk refinery to take the Nelson Complexity Index above 10.5.



In 2016, all necessary building permits required under the project's credit facility agreement with financing institutions were obtained,

and all contracts for construction and modernisation of the unit, auxiliary facilities and infrastructure were signed. Work on engineering design of the key Delayed Coking/Coking Naphtha Hydrotreating Units (DCU/CNHT), Hydrogen Generation Unit (HGU) and Hydrowax Vacuum Distillation Unit (HVDU) was nearing completion, and the necessary procurement activities were under way.

In addition to the design work and procurement activities, works on delivery and assembly of auxiliary were conducted.

Activities related to the delivery and assembly of heavy apparatus in the first quarter of 2017 were planned. Preparations for the Spring 2017 maintenance shutdown continued, to ensure smooth execution of the EFRA works planned to be carried out during the shutdown.

As at December 31st 2016, the progress of design, procurement and construction work under the EFRA Programme was 54.1%, compared with the planned 37.2%.

The project is progressing ahead of schedule mainly on shorter procurement and delivery times (+42.6pp). Construction works are slightly ahead of schedule (+3.3pp).

Innovation and development projects

Development projects at the LOTOS Group

The Group's research and development efforts focus on the production of crude oil and its processing at the refinery. In the upstream area, in line with the trends set by European oil majors, research and development initiatives revolve around technologies for hydrocarbon exploration and optimisation of hydrocarbon production.

The downstream area focuses on effective utilisation of the refinery's expanded processing capacities and refining streams, further increase in hydrocarbon conversion, and optimum use of synergies between the refining industry and the chemical, power and construction industries to maximise the refining margin.

As an oil business with potential for innovation, and in order to improve its competitive position, as part of the strategy execution in 2017–2022 the LOTOS Group will run a comprehensive programme promoting employees' engagement and creativity. The Group will also pursue technical and technological innovations based on its own research and the research available through cooperation with third parties. The LOTOS Group seeks to increase the use of aid funding available for these purposes (including financing from the National Centre for Research and Development).

Projects implemented in partnership with higher education institutions

Grupa LOTOS S.A. is the leader of the HESTOR project designed to determine the efficiency of storing surplus electricity in the form of hydrogen obtained from electrolysis using renewable energy sources and then pumped into salt caverns for later use for power supply and technological purposes. The issues to be investigated as part of the project include hydrogen generation, transport and storage, as well as hydrogen combustion to generate electricity to cover peak demand. The pro-environmental effect of the project will be a reduction in greenhouse gas emissions by balancing the fluctuating supplies of electricity from renewable sources.

The consortium is composed of:

- Grupa LOTOS S.A. of Gdańsk,
- Warsaw University of Technology,
- Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A.,
- Stanisław Staszic AGH University of Science and Technology of Kraków,
- Ośrodek Badawczo-Rozwojowy Górnictwa Surowców Chemicznych CHEMKOP Sp. z o.o.,
- Silesian University of Technology – Consortium Partner.

The LOTOS Group, together with Energa, Gdańsk University of Technology, University of Gdańsk, Polish Naval Academy, Gdynia Maritime University, Institute of Fluid-Flow Machinery of the Polish Academy of Sciences, and Institute of Power Engineering established a consortium for submitting the smart specialisation 'Eco-efficient technologies in production, transmission, distribution and use of energy and fuels' for the Gdańsk Province.

The smart specialisation status will help the consortium to launch innovative projects in efficient crude oil production technologies and production of advanced Group II base oils; to develop technologies for production of high-margin petroleum products and second- and third-generation biofuels; and to develop state-of-the-art building materials and the related application technologies.

The research projects pursued in 2016–2017 focus primarily on ways to intensify crude oil production from the B3 field and the use of innovative methods of processing and interpretation of seismic data obtained in recent years.

In one of the projects, LOTOS Petrobaltic is a member of one of the four consortia that obtained the status of smart specialisation for the Pomerania region (the 'Off-shore, port, and logistics technologies' project).



The programme participants include 39 enterprises, 10 academic institutions and 10 business organisations. The programme is organised by the Marshal Office of the Gdańsk Province.

In 2016, as part of the Polish Shale Gas Technologies consortium, LOTOS Petrobaltic S.A. contributed to the preparation of the following four entries in the first Blue Gas research project competition:

- methodology for determining sweet spots (MWSSSG project),
- optimum methods of assessing resources and risks (geological and commercial) in exploration for unconventional gas deposits (LUPZAS project),
- modelling of gas production from shale gas formations (IRES project),
- optimisation of drilling waste management methods and management of flowback waters in fracturing operations and hydrocarbons production (EKOŁUPKI project).

In accordance with the adopted schedules, the research projects will be carried out by the end of April and June 2017.

Projects implemented in partnership with other business organisations

Grupa LOTOS is the leader of a consortium conducting a project awarded in a grant competition organised by the National Centre for Research and Development under the INNOCHEM sector programme (measure 1.2. of the Smart Development Operational Programme). The project, to be implemented in partnership with PolymemTech Sp. z o.o., relates to an innovative technology of processing unreacted oil from hydrocracking. The project is expected to be completed in the first quarter of 2019.

Cooperation with higher education institutions in student education, internships, and work placements

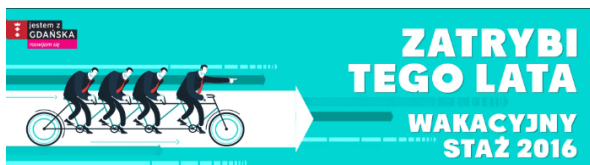
The LOTOS Group partners with higher education institutions and offers a range of internship opportunities for students from the Gdańsk-Sopot-Gdynia agglomeration's universities, such as Gdańsk University of Technology, University of Gdańsk, and the WSB School of Banking, as well as from universities at in the south of Poland, including AGH University of Science and Technology, Cracow University of Economics, Cracow University of Technology, University of Silesia, and universities abroad: Lviv Polytechnic National University and London School of Economic. The Group organised 109 unpaid internships and 34 work placements in 2016.

Table 3. Number of internship placements at LOTOS Group in 2016.

Grupa LOTOS S.A.	49
LOTOS Lab	21
LOTOS Asphalt	2
LOTOS Oil	4
LOTOS Serwis	16
LOTOS Petrobaltic	50
Total	143

In 2016, Grupa LOTOS S.A. was a partner in the following internship programmes:

- 'Summer Internship' programme of the Gdańsk Municipal Office – 10 placements
- 'Work out your future' programme of the Gdańsk Municipal Office – 2 placements
- 'Go4Poland. Wybierz Polskę' programme of the Warsaw Stock Exchange Foundation – 2 placements
- Energy Academy internships – 2 placements
- internship programme for students from Lviv Polytechnic National University – 7 placements



In 2016, Grupa LOTOS S.A.'s 'Good Start for Beginners' programme, comprising internships and work placements, was awarded the Staże i Praktyki Wysokiej Jakości *High-quality Internships and Work Placements* certificate of the Polish Human Resources Management Association.



The LOTOS Group cooperates with BEST, an international organisation of technology students. There is also the LOTOS Ambassador, who actively liaises with students and promotes LOTOS values among them.

The Group runs a 'Start with LOTOS' Facebook fanpage.



In association with the Cracow University of Economics, the Group prepared a case study to help Case Club member students to test their skills and develop solutions in solving real-life problems.

The Group undertakes initiatives to increase the quality of secondary-school education and to train qualified staff for its future needs. LOTOS Serwis has under its auspices the industrial automatics class at the Telecommunication School of Engineering (Zespół Szkół Łączności) in Gdańsk. Grupa LOTOS S.A. partners with Vocational and Lifelong Learning Centre (Centrum Kształcenia Zawodowego i

Ustawicznego) No. 2 of Gdańsk and actively participated in the Gdańsk Professionals' Week, where it promoted vocational education.

LOTOS Petrobaltic has established ties with universities, including the AGH University of Science and Technology in Kraków, the Gdynia Maritime University, University of Gdańsk, and the Witold Goetel Polish Oil and Gas School in Kraków.

In 2016, LOTOS Petrobaltic organised 45 unpaid internships and 5 paid work placements under the GAP project conducted in association with the Department of Economy and Public Administration of the Cracow University of Economics, and the 'Summer Internship' project, initiated by the Mayor of Gdańsk.

2.3. Stability and sustainable growth – LOTOS Group Strategy 2017–2022

2.3.1. Assumptions underlying LOTOS Group Strategy 2017–2022

Vision for safe and stable development of Grupa LOTOS and its Group

The LOTOS Group is:

- a producer of premium quality fuels and chemicals, with the optimal degree of vertical integration
- a provider of highly specialist logistics and maintenance services,
- a national innovation leader implementing advanced solutions in its core business.

Grupa LOTOS S.A. is 'modifying its DNA' to successfully pursue its vision in the ever-changing market environment. The LOTOS Group is also launching an evolutionary process of changes in such areas as asset optimisation, process efficiency, and organisational culture, to work towards innovation, better risk management and integration of employee groups, also across segments and companies.

The Company has identified **five key strategic objectives** which will substantially increase its value for stakeholders, and assigned them appropriate indicators. Detailed initiatives have also been defined for each objective.

Strategic objectives, initiatives and performance indicators

1. Effective use of production licences, optimisation of refining technologies, launch of new products and alternative fuels, and commitment to quality.

Initiative: New safer concept for developing balanced upstream portfolio

Performance indicators:

- Share of the upstream segment in annualized average EBITDA (25-40%)
- Balanced and diversified upstream portfolio (2P reserves: ca. 60 mboe, production: 30-50 kboe/day)

Initiative: Superior competitive advantage driven by innovative technologies and new products

Performance indicators:

- Increased flexibility and higher refining margin (up USD/bbl)
- The Company was placed in the first quartile of the Solomon ranking in terms of key metrics, including Process Utilization, Energy Intensity Index, and Return on Investment
- Readiness to launch, or actual launch of a new large-scale project
- Readiness to develop and embrace innovation based on dedicated funding, an advanced model of cooperation with research institutions and creative engagement of employees

Initiative: LOTOS Energy Hub in retail and care to ensure high quality standards

Performance indicators:

- Number of service stations to increase to approximately 550 sites through organic growth, with a wide range of alternative fuels on offer
- Twofold increase in the average non-fuel margin vs 2016
- Satisfied customers (growing Net Promoter Score)

2. Consistent and repeatable reduction of operating expenses and optimisation of margins along the value chain

Initiative: Efficiency Improvement Programme

- - Increased resilience to adverse external conditions thanks to low costs
- - Excellence in integrated margin management and diversification of feedstock sources

Common performance indicator:

- OPEX 2019 vs 2015 down PLN 300m per year (full effect from 2019); high degree of economically viable diversification of feedstock sources

3. Readiness to embrace innovation

Initiatives:

- - Setting up a fund to finance implementation of growth projects
- - Use of own experts and infrastructure to create a new research and development model in partnership with research institutions

Common performance indicator:

- Effective internal innovation system with a transparent and recognised model of partnership with external innovators (including start-ups) in place, based on dedicated funding

4. Active opportunity and risk management

Initiatives:

- - Strong culture of open dialogue and early response to risk symptoms
- - Risk management to optimise value for stakeholders

Common performance indicator:

- Risk awareness across all levels in the organisation; precisely defined risk appetite and decision-making levels

5. Strong team, coherent CSR story and safety

Initiatives:

- - Talent development as a key source of competitive advantage
- - Integrated CSR policy
- - Robust safety culture

Common performance indicators:

- Stronger leadership in rankings of top employers and socially responsible companies
- LTIF¹³<3.

In the upstream business, Grupa LOTOS will optimise financing sources and consistently build a sound and balanced asset portfolio, based on projects in the pipeline. The Company intends to pursue more field development projects, capture market opportunities to enhance its portfolio of upstream assets, and reduce the share of licences covering mature fields in its overall portfolio.

In the refining business, the Company is set to maintain its cutting edge in technology in Central Europe through implementation of innovative solutions. In its first phase, the Strategy will be implemented through the EFRA Programme. Grupa LOTOS is contemplating three potential directions of building further competitive advantage based on newly developed refining assets.

- More high-margin products: Enhancing refinery flexibility through investment in state-of-the-art technologies:
 - Building a new olefin complex (with an ETBE unit)
 - Making motor gasolines from naphtha, which is now exported – to extend the margin chain
- New products: Adding new product categories to expand the offering
 - Production of high-margin Group 2 and Group 3 base oils (based on internally generated feedstock – hydrowax)
- Increased refining efficiency: Improving reliability of energy supply and entering the capacity market (peak demand capacity)
 - Building a CHP plant to meet internal energy needs (electricity and process steam)

In the retail business, the Company intends to optimise customer service and sales, revamp its loyalty scheme, and introduce innovative products and services. The Company will improve service quality and strive to win leadership in new generation fuels (CNG, LNG, electricity and hydrogen) as part of the LOTOS Energy Hub project.

Innovation

Grupa LOTOS will develop new models of collaborative interaction with research institutions and start-ups based on joint research agendas and a dedicated innovation fund.

CAPEX in 2017–2022:

- PLN 2.0bn for current projects,
- PLN 4.1bn for projects pending FID (mainly in the upstream segment),
- PLN 3.3bn planned as additional expenditure after 2018 – for alternative projects ultimately selected in 2018, depending on their economics and market developments.

The LOTOS Group Strategy 2017–2022 is broken down into two time horizons and based on two fundamental assumptions:

¹³ Lost Time Injury Frequency

Phase 1, until the end of 2018: Achieving economic and financial stability and completing current projects

Our goal until the end of 2018 is to focus our efforts on stabilisation of cash flows, debt reduction, and completion of planned investment projects.

Figure 2. Key performance indicators for Strategy execution in 2017–2018.

Bezpieczeństwo	LTIF < 3		
Operacyjno-finansowe	WYDOBYCIE	PRODUKCJA	DETAL
Mienniki operacyjne	rezerwy 2P ⁽¹⁾ ok. 60 mboe wydobycie ok. 22 k boe/d ⁽²⁾	10,5 mln ton	500+ stacji paliw standaryzacja
EBITDA LIFO ⁽³⁾ średnioroczna w latach 2017 – 18	0,6 - 0,7	1,7 - 1,9	
CAPEX (2017 - 2018)	ok. 1,5 mld	ok. 1,8 mld	ok. 0,3 mld
Dług netto/EBITDA	nie więcej niż 1,5 ⁽⁴⁾		
OPEX oszczędności	200 mln PLN rocznie (<i>run rate</i>) względem bazy kosztowej 2015		
Satysfakcja klienta	wdrożony NPS (Net Promoter Score), pierwsze pomiary w 2017 roku		
Zdolność dywidendowa	tak		

Source: LOTOS Group Strategy 2017–2022.

Phase 2, from 2019: Continued growth based on streamlined investment portfolio

The Company may spend a further PLN 3.3bn on capital expenditure after 2018 (in addition to the capex projects planned and defined in the Strategy). In 2019, the Strategy will be updated in terms of investment plans and allocation of resources.

The LOTOS Group is set to launch production from new fields and take the final investment decision as to the allocation of capital expenditure between new business areas, based on updated market assumptions and prior analyses.

Figure 3. Key performance indicators for Strategy execution in 2019–2022

Bezpieczeństwo	LTIF < 3		
Operacyjno-finansowe	WYDOBYCIE	PRODUKCJA	DETAL
Mienniki operacyjne	rezerwy 2P ⁽¹⁾ powyżej 60 mboe wydobycie 30-50 k boe/d ⁽²⁾	10,5 mln ton	550 stacji
EBITDA LIFO ⁽³⁾ średnioroczna w latach 2019 – 22	1,6 - 1,8	2,3 - 2,7	
CAPEX (2019 - 2022)	ok. 1,5 mld	ok. 0,7 mld	ok. 0,3 mld
Dług netto/EBITDA	nie więcej niż 1,5		
OPEX oszczędności	300 mln PLN rocznie (<i>run rate</i>) względem bazy kosztowej 2015		
Satysfakcja klienta	pozytywny trend NPS		
Zdolność dywidendowa	tak		

Source: LOTOS Group Strategy 2017–2022.

Table 4. **Key price and macroeconomic assumptions underlying LOTOS Group Strategy 2017–2022.**

	2017	2018	2019	2020	2021	2022
USD/PLN exchange rate	4.09	3.7	3.7	3.7	3.7	3.7
Brent crude price (USD/bbl)	50	57	66	63	67	69
National Balancing Point gas price (USD/boe)	28	34	35	35	42	48
crack spreads (USD/t)	2017	2018	2019	2020	2021	2022
gasoline	148	177	175	166	179	187
Diesel oil	68	106	110	109	100	96
light fuel oil	68	106	110	109	100	96
aviation fuel	75	114	117	117	108	104
heavy fuel oil	-132	-175	-199	-223	-231	-224

Source: LOTOS Group Strategy 2017–2022.

2.4. Corporate social responsibility strategy

In 2008, the Grupa LOTOS Management Board adopted a comprehensive Corporate Social Responsibility Strategy for the LOTOS Group until 2012. After broad consultations with stakeholders and following analyses performed to assess the activities carried out thus far and their determinants, and to identify expectations, the strategy was updated for 2012–2015. The Grupa LOTOS Management Board adopted the updated CSR Strategy until 2015. In 2016, the Company continued to pursue the goals outlined in the Strategy.

The principal goal of the LOTOS Group's CSR strategy is to support the organisation in delivery of its business strategy through optimum use of the organisation's resources and capabilities to generate economic and social value benefiting the Company and its environment.

To ensure successful implementation of that goal, the social, environmental, ethical and human rights themes covered by the CSR strategy were incorporated into the LOTOS Group's core operations and business strategy.

This created a mechanism designed to:

- maximise the building of shared value for the shareholders, other stakeholders, and society as a whole,
- identify, prevent, and mitigate possible negative effects of the Group's operations.

Implementation of the strategy is expected to:

- improve competitiveness through better forecasting and taking into account changing social expectations,
- support risk management processes,
- create new market opportunities,
- facilitate access to capital,
- build customer loyalty,
- maintain long-term employee trust,
- enhance the Company's innovation potential.

The LOTOS Group's CSR strategy until 2015 defined the key objectives for individual areas of its activity. For each of these objectives, a set of targets and action plans has been developed to support successful delivery of the strategy.

- In the area of investment in human resources, the goal is to ensure the availability of highly qualified staff necessary to successfully implement the business strategy and enhance the corporate culture based on the adopted values.
- In health and safety, the priority is to increase the awareness and involvement in work safety improvement initiatives among the management staff, employees, and contractors.
- As regards integration with the local community, the principal goal is to undertake initiatives that help to ensure lasting solutions to social and environmental concerns important to our local communities.
- In the area of natural resources' management in production process the objective is to reduce environmental risks and constantly minimise the environmental impact of the LOTOS Group's operations.
- In terms of ethics and the prevention of misconduct, management is being improved by ensuring ethical conduct and transparency of business processes, and by protecting the organisation against misconduct.
- The strategic goal with respect to partnership relations with the market environment is to build lasting customer relationships by focusing on understanding customers' needs and ensuring the expected product quality and safety.
- As regards energy sector security, the objective is to support initiatives designed to enhance energy sector security in a socially and environmentally responsible manner.
- In communication, the goal is to ensure that communication with employees is timely and appropriate to their various needs, and to build an organisational culture based on multi-directional and open communication, including through the development of a system of public consultations within the Group.

Areas of strategic focus of the Corporate Social Responsibility Strategy

- Investment in human resources
- Management of natural resources in the production process
- Improvement of health and safety
- Integration with local communities
- Ethics and prevention of corporate misconduct
- Partnership with market participants
- Security of market sector

The Company's approach to CSR is long-term and comprehensive, and therefore it has become an element of the management process. The coexistence of business and social agendas within the strategy has been ensured through the development of detailed operational plans and metrics of the CSR strategy performance against targets in all of its key areas. Execution of the plans is monitored by leaders of particular areas, who report directly to the Grupa LOTOS Management Board. For performance reporting purposes, we have developed a method to monitor the delivery of the CSR strategy similar to the one used to analyse results of the outcome of our business strategy. The CSR practices, similarly to practices in other key management areas, are additionally assessed for maturity, and evaluated by the management on a regular basis during the annual 'CSR Day'.

For more information on the LOTOS Group's CSR initiatives, go to www.odpowiedzialny.lotos.pl.

Macroeconomic environment of Grupa LOTOS S.A. and the LOTOS Group in 2016



3. Macroeconomic environment of Grupa LOTOS S.A. and the LOTOS Group in 2016

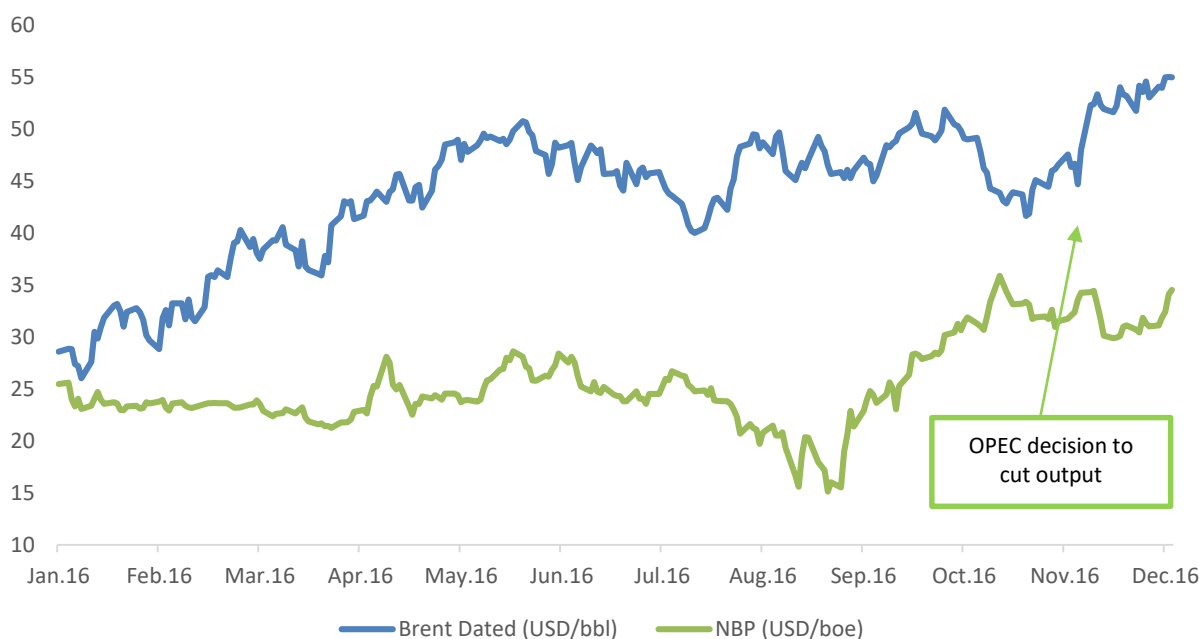
3.1. Crude oil and gas prices in 2016

The most important development in the oil market in 2016 was the agreement of OPEC countries to cut oil production. Last year the cartel made several attempts to reach an agreement on partial output freeze. Ultimately, on November 30th they agreed to reduce daily production by 1.2 mboe. Non-OPEC oil producers (Russia, Mexico, and Oman) agreed to cut daily output by approximately 0.6 mboe. In November 2016, the United States reported the largest increase in the number of active oil rigs in 16 months, to 471 sites. However, this number is still relatively small compared with November 2015, when 564 rigs were in service. Investments in the upstream segment have been declining globally for the last two years. All these factors contributed to a rebound in oil prices.

In the middle of January 2016, the price of Brent Dated oil fell to USD 26 per barrel, hitting a 16-year low. The average annual Brent Dated oil price fell to USD 43.5 per barrel and was USD 9 lower year on year. Sentiment on the oil market improved during the year, and at USD 55 per barrel in December the Brent Dated oil price was more than double the figure quoted in January.

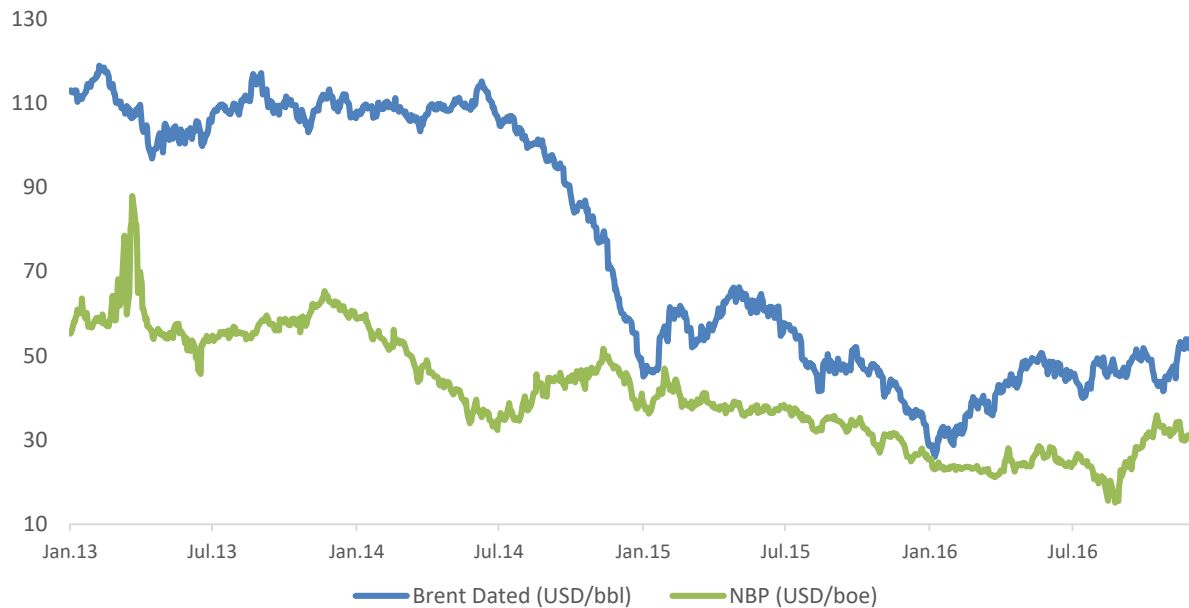
In September 2016, natural gas prices were at their lowest since 2010 (approximately USD 15.10/boe). The average NBP price of natural gas in 2016 was approximately USD 25.50/boe, down USD 10/boe on 2015. Almost in lockstep with crude prices, natural gas prices rose in the last quarter of the year.

Figure 4. Crude oil and gas prices in 2016



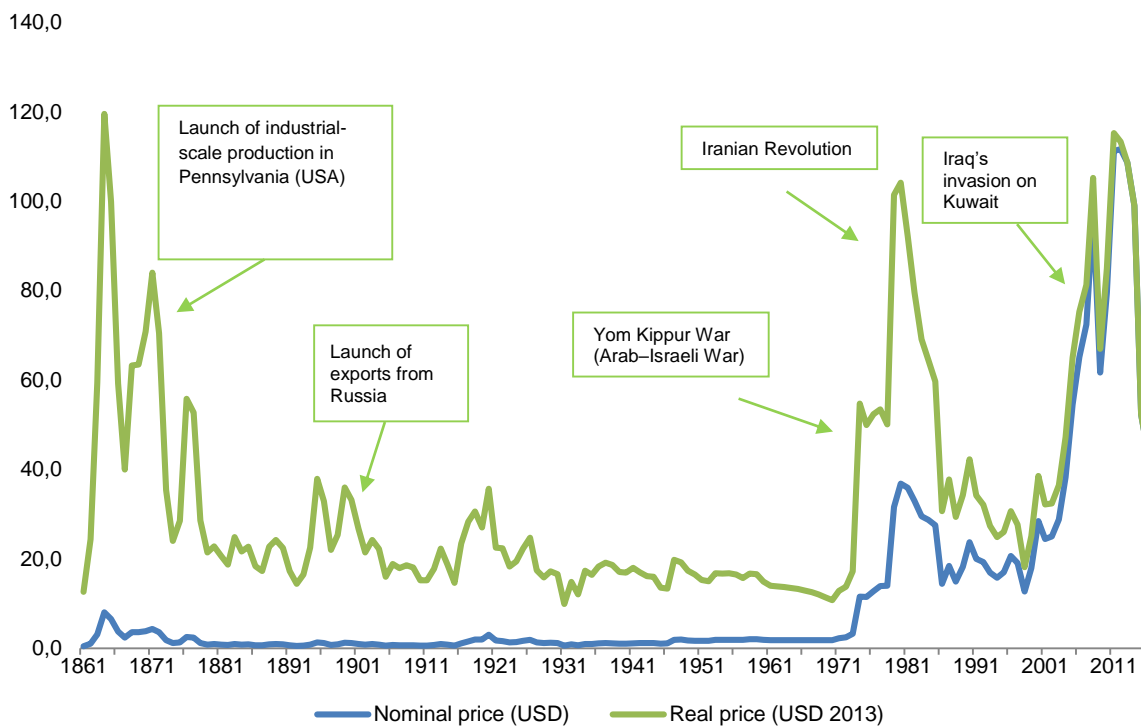
Source: In-house analysis based on Thomson Reuters data.

Figure 5. Crude oil and gas prices in 2013–2016



Source: In-house analysis based on Thomson Reuters data.

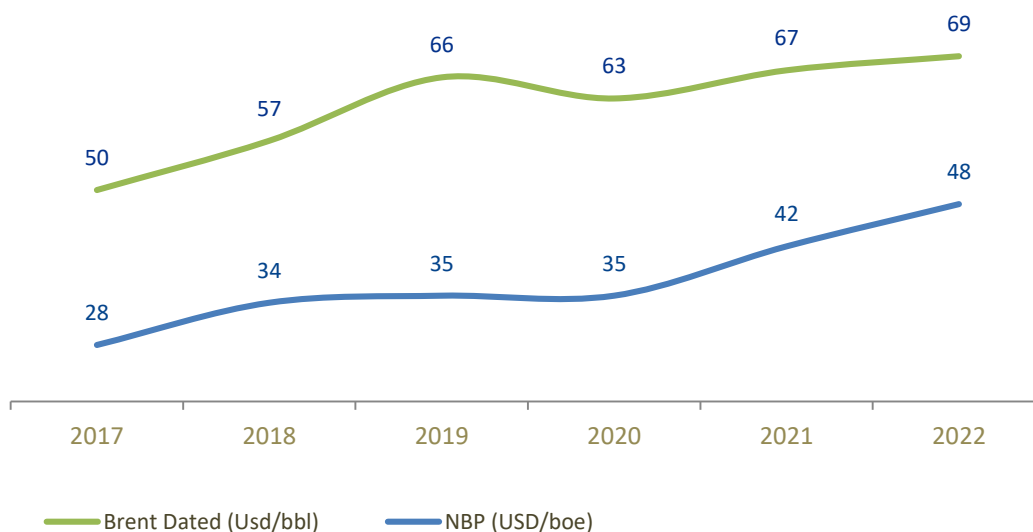
Figure 6. Brent Dated oil price in 1861–2016 (USD/bbl)



Source: In-house analysis based on BP data.

In the Strategy published on December 15th 2016, the Group assumed the following oil and gas price development:

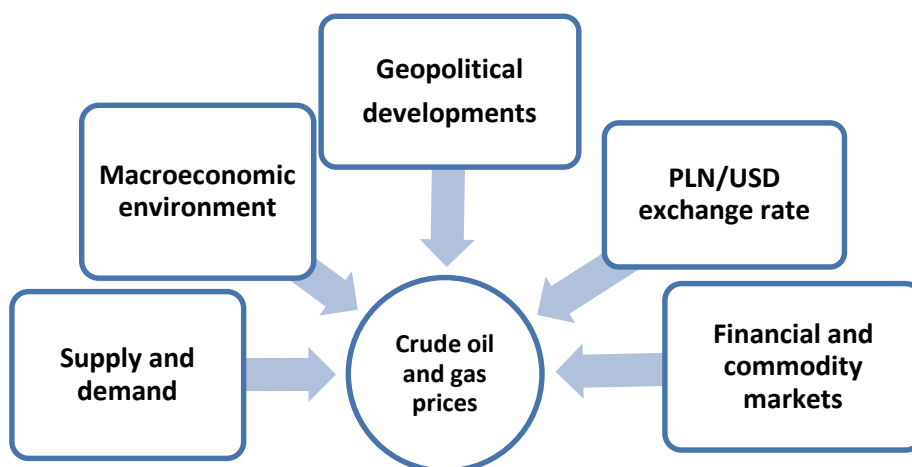
Figure 7. Oil and gas price assumptions



Source: LOTOS Group Strategy 2017–2022.

3.2. Drivers of crude oil and gas prices

Prices of oil and gas fluctuate driven by a number factors as shown in the diagram below.



Crude oil and gas price drivers

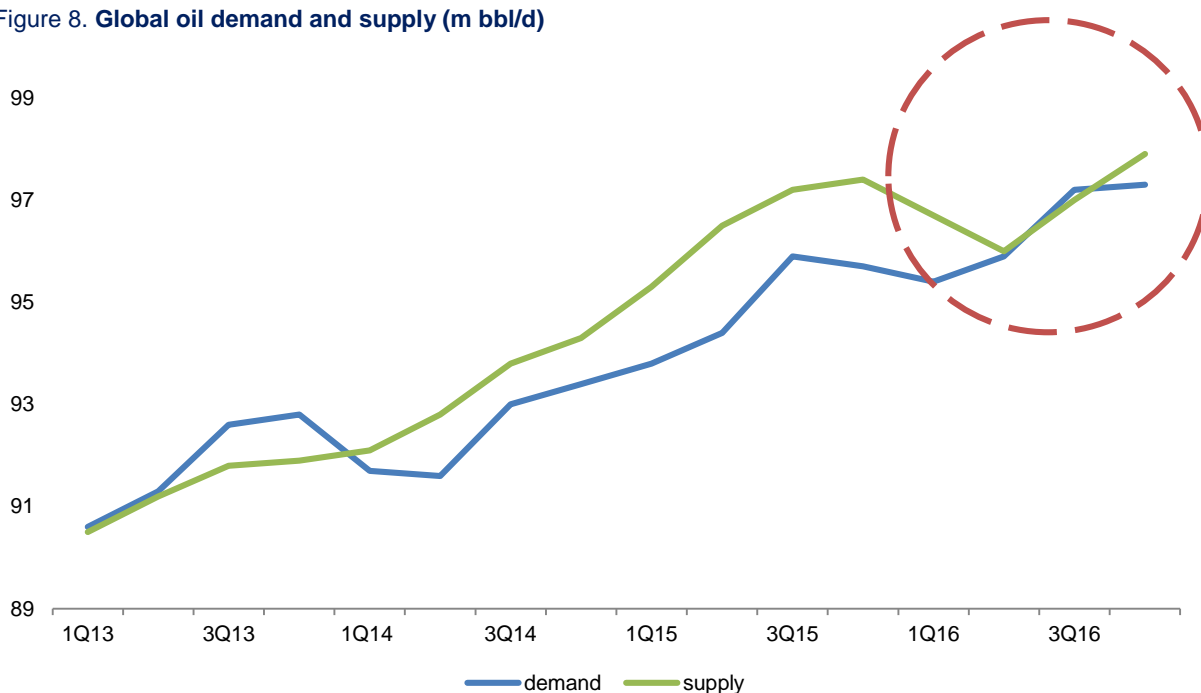
- **Global and regional changes in supply and demand**, expected level of future oil and gas supply and demand, as well as OPEC members' and other oil-producing countries' ability to achieve and maintain certain levels of production and prices,
- **PLN/USD exchange rate**
- **microeconomic conditions**, economic growth of regions and countries
- uncertain geopolitical situation, terrorist activities or war potentially affecting supply and transport of, or demand for, hydrocarbons and petroleum products, or a threat of such activities,

- availability and cost of construction or use of pipelines, tankers and other handling and processing infrastructure,
- price and availability of, and government subsidies for, alternative energy sources and new technologies,
- political, economic and military developments in oil-producing regions, in particular in the Middle East, Russia, Africa, Central and South America, as well as national and foreign regulations and activities of public authorities, including restrictions on imports and exports, taxes, repatriation and nationalisation processes,
- global and regional economic conditions,
- trading activities of market participants and other entities seeking to secure access to oil and gas or hedge against trade risks, or engaging in such activities as part of their investment portfolio management, and
- weather conditions and natural disasters.

Global and regional changes in oil supply and demand in 2017

In the third quarter of 2016 the global oil demand and supply were in balance for the first time in more than two years. However, during the year the average daily oil output exceeded demand by approximately 0.7m boe/d. In 2015, the difference was approximately 2m boe/d.

Figure 8. **Global oil demand and supply (m bbl/d)**

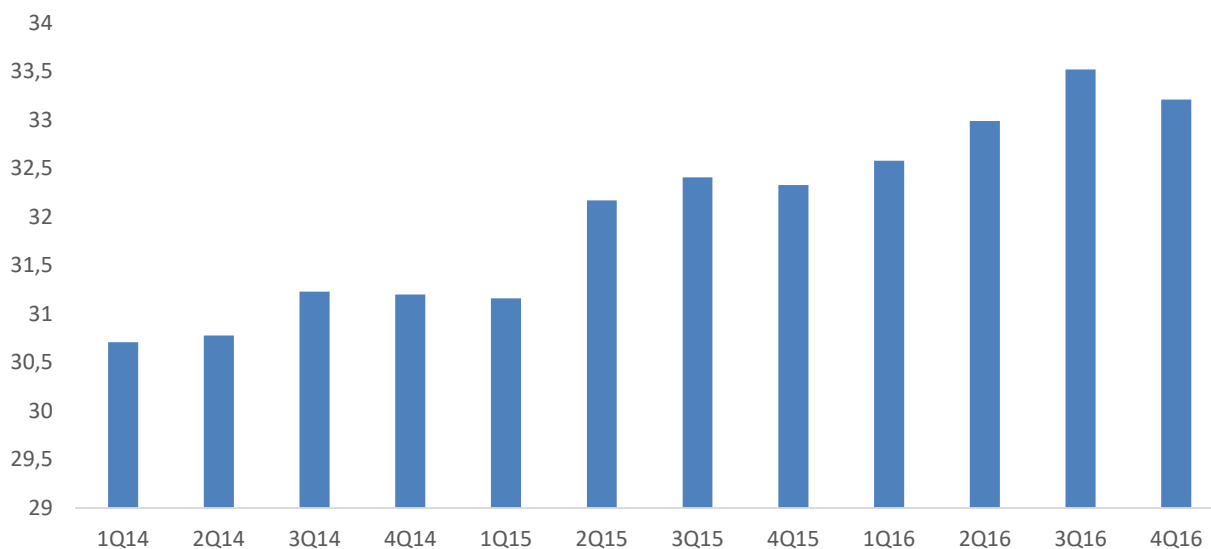


Source: In-house analysis based on International Energy Agency data, www.iea.org.

Crude oil supply worldwide

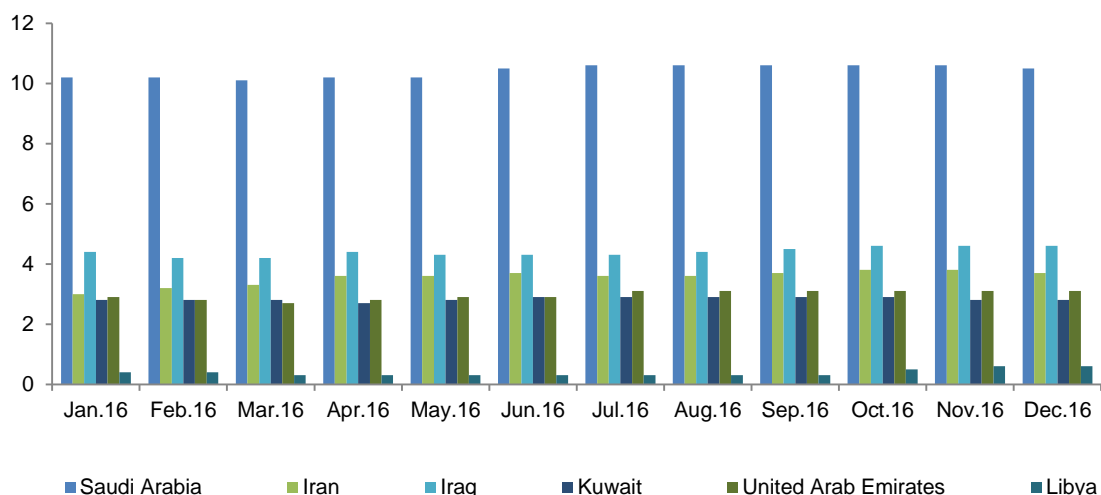
As major producers in the global oil market, OPEC countries used their spare production capacities to adjust the supply of crude oil and stabilise its price within the desired price range. The shale revolution in the United States, economic sanctions against Iran lifted in July 2015, and the resulting oversupply of oil, particularly severe in the first three quarters of 2016, made the cartel abandon this policy. The OPEC and non-OPEC oil producers agreed to cut global oil production by less than 2% only at the end of November 2016. In December 2016, OPEC output fell by 0.3 million boe/d compared with November 2015.

Figure 9. OPEC crude oil production in 2014–2016 (m bbl/d)



Source: In-house analysis based on International Energy Agency data, www.iea.org.

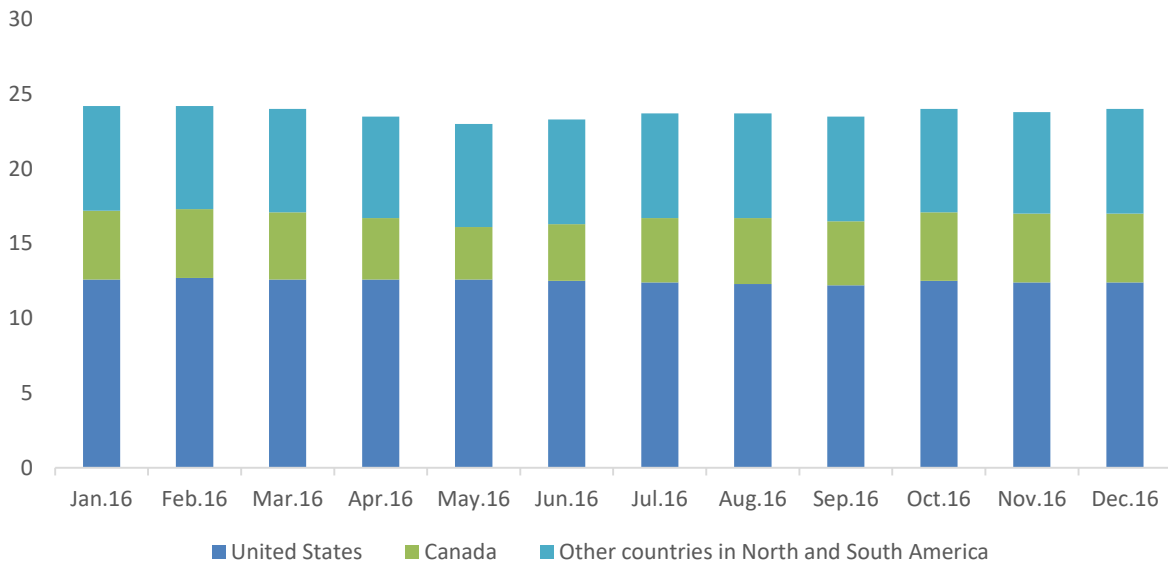
Figure 10. Oil output by the largest OPEC producers in 2016 (m bbl/d)



Source: In-house analysis based on International Energy Agency data, www.iea.org.

The fall in oil prices in 2014 and 2015 put a break on oil production in the US. High production costs forced oil producers to close some of the rigs. As a consequence, oil output in the United States fell by about 0.5 m boe/d in 2016.

Figure 11. Oil output by the United States and Canada in 2015 (m bbl/d)

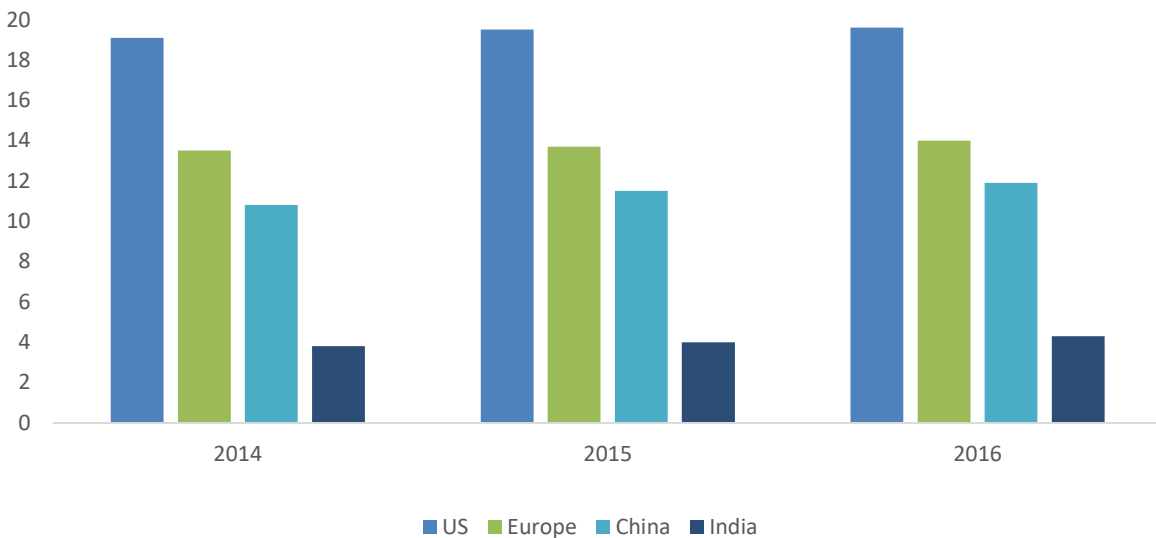


Source: In-house analysis based on International Energy Agency data, www.iea.org.

Crude oil demand worldwide

The United States, Europe, China and India account for a half of the global oil demand. Over the last three years, oil consumption in those countries has been on a rise, each year by 1.3m boe/d on average, driven by economic growth and demographics.

Figure 12. Oil consumption in the US, Europe, China and India (million bbl/d)

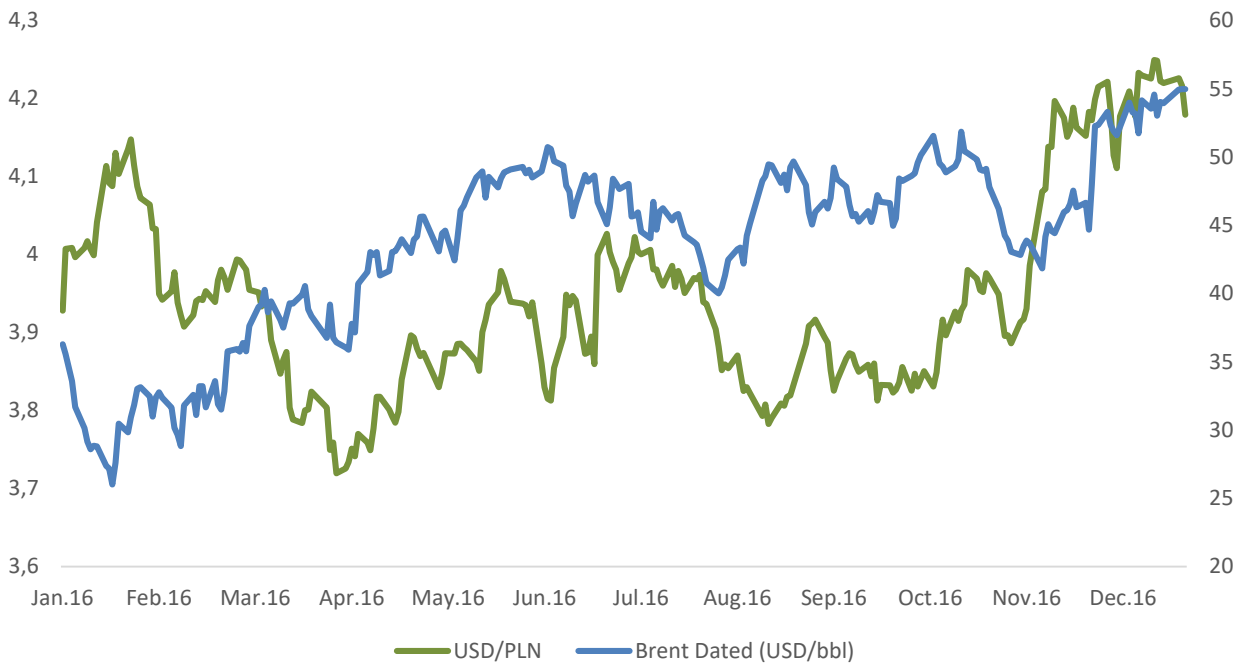


Source: In-house analysis based on International Energy Agency data, www.iea.org.

PLN/USD exchange rate

At the end of 2016, the US dollar appreciated relative to other major currencies. Typically, appreciation of the US dollar (which is the currency of international commodity transactions) is negatively correlated with the price of crude oil as demand may weaken in countries which experience erosion of their currencies' purchasing power.

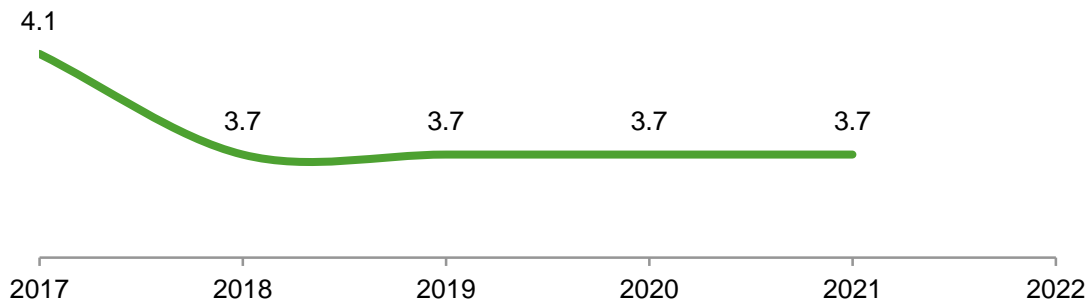
Figure 13. USD/PLN exchange rate vs Brent Dated crude oil price



Source: In-house analysis based on Thomson Reuters data.

In the Strategy published on December 15th 2016 the following US dollar exchange rate development was assumed:

Figure 14. USD/PLN exchange rate forecast



Source: LOTOS Group Strategy 2017–2022.

Oil price drivers in 2016

- lifting of the US oil export ban
- OPEC members agree to cut output
- future of shale oil production in the context of considerable drop in its commercial viability
- growth of demand for fuels, particularly in the context of continued growth of gasoline consumption in the US
- falling oil production costs

3.3. Drivers of profitability in the upstream business and current industry trends

Drivers of profitability in the upstream business

- **Crude oil and gas prices**
- **Regulatory environment**

Crude oil and gas prices

The key drivers of profitability of upstream operations include the difference between revenue from sale of produced oil and gas and the operating costs, tax expense related to hydrocarbon production, as well as cost of transporting and selling oil and gas. Accordingly, a drop in oil and gas prices may reduce volumes which can be produced profitably, or may adversely affect the profitability of production from specific wells, or the profitability of ongoing or planned investment projects, making production unviable.

Regulatory environment

The LOTOS Group's operations are largely influenced by numerous regulations, including in particular the Polish Geology and Mining Law, EU regulations and international conventions, such as those relating to environmental protection and climate change. Through the introduction of new obligations and more stringent standards, those regulations often require the Group to incur additional capital expenditure and/or result in an increase in the Group's operating expenses. In addition, the Company expects that, as previous years, in the future the Group's performance will continue to be affected by tax regulations, interpretations and recommendations issued by public administration authorities, and individual administrative decisions which have been or will be issued by such authorities with respect to the Group's business.

We expect that in the foreseeable future results of our operations will be affected by a number of regulatory factors, including: (i) planned regulatory changes in the taxation of hydrocarbon production; (ii) further tightening of environmental protection regulations; (iii) increase in mandatory collateral relating to the risk of environmental damage; and (iv) amendments to regulations pertaining to emergency stocks of crude oil and certain petroleum products.

Trends in the refining industry

In response to the slump in commodity prices, oil majors are focusing on their main projects and business areas, optimising their portfolios and selling off non-core assets. Energy companies that entered the upstream sector compelled by high oil prices are revising their strategies and retreating to core business. They are selling their E&P assets or even entire upstream companies to focus on securing financial stability and cash for stakeholders (e.g. dividends) by reducing exposure to capital-intensive exploration projects and assets under development/in pre-development phase. Some liquidity-strapped businesses are selling their assets on a short deadline, which offers opportunities to buy attractively priced distressed assets. As a result, there is an abundance of attractive E&P assets available for sale. Current asset

valuations are below long-term asset value, creating opportunities to pick up new E&P projects with medium-/long-term value growth potential at discounted prices.

Subdued exploration and production activity led to E&P investment cuts globally. Over the last two years, the upstream industry's E&P spending declined by almost 50% in aggregate.

3.4. Drivers of profitability in the refining business and current industry trends

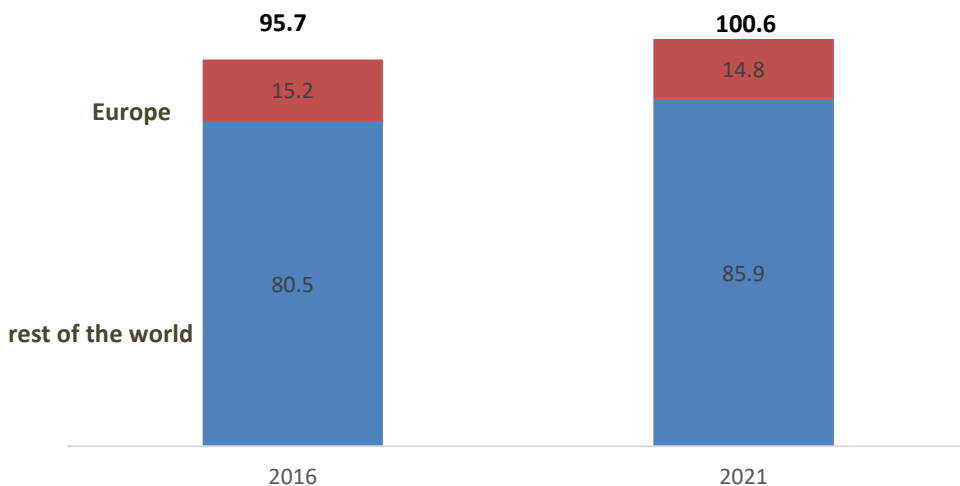
Drivers of profitability in the refining business

- **Prices of crude oil and natural gas** – changes in prices of oil, as the key feedstock used in refining operations, also have a significant direct impact on refineries' costs;
- **Level and structure of demand for and supply of petroleum products;**
- **Macroeconomic factors** – including declining real GDP growth and investment activity in Poland, lower industrial output, and rising unemployment, – adversely affect demand for petroleum products, which in turn results in downward pressures on prices of petroleum products and on refining margins;
- **Global throughput, refining capacity utilisation, refinery shutdowns;**
- **Crack spreads** (i.e. the difference between the price of petroleum products and the price of Brent crude) as price formulae in petroleum product sale contracts are, as a rule, based on petroleum product prices quoted on international markets, and the price of oil purchased and processed into petroleum products is based on the price of Brent crude;
- **The Brent-Urals differential (spread)** (i.e. the difference between the price of Brent crude and the price of Urals crude) as Urals crude (also known as REBCO) is the key feedstock used in refining operations in the region, while crack spreads are based on prices of Brent crude; a positive Brent-Urals differential (i.e. when the price of Urals crude is lower than the price of Brent crude) has a positive effect on financial performance, while a negative Brent-Urals differential (i.e. when the price of Urals crude is higher than the price of Brent crude) adversely affects financial performance;
- **Exchange rates** – while the Polish zloty is the Company's reporting currency, prices of crude oil and petroleum products are denominated in, or tied to, the US dollar;
- **Regulatory environment** – includes, among other things the obligation to achieve more stringent NIT levels for bio-components.

Level and structure of demand for and supply of petroleum products

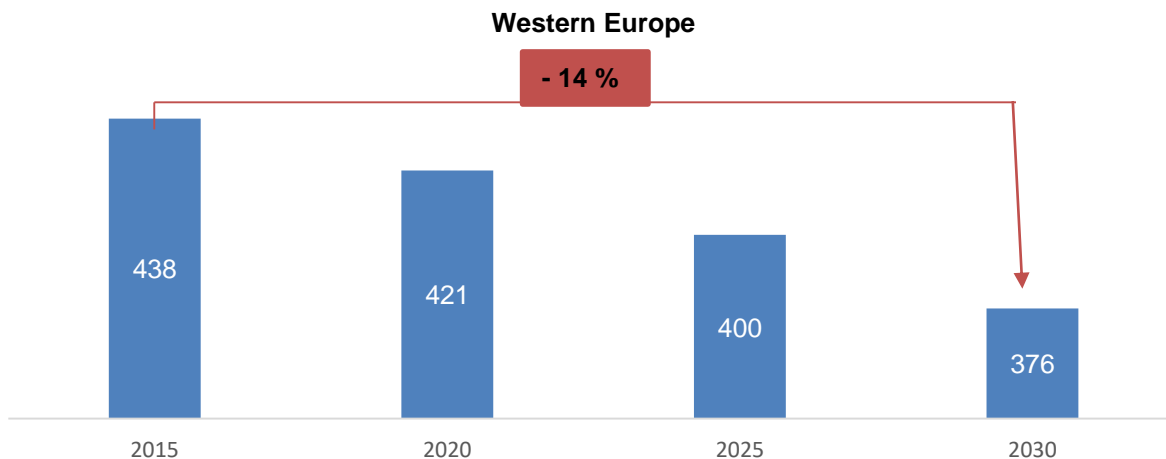
According to JBC data, global demand for refined products will grow. Continued growth of CEE economies implies further increase in fuel consumption and its ultimate convergence with consumption levels in Western Europe. The growing CEE market is considered more promising for fuel producers in the coming years.

Figure 15. Global demand for refined products (bn boe/d)



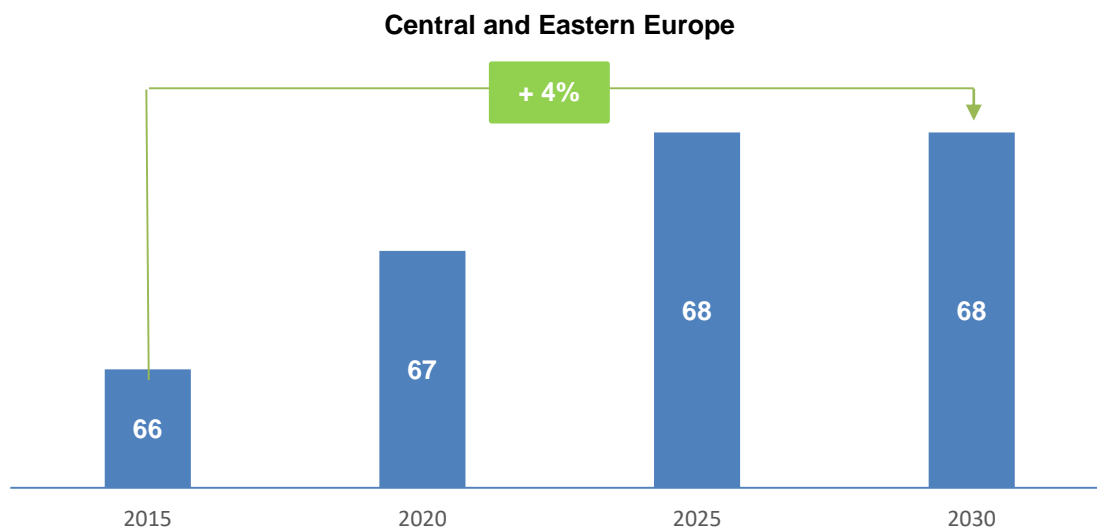
Source: LOTOS Group Strategy 2017–2022.

Figure 16a. Forecast demand for main transport fuels (gasoline, diesel oil, light fuel oil, aviation fuel; million tonnes)



Source: LOTOS Group Strategy 2017–2022.

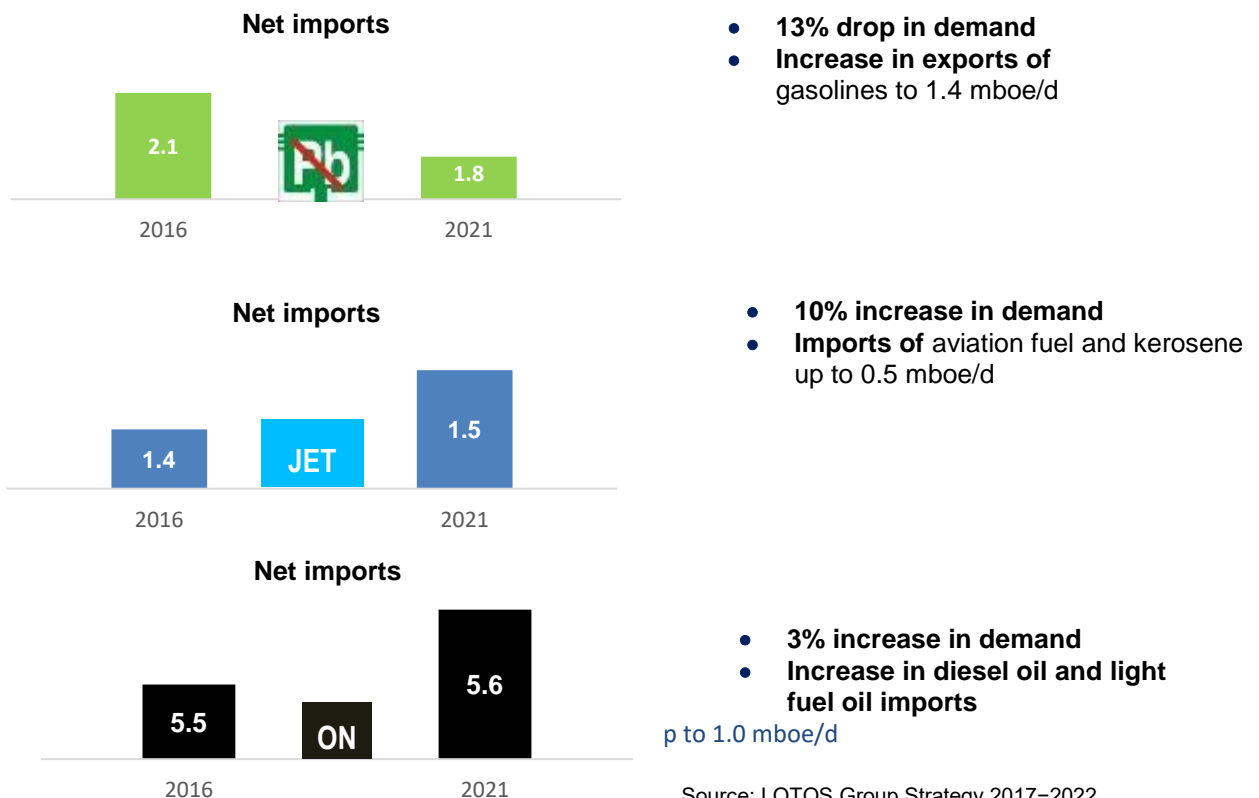
Figure 16b. **Forecast demand for main transport fuels (gasoline, diesel oil, light fuel oil, aviation fuel; million tonnes)**



Source: LOTOS Group Strategy 2017–2022.

In recent years, a considerable surplus of gasoline has been observed on European markets, accompanied by limited supply of diesel oil. Such considerable oversupply of gasoline made European refineries set to produce higher yields of gasoline (or light fractions in general) sell this part of their output on non-European markets.

Figure 17. **Europe: Demand for key products and international balance (m boe/d)**



Source: LOTOS Group Strategy 2017–2022.

The Group believes that the anticipated economic improvement in Poland and across the region (growing GDP, falling unemployment) should stimulate demand for petroleum products, especially diesel oil and aviation fuel. At the same time, efforts to counteract the grey market in Poland, undertaken both by the government (the fuel market legislation) and legitimate fuel suppliers, have reduced the market's size, additionally contributing to an increase in registered demand for diesel oil.

Global throughput, refining capacity utilisation, refinery shutdowns

Since 2009, several refineries with a combined processing capacity of 3.7 mbd have been shut down in the Atlantic area. However, this scaling back still seems to be insufficient, as many European refineries generate small returns, and their processing capacities are relatively low. Small low-complexity refineries are particularly exposed to the risk of closure, given their high unit operating costs.

Figure 18. Capacity utilisation (%)

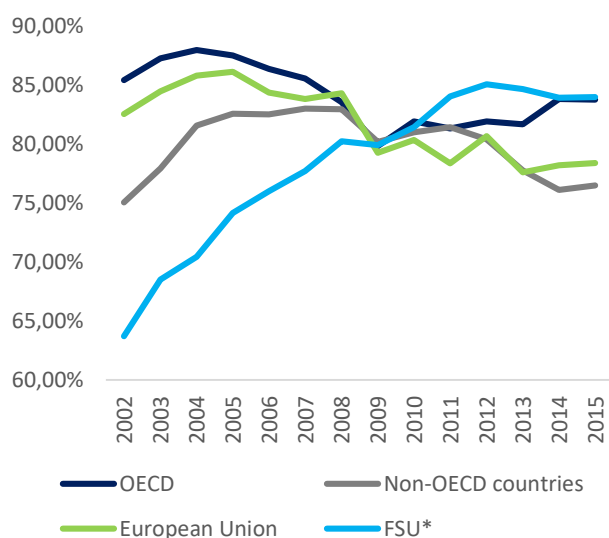
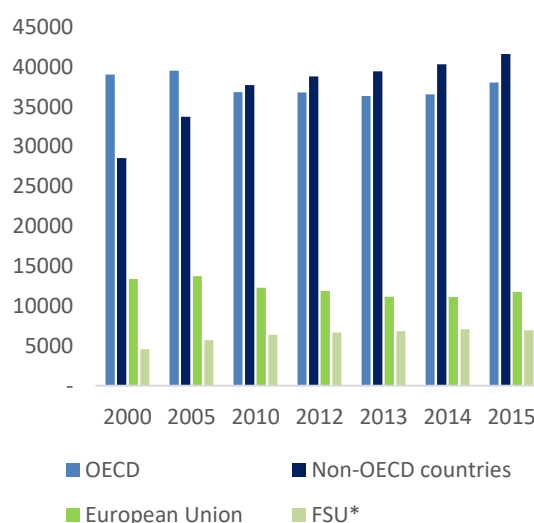


Figure 19. Global oil throughput (thousand boe/d)



Source: In-house analysis based on BP data.

* FSU – Former Soviet Union.

Table 5. Refinery closures in Europe in 2009–2016

Year of closure	Refinery	Nelson Complexity Index	Capacity (tbd)	Owner	Domestic sales
2015	Collombey	N/A	72	Tamoil	Switzerland
2015	Gela	13.1	105	Eni	Italy
2014	Milford Haven	7.0	135	Murphy Oil	United Kingdom
2014	Stanlow	8.2	55	Essar Energy	United Kingdom

2014	Mantova	8.4	57	Eni	Italy
2014	Paramo	N/A	20	Unipetrol	Czech Republic
2013	Harburg	9.6	90	Shell	Germany
2013	Porto Marghera	6.8	80	Eni	Italy
2012	Croyton	12.0	172	Petroplus	United Kingdom
2012	Fawley	9.1	80	ExxonMobil	United Kingdom
2012	Kherson	3.1	138	Alliance Oil Co.	Ukraine
2012	Drogobich	3.0	78	Ukraine Oil Co.	Ukraine
2012	Petit Couronne	7.3	154	Petroplus	France
2012	Berre l'Etang	6.7	105	LyondellBasel	France
2012	Roma	7.7	85	Total ERG	Italy
2011	Arpechim	7.3	70	Petrom	Romania
2011	Petrobrazi	7.3	6	Petrom	Romania
2011	Gonfreville	N/A	94	Total SA	France
2011	Cremona	7.5	94	Tamoil Raffnazione SPA	Italy
2011	Reichstett	5.3	85	Petroplus	France
2010	Teesside	N/A	117	Petroplus	United Kingdom
2010	Dunkirk	6.1	140	Total	France
2010	Odessa	3.9	56	LUKOIL	Ukraine

2010	Wilhelmshaven	5.0	260	Hestya Energy	Germany
2009	Antwerp	4.5	21	Petroplus	Belgium

Source: In-house analysis based on JBC data.

* Nelson Complexity Index – crude oil processing complexity ratio. It reflects the intensity of investments in the refinery, potential fixed costs, and the refinery's potential to generate value added.

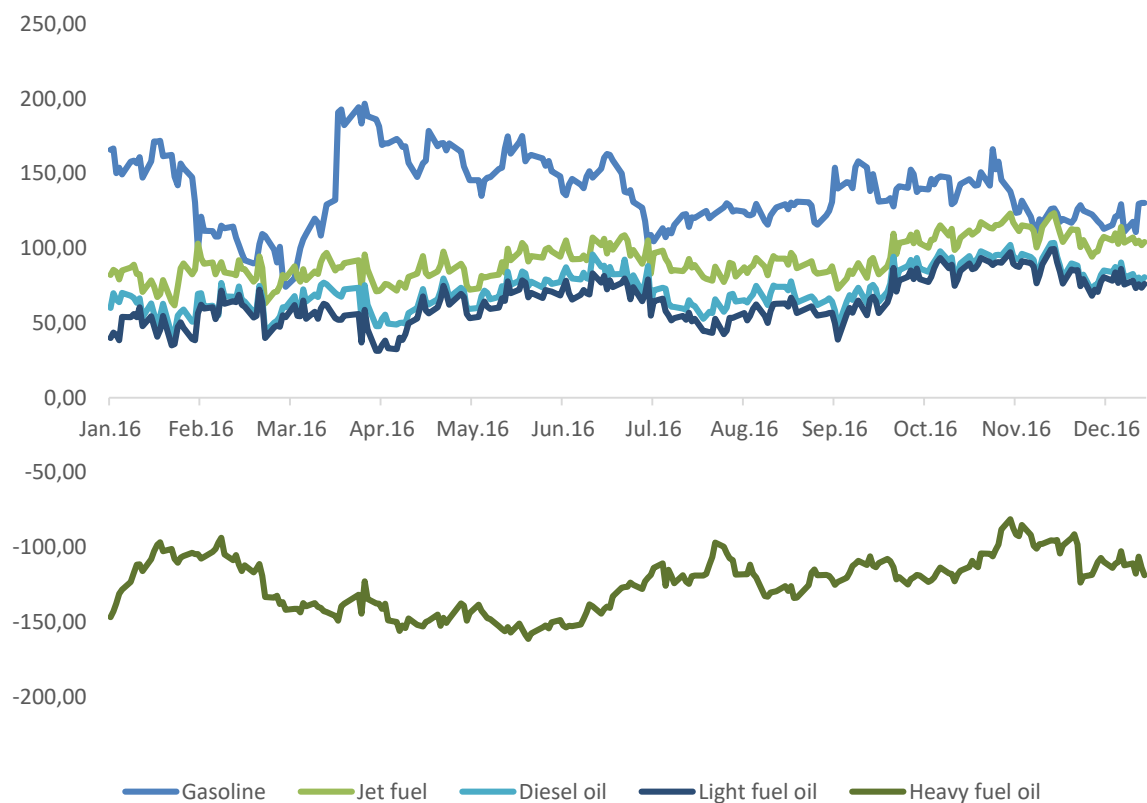
Crack spreads

In 2016, crack spreads were highly volatile. To a significant extent, they are affected by factors beyond our control, such as macroeconomic and geopolitical environment in general, changes in European and global demand for and supply of petroleum products and crude oil, or general conditions on European and global financial markets.

Last year, the crack spreads were as follows:

- Gasoline – low: USD 74.24/t (March 4th 2016), high: USD 196.77/t (March 31st 2016) – annual change: -21.49%, or USD -35.6/t
- Jet fuel – low: USD 61.92/t (January 26th 2016), high: USD 123.48/t (November 22nd 2016) – annual change: +26.98% or USD 22.15/t
- Diesel oil – low: USD 42.18/t (January 25th 2016), high: USD 103.48/t (November 22nd 2016) – annual change: +34.08% or USD 20.52/t
- Light fuel oil – low: USD 31.34/t (April 4th 2016), high: USD 99.48/t (November 22nd 2016) – annual change: +90.17% or USD 36.15/t
- Heavy fuel oil – low: USD -162.37/t (April 19th 2016), high: USD -81.17/t (November 7th 2016) – annual change: +19.19 % or USD 28.15/t.

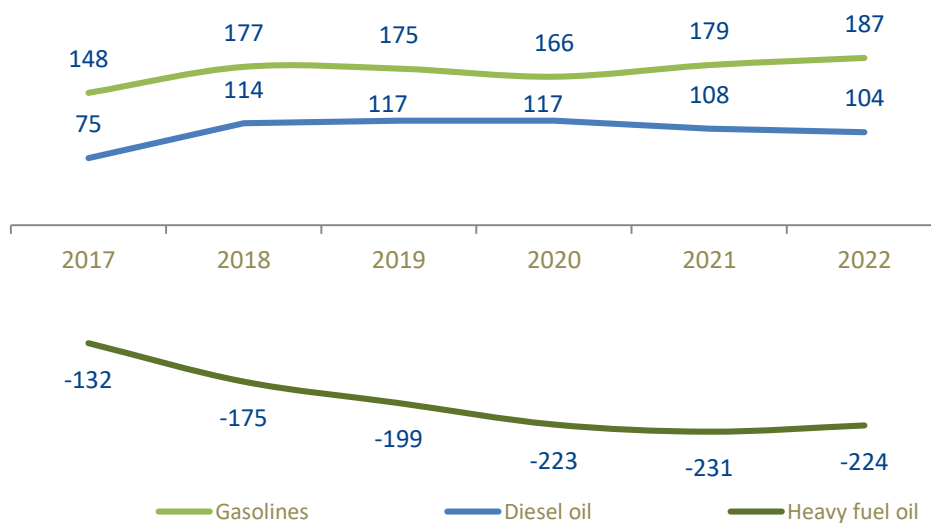
Figure 20. Crack spreads (USD/t) in 2016



Source: In-house analysis based on Thomson Reuters data.

The following crack spreads were assumed in LOTOS Group Strategy 2017-2022 published on December 15th:

Figure 21. Crack spreads for key products (USD/t) – Grupa LOTOS assumptions



Source: LOTOS Group Strategy 2017-2022.

Brent-Urals differential

As its main feedstock, Grupa LOTOS S.A. uses Russian REBCO crude (Russian Export Blend Crude Oil). Compared with the global Brent benchmark, REBCO is a heavier crude with higher sulfur content, and yields more middle distillates (diesel oil, aviation fuel).

Brent Blend is a light sweet crude produced in the North Sea, with approximately 38 API gravity* and sulfur content of approximately 0.4%.

Russian Export Blend (a Russian crude benchmark) is a blend of several crude types used domestically or exported. Russian crude is a medium sour crude with approximately 32 API gravity and sulfur content of approximately 1.4%.

Lower parameters of this feedstock are the cause of the discount against the Brent crude benchmark. The difference in prices between the two types of crude is called Brent-Urals differential (USD/bbl). The larger the spread, the higher the refining margins earned by Polish refiners.

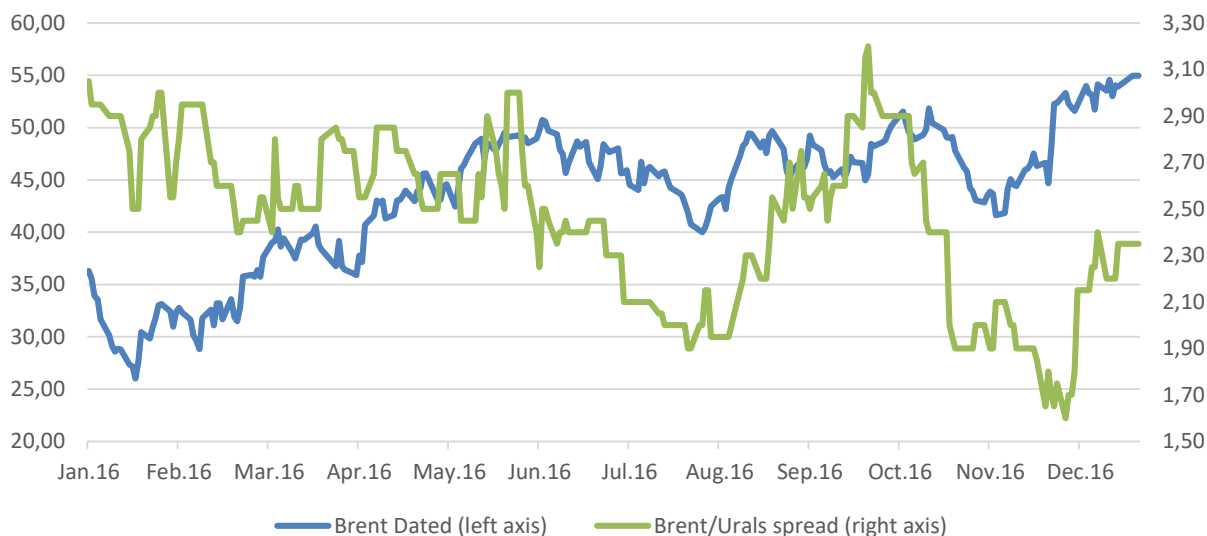
Table 6. **Characteristics of crude oils**

	Brent Blend	Urals
Source	United Kingdom	Russia
Density (g/ml)	0.833	0.866
API	38.3	31.9
Sulfur (wt %)	0.42	1.43
Fractional content (wt %)		
	Brent Blend	Urals
Gases	2.5	1.6
Gasolines	20.8	12.9
Oil	11.9	10.4
Diesel oils	23.7	22.9
Vacuum oils	26.5	29.3
Vacuum residue	14.7	22.9

* API gravity – crude oil density measure developed by the American Petroleum Institute (API).

The higher the API gravity, the lighter the crude oil. Light crude oils have API gravity of 38 or more, whereas heavy crude oils – of 22 or less. Crude oils with API gravity between 22 and 38 are generally referred to as medium.

Figure 22. Brent-Urals differential and Brent Dated crude prices (USD/bbl)



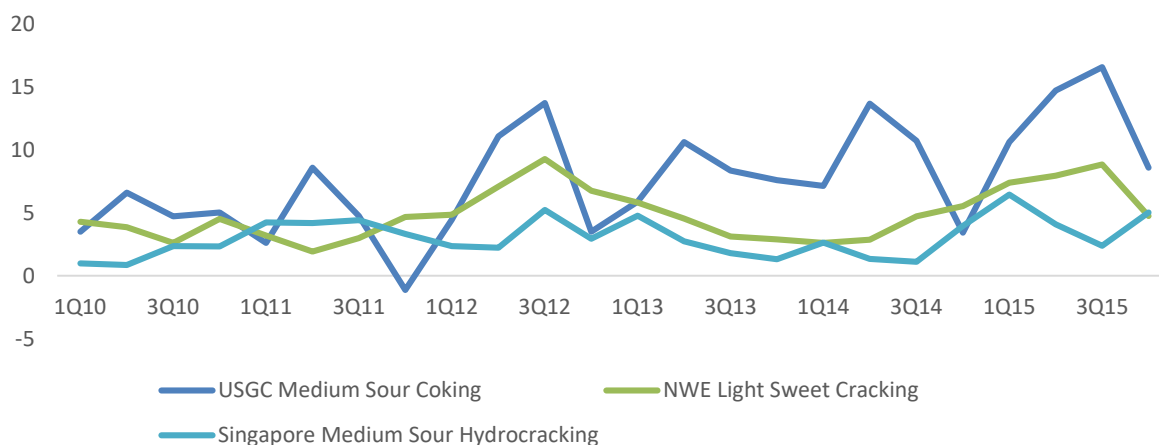
Source: In-house analysis based on Thomson Reuters data.

In 2016, the Brent-Urals differential ranged from USD -1.6/bbl to USD -3.2/bbl

Trends in the refining industry

In the last two years, and in the fourth quarter of 2016 in particular, refining margins have stayed significantly above the long-term average. The main drivers behind the Gdańsk refinery's solid performance were high refinery margins, but also the fuel market legislation which helped curb the grey market.

Figure 23. Refining margins globally (USD/bbl)



Source: In-house analysis based on BP data. The presented refining margins are benchmark margins for three major global refining centres: US Gulf Coast (USGC), North-West Europe (NWE – Rotterdam) and Singapore.

Operations of Grupa LOTOS S.A. and the LOTOS Group

Upstream segment



4.1. Upstream segment

4.1.1. Legal environment for exploration and production activities in Poland

Exploration and production activities in Poland are conducted under a licence granted by the Minister of Environment under the Geological and Mining Law of June 9th 2011, as amended. The law is consistent with Directive 94/22/EC of the European Parliament and of the Council on the conditions for granting and using authorisations for the prospection, exploration and production of hydrocarbons.

Table 7. Entities holding the largest number of licences for exploration for and/or appraisal of conventional and unconventional sources of hydrocarbons

Entity	Number of licences
PGNIG S.A.	54
Orlen Upstream Sp z o.o. ¹⁴	18
ShaleTech Energy Sp. z o.o.	7
LOTOS Petrobaltic S.A.	4

Table 8. Entities holding the largest number of licences for production of hydrocarbons from conventional sources

Entity	Number of licences
PGNIG S.A.	225
LOTOS Petrobaltic S.A. ¹⁵	4
ZOK Sp. z o.o.	2

* LOTOS Petrobaltic, its subsidiaries and joint ventures, including LOTOS Petrobaltic S.A. (one licence), B8 Spółka z o.o. BALTIC spółka komandytowa (one licence), and Baltic Gas spółka z o.o. i wspólnicy spółka komandytowa (two licences)

4.1.2. Competition in the upstream industry

As upstream margins plunged relative to those generated in the downstream industry, companies significantly reduced their exploration and production activity, which is demanding both financially (high capital expenditure) and in terms of access to the market (licence requirements). Over a short span of time, business activity by competitive companies faltered, particularly with respect to deposit development. Given the persistently low oil prices, there is no risk of crude oil and natural gas being substituted by other energy sources in the short to medium term. The bargaining power of suppliers of drilling materials, well and underwater services, and advisory services dwindled in the wake of the scaling back of capital expenditure in the upstream industry. Consequently, the prices of such services and materials fell, even by as much as 40% on the Norwegian Continental Shelf.

The following analysis of competition covers companies operating in the areas of the LOTOS Group's strategic interests, that is in the Polish Economic Zone of the Baltic Sea, onshore in Poland, and on foreign markets (Norway and Lithuania).

¹⁴ Including the licences held by FX Energy

¹⁵ LOTOS Petrobaltic, its subsidiaries and joint ventures, including LOTOS Petrobaltic S.A. (one licence), B8 Spółka z o.o. BALTIC spółka komandytowa (one licence), and Baltic Gas spółka z o.o. i wspólnicy spółka komandytowa (two licences)

The LOTOS Group was engaged in exploration and production through the LOTOS Petrobaltic Group. In 2016, the volume of hydrocarbons production was around 26.6 thousand boe/day.¹⁶

Crude production from the B3 and B8 fields and preparations for the launch of gas production from B4/B6 fields, combined with continued production of hydrocarbons (including 70% of oil and 30% of natural gas) from the Heimdal and Sleipner fields in Norway, will ensure diversification of, and increase in, revenue streams (which in the past were generated from the B3 field only), and will contribute to financial stability in the years to come.

Given the unfavourable macroeconomic reality affecting the upstream sector and the volatility of oil prices, upstream companies focused primarily on maintaining their financial stability. The segment sought to secure financial liquidity through cost cutting measures and optimisation of capital expenditure.

LOTOS Group's oil and gas reserves

The LOTOS Group's upstream operations are conducted by LOTOS Petrobaltic S.A., in which Grupa LOTOS S.A. holds a 99.98% equity interest. LOTOS Petrobaltic S.A. is engaged in upstream activities in the following countries:

- Poland – LOTOS Petrobaltic S.A and its subsidiaries B8 Sp z o.o. (100%), B8 Sp. z o.o Baltic S.K.A (99.50%), Baltic Gas Sp. z o.o. i Wspólnicy s.k., Baltic Gas Sp. z o.o. (50%),
- Lithuania – AB LOTOS Geonafta and its subsidiaries UAB Minjos Nafta (50%), UAB Manifodas (100%), UAB Genciu Nafta (100%),
- Norway – LOTOS Exploration and Production Norge AS (99.99%).

As at December 31st 2016, the Group's 2P reserves were at 72.7m boe.

2P reserves in Norway increased year on year in 2016 following:

1. Reclassification of the Utgard field (8.1m as at the end of 2016) from the 2C (contingent resources) to 2P (proved and probable reserves) category after the POD for the field was approved
2. Revision of the estimates of commercial reserves in producing assets in Norway, mainly in connection with plans to drill infill wells in the Sleipner fields

Table 9. Crude oil and natural gas 2P* and 2C reserves as at December 31st 2016

Volume (ml boe ⁽¹⁾)	Domestic sales	Crude oil and natural gas 2P ⁽²⁾	Crude oil and natural gas 2C ⁽³⁾
	Poland	38.5	16.0
	Norway	27.6	34.5
	Lithuania	6.5	0.5

⁽¹⁾ boe – barrel of oil equivalent

⁽²⁾ 2P – proved and probable reserves (according to the SPE 2007 international classification)

⁽³⁾ 2C – contingent reserves pending FID and approved development plan

Table 10. LOTOS Petrobaltic Group's production and sales of crude oil and gas in 2016

Sales	Country	Volume ('000 boe)
Total crude oil and natural gas	Poland	1 840.0
	Norway	6 750.3
	Lithuania	365.6

¹⁶ Hydrocarbons production volume as total production volume divided by 366 days of the reporting period (2016)

Production ¹⁷	Domestic sales	Volume ('000 boe/d)
Total crude oil and natural gas	Poland	5.5
	Norway	20.0
	Lithuania	1.1

Key products, merchandise and services

The LOTOS Petrobaltic Group's core business consists in hydrocarbon exploration, production and sales and is conducted by three companies: LOTOS Petrobaltic S.A., LOTOS E&P NORGE AS, and AB LOTOS Geonafta. In 2016, crude oil and natural gas were produced from deposits located in Poland (mainly crude oil and small quantities of associated gas), Lithuania (crude oil), and Norway (gas and condensate, i.e. light crude, with natural gas accounting for most of the output in 2016: 70% of gas vs 30% of crude oil; however, the structure of hydrocarbon production is expected to evolve as production from new fields is launched, with the share of crude oil rising as of 2019).

Energobaltic Sp z o.o. is engaged in processing the gas produced from the Baltic fields, generation of heat and electricity, and production of LPG and natural gas condensate.

Miliana Shipping Company Ltd. manages a fleet of specialist ships on a service basis.

Baltic Sea, Polish Economic Zone

Within the LOTOS Group, all exploration, appraisal, and production licences in the Polish zone of the Baltic Sea are held by LOTOS Petrobaltic S.A. (or companies in which it holds equity interests).

The Polish fields account for 21% of the segment's total output:

- B3 and B8 fields in the Baltic Sea
- mainly crude oil and the associated gas
- cash lifting cost: about USD 25/boe

In the conservative scenario, hydrocarbon production is planned to continue until 2026 from the B3 field and until 2031 from the B8 field, based on the current validity dates of production licences (which the LOTOS Group expects to be able to extend).

In total, LOTOS Petrobaltic holds four oil and gas exploration and/or appraisal licences in Poland, including:

- three licences in the Polish economic zone of the Baltic Sea in the regions of Gotlandia, Łeba, and Rozewie (proceedings for converting the licence into a licence for exploration for and appraisal of mineral deposits are pending), and
- one own licence in north-eastern Poland (Młynary).

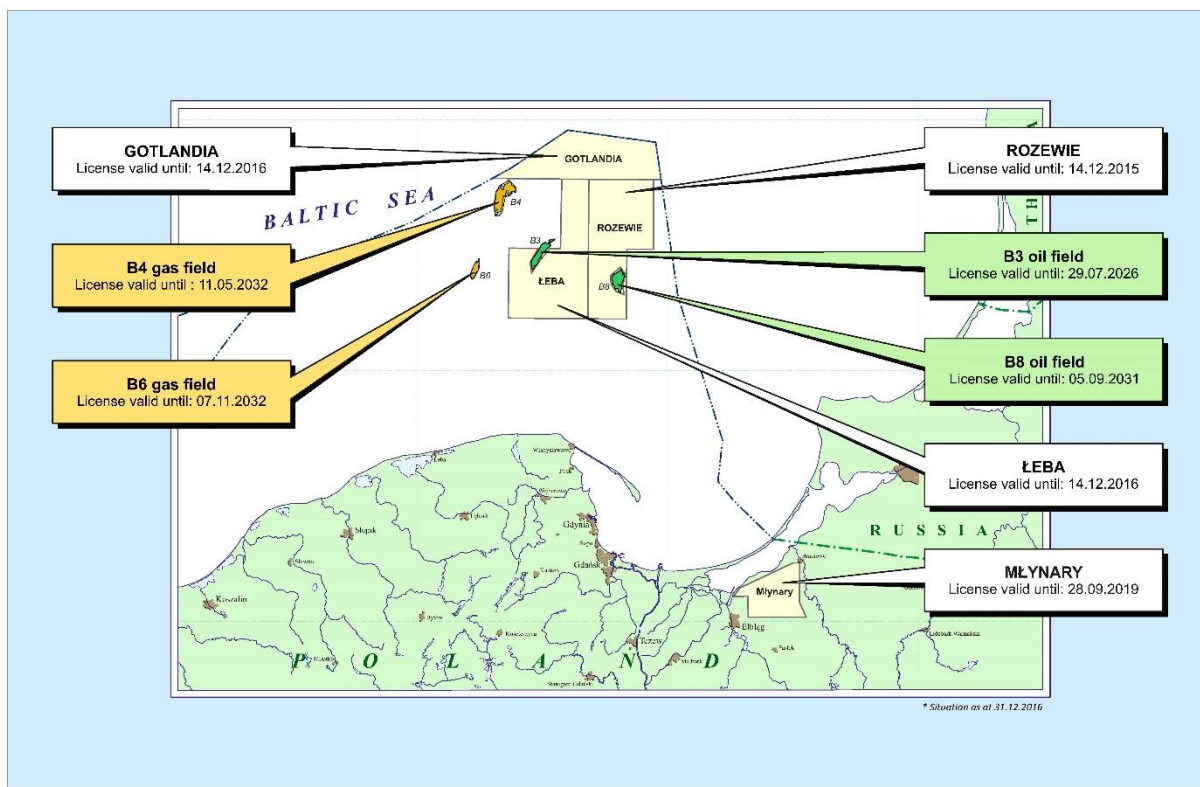
LOTOS Petrobaltic (jointly with its subsidiaries and joint ventures) also holds four production licences relating to the B3, B4, B6 and B8 fields.

¹⁷ Daily production volume in boe/day equals total hydrocarbon production volume in 2016 divided by the number of days in the year.

Onshore operations in Poland

In 2012, LOTOS Petrobaltic launched onshore operations in Poland in partnership with PGNiG. In 2013, the companies signed a joint operating agreement covering the Kamień Pomorski licence area, in the north west of Poland, and in 2014 – a joint operating agreement for the Górowo Iławeckie licence area in the north east of Poland. Exploration and appraisal work is under way in both licence areas.

Figure 24. **LOTOS Group's licences in Poland as at December 31st 2016**



Norwegian Continental Shelf

Given the high hydrocarbon reserves and production volumes, the Norwegian Continental Shelf ('NCS') is a promising area for the upstream industry, represented here by about 60 international companies, including such majors as Statoil, Petoro, Total, Shell, Conoco, Exxon, Eni and BP, which jointly hold over 80% of the NCS's producing reserves. There are also approximately 20 small and mid-sized companies conducting production operation on the Shelf, including OMV, Lundin, BG Group, Wintershall, Det Norske, Noreco, Lukoil, Engie, Centrica, PGNiG, BayernGas, and the LOTOS Group. An important role is played by small, independent exploration companies which are not engaged in hydrocarbon production on the NCS but which actively participate in discovering new recoverable reserves. Given the structure and number of the players present in the region, the market is highly competitive, but thanks to the Norwegian government's licencing-rounds policy and the rule requiring licence holders to form joint ventures, it offers opportunities for gaining access to attractive projects and taking advantage of the experienced partners' knowledge.

LOTOS Exploration & Production Norge AS of Stavanger, Norway, is the LOTOS subsidiary responsible for the development of operations on the Norwegian Continental Shelf. As at December 31st 2016, LOTOS Norge held interests in 20 licences for oil exploration and production on the Norwegian Continental Shelf. In the first quarter of 2017, the company was awarded interests in five additional oil and gas exploration licences during the 2016 licensing round.

The Norwegian Continental Shelf accounts for approximately 76% of the segment's total output. The LOTOS Group's production from the NCS includes natural gas (approximately 75%) and light crude oil (condensate) (approximately 25%).

Cash lifting cost in the region is about USD 11/boe.

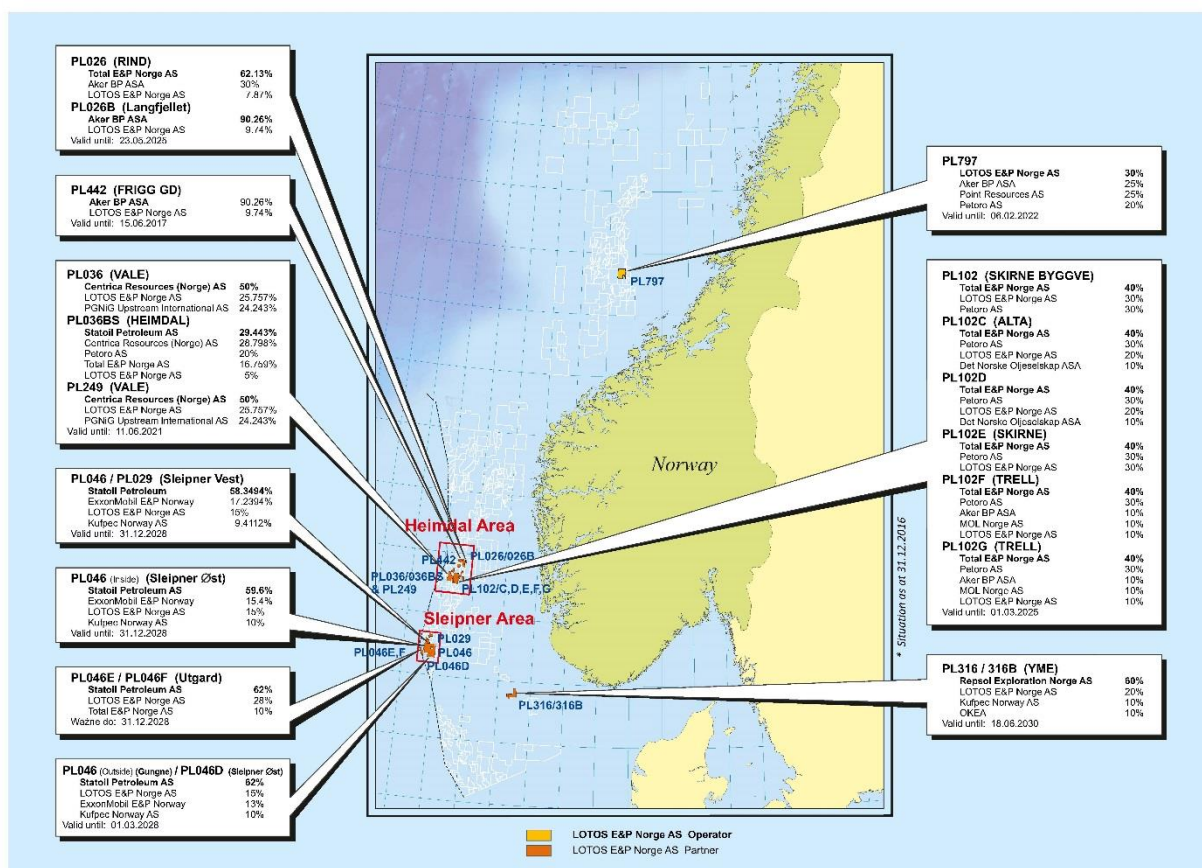
After the award of interests in five new licences in the APA 2016 licensing round, LOTOS Norge, a subsidiary of Grupa LOTOS S.A., holds 25 licences on the Norwegian Continental Shelf, including:

- interests in ten hydrocarbon exploration and appraisal licences on the North Sea and the Norwegian Sea, with LOTOS E&P Norge AS being an operator for one licence
- interests in eight licences at a pre-development and development stage
- interests in seven production licences on the North Sea.

The Heimdal area comprises mature fields with abandonment planned in 2019-2021, except for Vale, which is planned to be abandoned in 2023 (decommissioning of the hub infrastructure is planned around 2035).

The Sleipner area comprises mature fields with abandonment planned in 2024-2025 (decommissioning of the hub infrastructure is planned around 2032).

Figure 25. LOTOS Group's licences in Norway as at December 31st 2016



Onshore operations in Lithuania

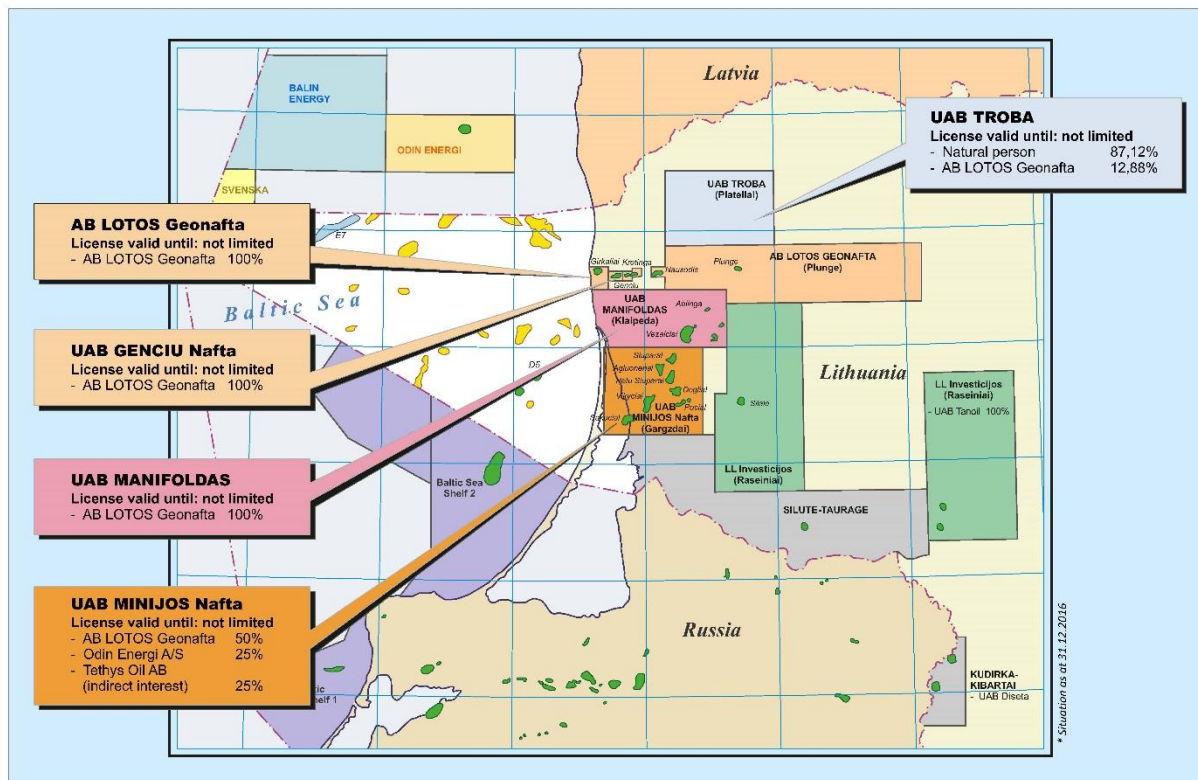
In Lithuania LOTOS Petrobaltic is present through its subsidiary AB LOTOS Geonafta.

The AB LOTOS Geonafta Group comprises:

- UAB Genciu Nafta (wholly-owned by AB LOTOS Geonafta),
- UAB Minijos Nafta (50% owned by AB LOTOS Geonafta),
- UAB Manifoldas (wholly-owned by AB LOTOS Geonafta).

The LOTOS Geonafta Group is engaged in exploration for and production of crude oil, provides drilling services in Lithuania, and trades in crude oil.

Figure 26. **LOTOS Group's licences in Lithuania as at December 31st 2016**



LOTOS Group – opportunities and threats in the upstream segment

External factors

OPPORTUNITIES (+)

- Potential causes of oil price increase in future
- Exit from the E&P business by a number of players offers an opportunity for acquisition of attractive assets.
- Opportunity to acquire new production assets with lower risks and less capital intensive after decline in hydrocarbon asset valuation brought about by the fall of crude oil prices
- Lower project implementation costs / falling prices of drilling services
- Higher availability of drilling rigs due to their lower utilization

THREATS (-)

- Actual rate of increase in oil and gas prices below 2017–2022 assumptions
- Challenging macroeconomic environment at the time of making key investment decisions concerning strategic projects
- Lower availability of funding sources

Internal factors

STRENGTHS (+)

- One of the highest production growth rates in the industry
- Good knowledge of the geographical region of the Baltic Sea shelf and Norwegian Continental Shelf
- Constant building of expertise and operator competences
- Investments in politically safe locations with stable legal and tax regimes, and good access to logistics infrastructure
- Existing competences in drilling and exploration work
- Operator experience and status in Norway
- Partnership with strong and experienced players with international presence

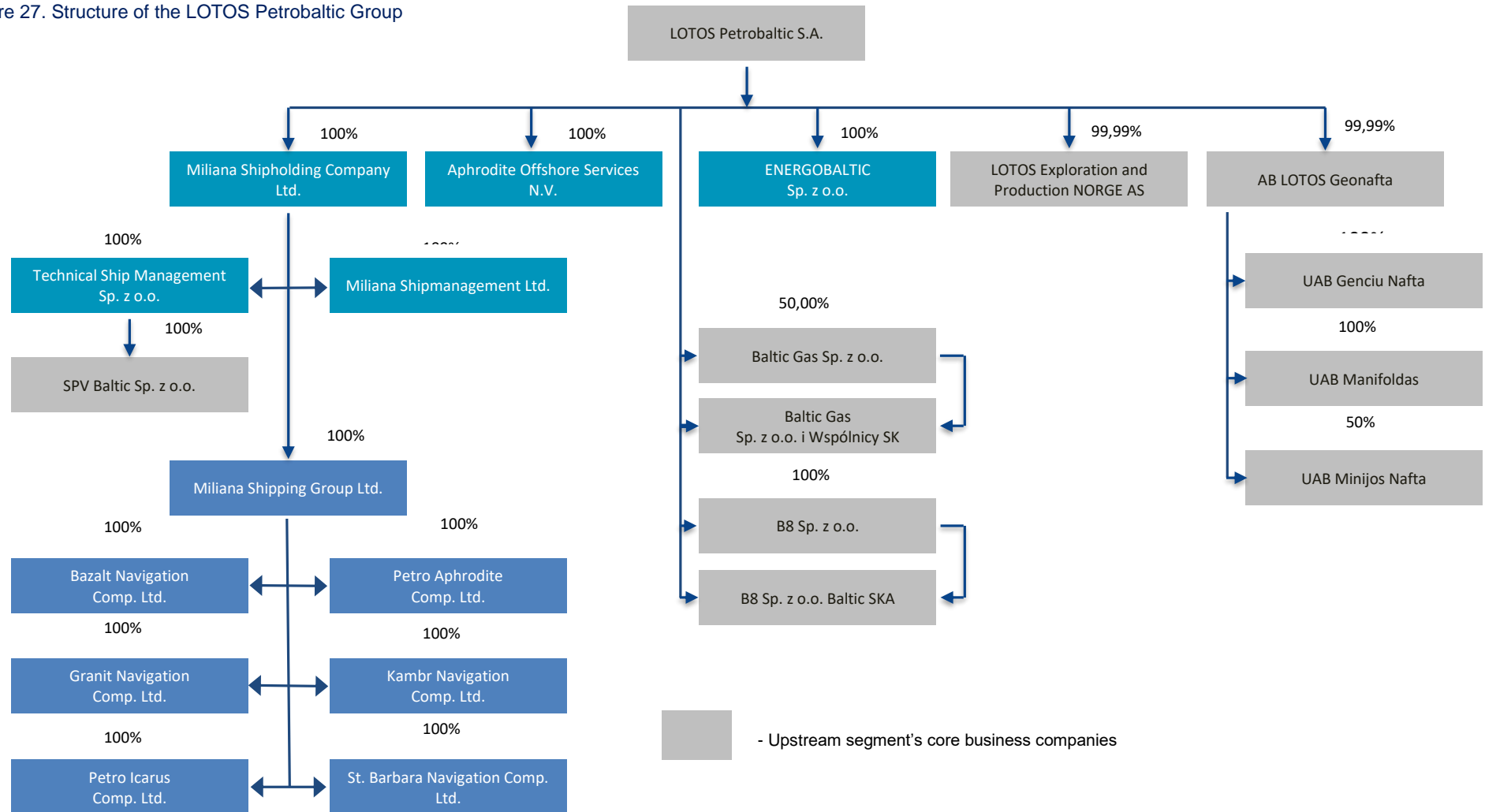
WEAKNESSES (-)

- Sensitivity to changes due to the relatively small scale of business
- Limited prospects for building a long-term resource base in the Baltic Sea
- High share of relatively mature assets in the upstream portfolio
- High debt level, limiting the capacity for exploration projects and acquisitions
- Need to enhance project execution competences

Source: LOTOS Petrobaltic.

4.1.3. Organisation of the upstream segment

Figure 27. Structure of the LOTOS Petrobaltic Group



Operations of Grupa LOTOS S.A. and the LOTOS Group

Downstream segment – crude oil refining



4.2. Downstream segment – crude oil refining

4.2.1. Competition

The Grupa LOTOS refiner, with the annual processing capacity of approximately 10.5m tonnes of crude oil, is one of the most advanced and youngest refineries in Europe. To a large extent, the refinery owes its technological advancement to the Group's 10+ Programme completed in 2011, the largest industrial project of the last decade in Poland in terms of capital expenditure (EUR 1.43bn). The upgrade and extension of the refinery as part of the 10+ Programme resulted in increased yields of high-margin products per barrel of crude processed (including an increase in annual yield of fuels from 4m tonnes to 7.8m tonnes) relative to peers in the region, and enabled Grupa LOTOS S.A. to process more technologically demanding types of crude.

The EFRA project is a continuation of the wider effort to technologically modernise the refinery, and natural completion of the crude oil processing chain created as part of the 10+ Programme.

The very good technological condition of the refinery is further confirmed by its Nelson Complexity Index (crude oil processing complexity ratio). Based on the Company's estimates, it is the highest in Poland and among the highest in Europe. The ratio reflects the intensity of investments in the refinery, potential fixed costs, and the refinery's ability to generate value added. The Nelson Complexity Index for the Gdańsk refinery is 10. A rating of 10 or more is reported only for highly advanced facilities, including the Slovnaft refinery in Bratislava, Slovakia (11.5), and the MOL refinery in Duna, Hungary (10.6). To compare, according to the PKN ORLEN Strategy for 2014–2017 dated July 23rd 2014, the PKN ORLEN refinery has the Nelson Complexity Index of 9.5.

The Gdańsk refinery also features a high distillate rate (due to a large share of fuels in the product mix) and focuses on medium distillates, which enables the Company to successfully adjust its output to the structure of domestic demand and to exports opportunities. The technological configuration of the refinery, combined with its favourable location, enable Grupa LOTOS to flexibly process various types of crude, and thus adjust the production volumes in particular oil groups to effectively respond to changes in the structure of domestic demand and to export opportunities.

The refinery's location is a source of major competitive advantage in the region in terms of logistics (access to feedstock and product sales channels). The location close to the handling terminal provides the LOTOS Group with direct access to international markets, enabling it to export its oil products primarily to Scandinavia, north-western Europe and the Baltic states. It also helps the LOTOS Group to optimise its sales channels and purchases of various types of crude oil.

The refinery also benefits from a unique combination of supply channels, which offers simultaneous access to feedstock supplies by road (from Russia) and via the PERN pipeline network, as well as by sea, from numerous countries and the Group's own fields. With access to two supply channels, the Company is able to use different supply sources and respond flexibly to changes in petroleum product and crude oil prices; it can also effectively diversify the types of crude processed at the refinery without being limited to the Russian REBCO, which also has the effect of increasing its negotiation power vis-à-vis the supplier of Russian oil.

Figure 28. **Gdańsk refinery vs competitors in the region**



Source: In-house analysis; daily production capacity in thousands boe/d.

Key competitors in the region:

- Plock refinery (PKN ORLEN), Poland – processing capacity of approximately 16m tonnes,
- Schwedt refinery (PCK Raffinerie GmbH), Germany – approximately 12m tonnes,
- Leuna refinery (TOTAL Group), Germany – approximately 11m tonnes,
- Schwechat refinery (OMV), Austria – approximately 10m tonnes,
- Mažeikiai refinery (PKN ORLEN), Lithuania – approximately 10m tonnes,
- Bratislava refinery (Slovnaft, MOL Group), Slovakia – approximately 6m tonnes,
- UniPetrol refineries in Kralupy, Litvinov and Pardubice (PKN ORLEN), the Czech Republic – approximately 4m tonnes.

The level of **model refining margin** confirms the high efficiency of the Gdańsk refinery’s technological setup.

The model margin is calculated for a yield structure estimated in the averaged scenario (excluding annual seasonality) for the refining operations in a typical year. Annual throughput has been assumed to correspond to the capacity utilisation of 95% if Urals crude was the only feedstock – its value is determined as the sum of Brent Dated price and the Brent/Urals spread.

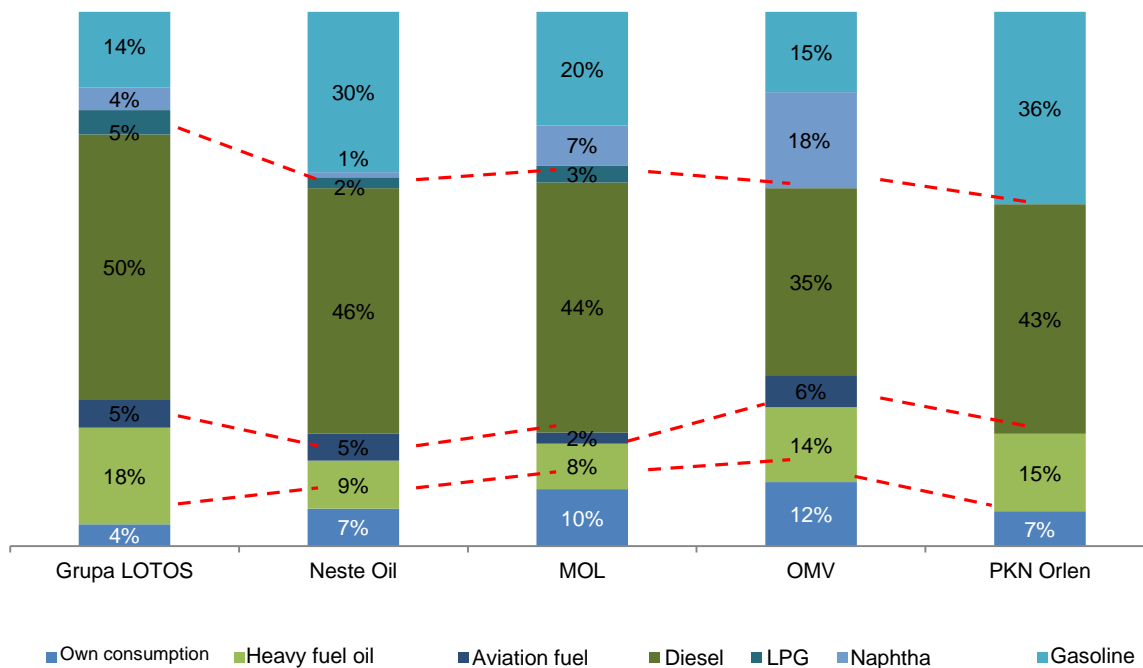
Further information on the model refining margin is available at:

http://inwestor.lotos.pl/1439/strefa_inwestora/modelowa_marza_rafineryjna

The method takes into account the efficiency improvement achieved thanks to the +10 Programme and the Gdańsk refinery’s switch to natural gas as the fuel source, which have led to:

- improved product mix,
- lower consumption of crude oil for own needs thanks to the enhanced energy efficiency profile, achieved through modernisation (maintenance shutdown).

Figure 29. **Yield structures of the refineries operated by local competitors of Grupa LOTOS S.A.**



Source: In-house analysis based on company data.

Crude processing and product slate

As in previous years, Russian REBCO was the main type of crude oil processed by the LOTOS Group. Its share in the total volume was close to 75%, which was significantly lower than in previous years. The shrinking share of REBCO crude is an effect of favourable conditions on the oil market.

Crude oil from other sources, including approximately 220 thousand tonnes of crude supplied by the LOTOS Petrobaltic Group, accounted for the balance of the crude feed. The mix of crudes resulted from the production optimisation process whose objective was to take advantage of opportunities for increasing the refinery's processing margin.

In 2016, the refinery processed 10.4 million tonnes of crude, the highest throughput in Grupa LOTOS S.A.'s history. The structure of the refining output was driven by market prices and demand for individual products.

4.2.2. Key products, merchandise and services

The key groups of products obtained from crude oil processing at the refinery are:

- fuels (unleaded gasoline, diesel oil and light fuel oil),
- heavy fuel oil,
- bitumens,
- aviation fuel,
- naphtha,
- propane-butane (LPG),
- base oils.

Fuels

Unleaded gasoline is used in spark-ignition engines. The Group's unleaded gasolines include premium gasoline – LOTOS DYNAMIC 98, containing antioxidants and washing additives which ensure better cleaning of the engine, lengthen its useful life, and economise fuel consumption. The fuel is marketed solely through LOTOS service stations.

Diesel oil is used in compression-ignition engines. This group of products includes premium diesel oil – LOTOS DYNAMIC DIESEL which, owing to the use of friction-reducing components, offers more power efficiency and guarantees engine start at temperatures as low as -32°C. The fuel is marketed solely through LOTOS service stations. Diesel oil has the largest share in sales on the Polish fuel wholesale market.

Light fuel oil is designed for use in heating equipment. With a low sulfur content and unique additives, the product has oxidation resistance and anti-corrosive properties, helps maintain clean nozzles, and reduces noxious combustion emissions.

Heavy fuel oil

Heavy fuel oil has three principal applications: as fuel for power generation, as bunker fuel, and as feedstock for further processing, including in coking units.

Bitumens

The key product in this group is road bitumen used in construction and maintenance of roads, airports, etc. Apart from the road construction industry, bitumens are also used in the manufacturing of construction materials with waterproofing properties (bitumen roofing papers, bitumen roof shingles, adhesives), with industrial bitumens being the most popular component.

Aviation fuel

Aviation fuel is designed for use in jet engines.

Naphtha

Naphtha is used as a raw material in the petrochemical industry and in production of motor gasolines. The entire output of naphtha is exported.

Propane-butane LPG

Propane-butane LPG may be used as a fuel for engines equipped with LPG systems, as a fuel for heating equipment (also marketed in gas tanks and bottles), and as a feedstock in petrochemical processes.

Base oils

The key products include Group I base oils, which are used as feedstock for production of lubricant oils, including motor and industrial oils.

The Group's primary motor oil product lines include:

- LOTOS Quazar – premium synthetic oils for passenger cars
- LOTOS Thermal Control – mineral, semi-synthetic and synthetic oils for passenger cars,
- LOTOS Turdus – mineral, semi-synthetic and synthetic oils for HGVs.

The lines of industrial oils are Hydromil, Transmil, and Remiz, which make up a full category of hydraulic, turbine and machine oils, as well as industrial lubricants.

Other major product lines

- **TDAE and RAE** class plasticizers marketed under the **QUANTILUS T50 and QUANTILUS T60** brands, used by European and Asian tire and rubber manufacturers. These products meet the requirements of the EU REACH directive and have been approved by global tire manufacturers.
- **MODBIT modified bitumens** – state-of-the-art bitumens enhancing pavement resistance to rutting, and improving durability and resistance to extreme weather conditions.
- **Xylene fraction** is a product launched in 2012, obtained through reformat splitting. It is used as feedstock in plastics production. Xylene separation will further diversify the LOTOS Group's product portfolio and reduce the share of aromatic hydrocarbons in the range of gasoline components produced by the Gdańsk refinery. This will contribute to greater technological flexibility of the refinery, while allowing it to sell some of the components on the fuel or petrochemical markets.

4.2.3. Summary of key threats and opportunities

The situation in the downstream segment will be influenced by macroeconomic factors (including continued economic slowdown in China; further strengthening of the US dollar; economic growth rate in the eurozone, etc.) and geopolitical developments (fighting ISIS, Iraq-Iran tensions, etc.).

Key threats also include the rising competition from Middle East refineries. It is expected that their key market in Europe will be the Mediterranean region, but this will nevertheless have an impact on the fuel supply-demand balance on the continent. Another possible threat is crack spreads (particularly on middle distillates like light fuel oil and diesel oil) falling and staying low.

Opportunities include strong retail demand for fuels. Rising consumption of gasoline by retail customers is likely to be supported by low retail prices (resulting from the low feedstock prices). The shutting down of small and obsolete refineries by European oil companies in an effort to optimise their assets also presents an opportunity for the downstream segment.

Operations of Grupa LOTOS S.A. and the LOTOS Group

Downstream – wholesale and retail sale



4.3. Downstream – wholesale and retail sale

4.3.1 Competition

The Polish fuel market is supplied from two sources: domestic producers (PKN ORLEN S.A. and Grupa LOTOS S.A.) and importers (members of the Polish Organisation of Oil Industry and Trade (POPiHN), and independent operators). In 2016, fuel production stayed flat year on year, with a 71% rise in total imports (86% increase in imports by POPiHN members and 62% by other market participants).

After three years of decline in registered fuel consumption, caused by a rampant grey market, 2016 was the second year when the consumption grew. In 2016, the official consumption of fuels grew by 13.6% (2.83 mcm), to 23.6 mcm, with the domestic output at 20.1 mcm and imports at 5.2 mcm.

The year was different from previous years due to the enactment of the first set of fuel market legislative acts on August 1st, which aimed to curb the grey market. The new legislation amends, among other things, the VAT collection system, with importers required to pay VAT on fuels purchased in another EU country within five days of consignment into a tax warehouse. The new legislation also amends the rules for granting licences for cross-border trading in liquid fuels – only firms registered in Poland (being VAT payers in the country) are now be able to apply for a cross-border liquid fuel trading licence.

Being the last month prior to the enactment of the new fuel market legislation, July saw a major inflow of diesel fuel imports into the grey market.

Then the market situation changed in August, with legitimate fuel consumption rising 25.8% in the first month following the enactment of the new fuel market legislation, including a 30.2% increase in registered consumption of diesel fuels. The uptrend continued until the end of the year, with overall fuel consumption up 13.6% and diesel oil consumption up 15.5% in 2016. The enactment of the fuel market legislation significantly curtailed illegal diesel fuel imports to Poland and led to a significant increase in demand for the fuel from legal sources.

Figure 30. Fuel consumption, including diesel oil, in 2015 and 2016

Fuel consumption in Poland (mcm) 2016/2015			
	Jan–Jul	Aug–Dec	Jan–Dec
2015	11,765,789	9,005,670	20,771,459
2016	12,737,181	10,868,735	23,605,916
Deviation	971,392	1,863,065	2,834,457
Deviation (%)	8%	21%	14%

Source: POPiHN.

Diesel oil consumption in Poland (mcm) 2016/2015

	Jan–Jul	Aug–Dec	Jan–Dec
2015	8,389,851	6,410,032	14,799,883
2016	9,057,075	8,033,740	17,090,815
Change	667,224	1,623,708	2,290,932
Change %	8%	25%	15%

Source: POPiHN.

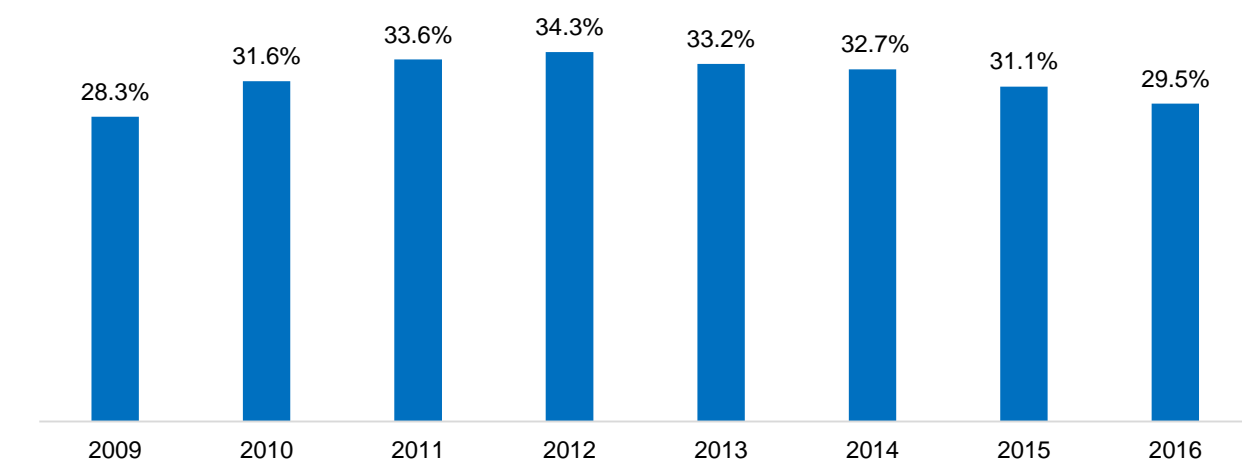
4.3.2 Main products

The LOTOS Group's marketing activities in 2016 were carried out by Grupa LOTOS and its subsidiaries: LOTOS Paliwa, LOTOS Oil, LOTOS Asphalt, and LOTOS-Air BP Polska. Grupa LOTOS marketed its products in Poland (sales to foreign companies operating in the country) and on foreign markets (exports by sea and by land), while its subsidiaries targeted their sales at individual sectors, i.e. fuels, lubricants, and bitumens.

The LOTOS Group offers fuels on the domestic retail market exclusively through LOTOS Paliwa. On the wholesale market, the LOTOS Group operates both through Grupa LOTOS (sales of fuels to international corporations and key customers, e.g. under contracts with the Material Reserves Agency and the Military Property Agency) and LOTOS Paliwa (transactions with wholesale customers and independent operators).

In 2016, the LOTOS Group's share in the domestic fuel market was 29.5%.

Figure 31. **LOTOS Group's share in the domestic fuel market**



Source: In-house analysis based on Polish Organization of Oil Industry and Trade (POPiHN) data.

The part of the LOTOS Group's output which is not distributed via its own retail chain is sold both on the domestic wholesale market and on foreign markets.

Figure 32. Downstream distribution channels

Retail	Wholesale	Exports
<ul style="list-style-type: none"> • LOTOS service station network 	<ul style="list-style-type: none"> • international oil companies* • B2B customers** • national institutions*** 	<ul style="list-style-type: none"> • trading companies

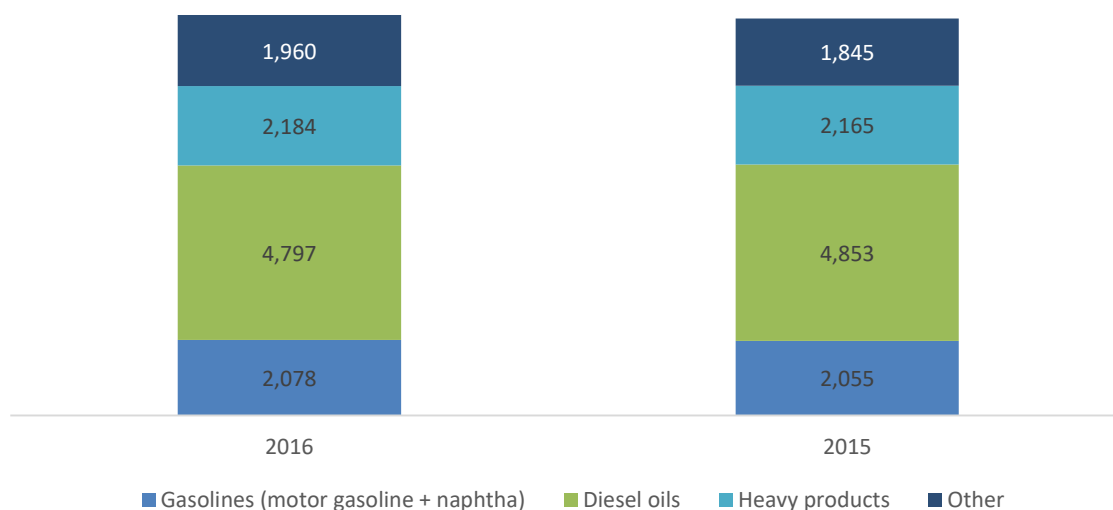
* international oil companies present on the Polish market, including Statoil, Shell, BP, and Lukoil,

** independent operators with own service stations and presence on local wholesale markets,

*** as part of nationwide tenders.

The volume of products sold by the LOTOS Group in the downstream segment in 2016 was 11,061 thousand tonnes, 1.3% up year on year. A detailed breakdown of sales by product category is presented in Table 13. Sales of oil and natural gas are presented separately (as part of the upstream segment's output).

Figure 33. LOTOS Group's downstream sales by key product categories (thousand toe)



Detailed product categories are presented in the table below. Sales of oil and natural gas are presented separately (as part of the upstream segment's output).

Table 12. LOTOS Group's sales by product categories (thousand tonnes)

	2016		2015		change 2016/2015
	thousand tonnes	% share	thousand tonnes	% share	%
Gasolines	1,557	14.1%	1,547	14.2%	0.6%
Naphtha	521	4.7%	508	4.6%	2.6%
Reformate	45	0.4%	13	0.1%	246.4%
Diesel oils	4,797	43.5%	4,853	44.5%	-1.2%

Bunker fuel	65	0.6%	66	0.6%	-0.3%
Light fuel oil	268	2.4%	251	2.3%	6.7%
Heavy products*	2,118	19.2%	2,099	19.2%	0.9%
JET A-1 fuel	656	6.0%	556	5.1%	18.0%
Lubricants	60	0.5%	60	0.6%	0.1%
Base oils	214	1.9%	202	1.8%	6.3%
LPG	247	2.2%	238	2.2%	4.0%
Crude oil (commodity)	195	1.8%	243	2.2%	-19.8%
Other	276	2.5%	283	2.6%	-2.4%
Downstream segment's total petroleum products, merchandise and materials	11,018	100.0%	10,917	100.0%	0.9%
Natural gas (toe)	675	6.2%	223	2.0%	202.9%
Crude oil (upstream)	151	1.4%	82	0.8%	84.3%
KGN**	43	0.4%	8	0.1%	

Source: In-house analysis; * Heavy fuel oil and bitumens; ** Gas condensate.

Like in the previous years, diesel oil had the largest share in the total sales volume. In 2016, The LOTOS Group sold 4,797 thousand tonnes of diesel oil, which accounted for 43.4% of total sales. The second largest item in the sales structure were gasolines, whose share in the total sales volume was 14.1%. The volume of gasolines sold in 2016 was 1,557 thousand tonnes, having grown by 0.6% year on year. The last item with a more than 10% share in the LOTOS Group's total sales volume was heavy fuel oil, with the share of 13.6%. The Group sold 1,477 thousand tonnes of the product in 2016, 2.7% up on 2015.

In 2016, the LOTOS Group's downstream segment sold 7,026 thousand tonnes of products in Poland (2015: 6,446 thousand tonnes; 2014: 6,282 thousand tonnes) and exported 3,993 thousand tonnes (2015: 4,471 thousand tonnes; 2014: 3,824 thousand tonnes).

Detailed breakdown of domestic and export sales by product categories is presented in Table 13. Sales of oil and natural gas are presented separately (as part of the upstream segment's output).

Table 13. **LOTOS Group's sales by product categories (thousand tonnes)**

		2016		2015		change
		thousand tonnes	% share	thousand tonnes	% share	2016/2015
						%
Domestic sales	Gasolines	1,142	10.4%	1,004	9.2%	14%
	Diesel oils	4,319	39.2%	3,951	36.2%	9%
	Bunker fuel	65	0.6%	66	0.6%	-1%

	Light fuel oil	268	2.4%	251	2.3%	7%
	Heavy fuel oil	430	3.9%	385	3.5%	12%
	JET A-1 fuel	145	1.3%	94	0.9%	54%
	Lubricants	38	0.3%	43	0.4%	-11%
	Base oils	6	0.1%	5	0.0%	30%
	LPG	221	2.0%	219	2.0%	1%
	Crude oil	195	1.8%	243	2.2%	-20%
	Other	196	1.8%	186	1.7%	5%
Total domestic sales		7,026	64%	6,447	59.1%	9%
Export sales	Gasolines	415	3.8%	542	5.0%	-23%
	Naphtha	521	4.7%	508	4.7%	3%
	Reformate	45	0.4%	13	0.1%	244%
	Diesel oils	477	4.3%	902	8.3%	-47%
	Heavy fuel oil	1,688	15.3%	1,714	15.7%	-2%
	JET A-1 fuel	511	4.6%	462	4.2%	11%
	Lubricants	22	0.2%	18	0.2%	21%
	Base oils	208	1.9%	196	1.8%	6%
	LPG	26	0.2%	19	0.2%	39%
	Other	80	0.7%	97	0.9%	-18%
Total export sales		3,993	36%	4,471	41.0%	-11%
Total		11,018	100.0%	10,917	100.0%	1%
Export sales (toe)	Natural gas (toe)	675	-	223	-	203%
Export sales (tonnes)	Crude oil (upstream)	151	-	82	-	84%
Export sales (tonnes)	KGN	43	-	8	-	466%

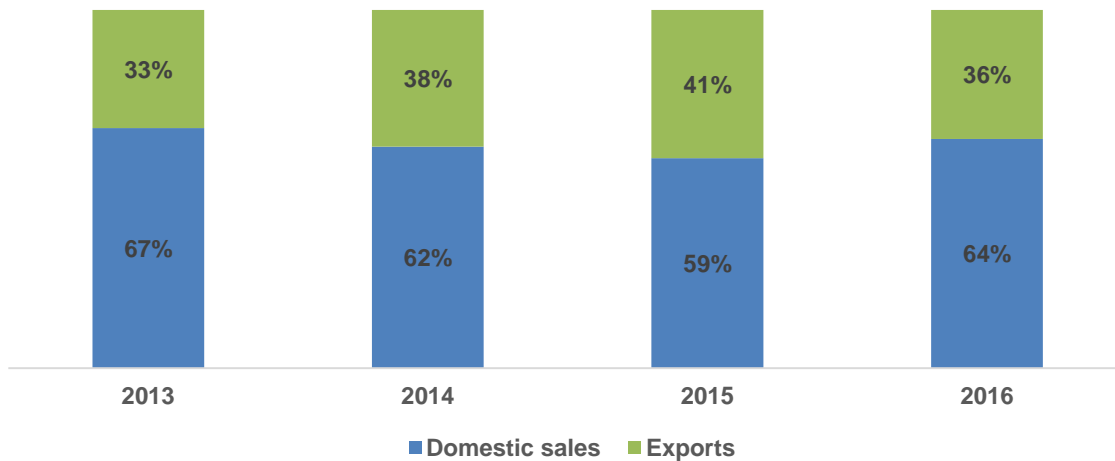
Source: In-house analysis.

The increase in domestic sales was driven mainly by improved sales of diesel oil and gasolines – the key oil petroleum products marketed through the wholesale and retail channels which are more profitable than exports. The increase in sales of aviation fuel followed from higher sales in the into-plane and wholesale channels, with the contract for supply of specialist F-34 fuel for the military being an additional source of growth.

The volumes of lubricant sales decreased (by 5 thousand tonnes) as a result of a shift from low-processed oils towards lubricants offering significantly higher margins. On the domestic market crude oil is sold to the Material Reserves Agency and the lower volume of the sales resulted from a lower demand from the Agency.

Exports remained broadly flat on 2015. Changes in the structure of exports follow from optimisation decisions, made on an ongoing basis, to sell products offering highest margins at a given time.

Figure 34. Downstream segment's domestic sales and exports in 2013–2016 (by volume)



Source: In-house analysis.

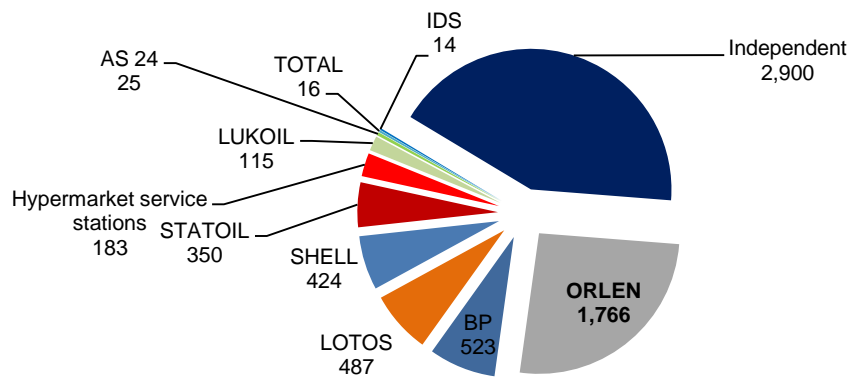
4.3.1. Overview of the retail business in Poland

According to the POPiHN, there were over 6.8 thousand service stations on the Polish fuel market in 2016. As in previous years, more than one third of the stations belonged to Polish companies, 21.6% were owned by international corporations, while 42.6% were owned by independent operators. The chains owned by oil companies were developed by opening both company-owned dealer-operated (CODO) and dealer-owned franchised (DOFO) stations. In 2016, the LOTOS Group added 11 sites to its retail network, retaining the position of the third-largest service station chain in Poland.

In the same period, the number of PKN ORLEN's service stations operating under the Bliska economy brand decreased by 51 locations, some of which were rebranded as ORLEN stations. The number of sites owned by independent operators grew by around 150 new sites, with most of the increase attributable to service stations operating under the brand of a single operator. Most of the foreign oil companies present in Poland and supermarket chains also reported higher numbers of their service and fuel stations.

At the end of 2016, there were 81 Motorway Service Areas (MSAs) in Poland, including 20 operated under the LOTOS brand.

Figure 35. **Service stations in Poland at the end of 2016**



Source: POPiHN.

Source: Polish Organisation of Oil Industry and Trade (POPiHN).

4.3.2. LOTOS service station network and its competitive position

Grupa LOTOS sells fuels to retail customers through a chain of service stations organised into Economy (LOTOS Optima) and Premium (LOTOS) segments.

Dynamic expansion of the LOTOS service station network and improved sales efficiency contributed to an increase in the Group's share in aggregate retail sales recorded by POPIHN, from 10.3% in 2015 to 11.0% in 2016.

In 2016, the Premium service station network was further standardised, and new locations were added – both CODO stations and DOFO stations, the latter under new franchise agreements.

The Company opened 11 new stations in 2016, including 10 CODO stations and 1 DOFO station. The network expansion was based on a plan focusing on key locations which offer the highest potential of winning and retaining fleet customers. The need to eliminate gaps identified in the geographic coverage of the LOTOS service station network was also a priority.

To enhance the Company's position in the strategic MSA segment (service stations in Motorway Service Areas), two MSA stations at the A1 motorway section between Łódź and Gdańsk were opened in Krzyżanów (East/West).

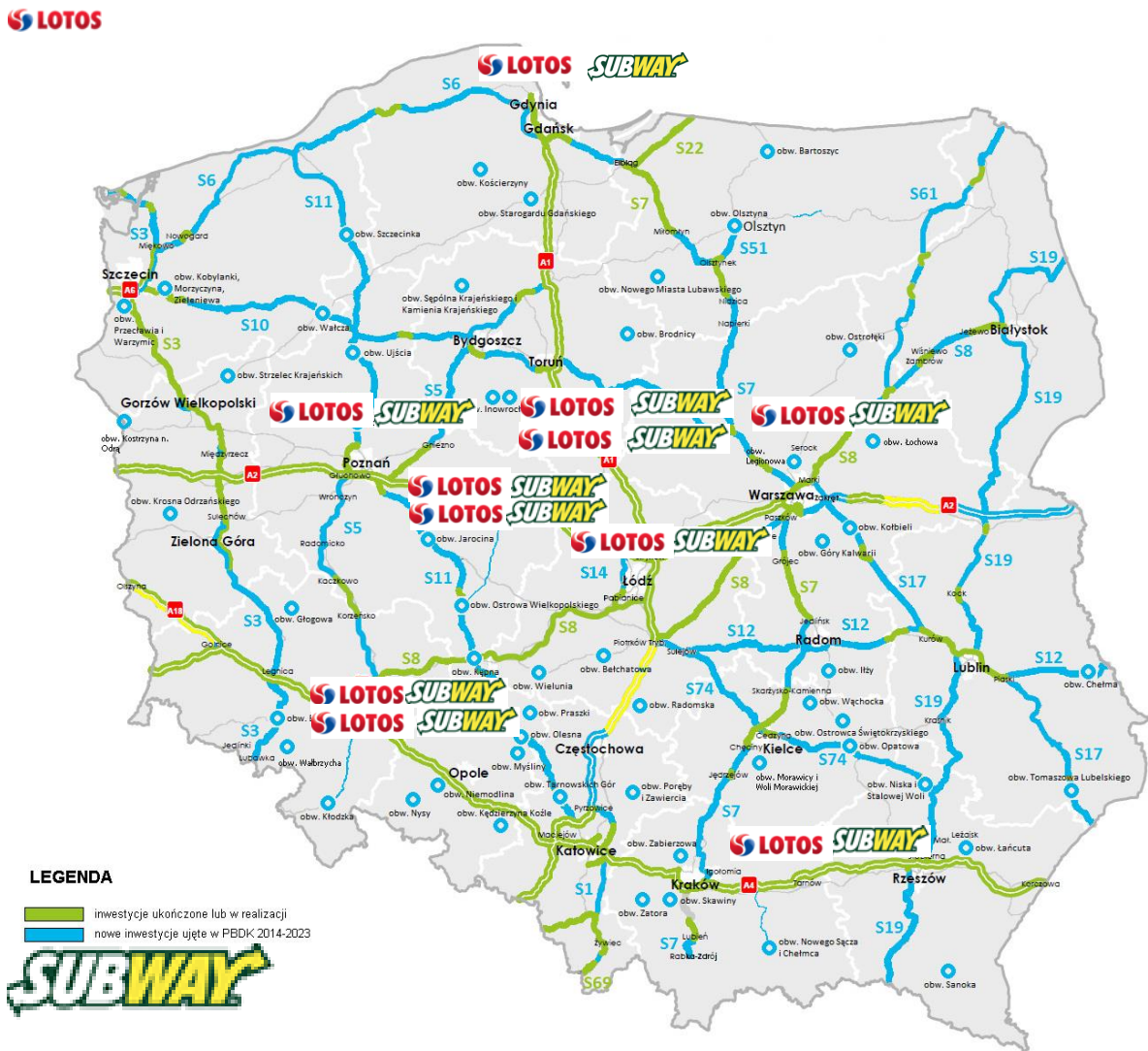
The Company participated in contract award procedures organised by the General Directorate for National Roads and Motorways (GDDKiA) and/or licence holders to select licencees for MSAs built at new sections of motorways and expressways.

As part of the optimisation efforts, a number of unattractive locations were closed, which improved the overall operational efficiency of the LOTOS network.

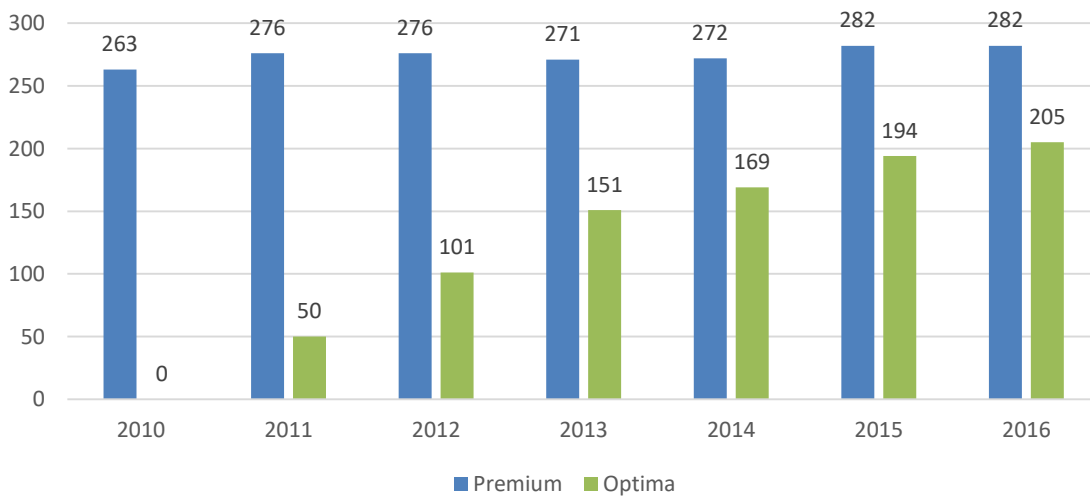
In 2016, the Company focused on optimising its chain and improving the efficiency of retail sales by rolling out a consistent station format across the network and by intensifying efforts to achieve growth in fuel and non-fuel sales. The key objective was to introduce a uniform visual standard at all LOTOS service stations so as to guarantee brand recognition and growth of a loyal retail customer base, and to foster the image of a modern service station network. The Company focused on building competitive advantage to make its offer stand out on the Polish fuel market.

One of the key image-building efforts in 2016 was the continuation and development of cooperation with an external partner as part of a corporate franchise arrangement. Last year, Subway restaurants were opened at ten service stations. As at December 31st 2016, a total of 11 Subway restaurants operated at LOTOS service stations.

Figure 37. Subway restaurants at LOTOS service stations



As at December 31st 2016, 487 stations operated under the LOTOS and LOTOS Optima brands.



Source: In-house analysis.

2016 saw new initiatives and continuation of earlier projects aimed at developing and improving the offering of the LOTOS service stations. The most important of them include:

- continued work on standardisation of the network,
- continued cooperation with an external partner – SUBWAY corporate franchise: extension of the food and beverage offering,
- intensive development of self-service car wash stations,
- launch, on a trial basis, of a trailer rental service in partnership with Brenderup,
- launch, on a trial basis, of a car rental service in partnership with 99Rent.

Successful optimisation efforts improved the financial performance of the LOTOS retail network. **Operating profit before depreciation and amortisation excluding non-cash impairment losses (adjusted EBITDA) was PLN 155.8m in 2016.**

Figure 38. Retail segment's adjusted EBITDA in 2011–2016 (PLNm), including System Diesel Service (SDS)

LOTOS PREMIUM



282 stations

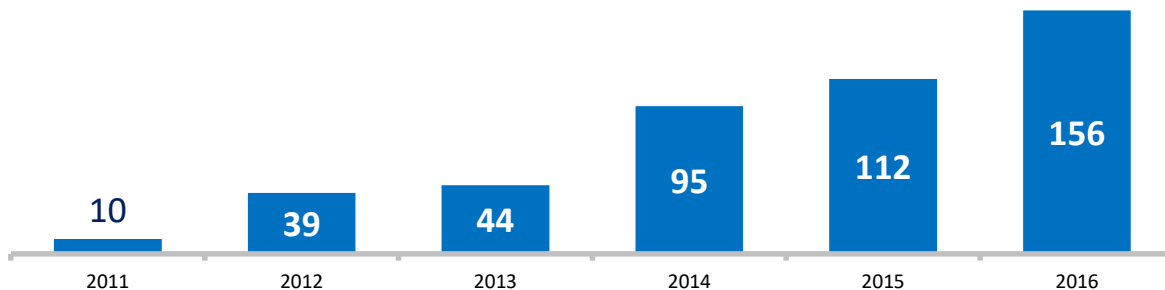
- **159 CODO** stations
- **20 MSA** stations
- **103 DOFO** stations

LOTOS Optima



205 stations

- **121 CODO** stations
- **84 DOFO** stations



Source: In-house analysis.

4.4. Logistics

4.4.1. Upstream segment's logistics

The Baltic Sea

Crude oil and associated natural gas are produced from the B3 field using the Baltic Beta rig and the PG-1 unmanned drilling rig. All produced crude oil is transported by tankers and sold to Grupa LOTOS. Natural gas is transported via a subsea 80 km pipeline to the CHP plant in Władysławowo, owned by Energobaltic Sp. z o.o. (wholly-owned subsidiary of LOTOS Petrobaltic).

Initial production of crude oil from the B8 field is conducted by the LOTOS Petrobaltic drilling platform. All produced crude oil is transported by tankers and sold to Grupa LOTOS. Ultimately, the crude oil will be produced using the Petrobaltic drilling platform after it is converted into a production hub. Natural gas is to be transported to the Energobaltic CHP plant in Władysławowo.

Sea logistics services in the Baltic Sea region are provided by the Miliana Shipholding Group. The services consist in the receipt and storage of crude oil at production sites, transport of crude from the field onshore, and rescue assistance services for offshore rigs.

Lithuania

Crude oil from the Lithuanian fields is produced using onshore production infrastructure. Produced crude oil is transported to a marine terminal in Liepāja (Latvia). The oil is then transported to Gdańsk by a tanker ship and sold to Grupa LOTOS. The only exception is the oil produced by UAB Minijos Nafta (a 50% subsidiary of LOTOS Geonafta), which is sold to the ORLEN Lietuva refinery. All associated natural gas is flared.

Norway

Through its subsidiary LOTOS E&P NORGE AS, LOTOS Petrobaltic holds interests in licences covering the production infrastructure in the Heimdal and Sleipner fields, including: the Heimdal gas and condensate processing and export hub (5% interest, with Statoil Petroleum AS as the operator) and the Sleipner gas and condensate processing and export hub (15% interest, with Statoil Petroleum AS as the operator).

Gas produced from the Heimdal and the Sleipner fields is injected into the Gassled pipeline system, and then delivered to various off-take points in the UK and continental Europe (the Netherlands, Germany).

Condensate from the Heimdal field is injected into the Forties Pipeline System (FPS), and then delivered to an off-take point at the Kinneil Terminal/Hound Point in Scotland, where it is processed into final products, i.e. Forties Blend crude oil and gas fractions.

Condensate from the Sleipner field is transported via a pipeline to an off-take point in Karsto (Norway), where it is processed into final products, i.e. Gudrun Blend light crude and liquid fractions (NGL).

4.4.2. Downstream segment's logistics

Grupa LOTOS S.A. and its related companies consistently adapt their logistics systems to the requirements of its trading operations and build an efficient distribution system that meets the requirements of their customers, but also helps reduce costs. The purpose of those measures is to build an optimum logistics chain that would function efficiently in the constantly changing external and internal environments.

In 2016, the Group launched cooperation with Amerigas, the new operator of the fuel depot in Przytoczna; the arrangement covers LNG distribution in the provinces of Poznań and Zielona Góra. In secondary logistics of fuels, the previously adopted model of cooperation with transport companies was maintained, allowing Grupa LOTOS S.A. appropriate flexibility in customer service (e.g. in fuel supplies to hypermarket service stations) with fixed costs curbed to the minimum.

In 2016, the Group continued using a business intelligence tool for end-to-end analysis of fuel volume discrepancies arising in the process of fuel supply to service stations. The solution significantly enhanced the integrity of the fuel loss control system in the Group's logistics chain.

The structure of emergency stocks was optimised to ensure that the cost of their holding was minimised. Grupa LOTOS also derived additional revenue from the provision of logistics services to third-party customers; the services included fuel turnover and ticketing (the latter consists in holding, on behalf of customers, of obligated emergency stocks of fuels at Grupa LOTOS's own processing infrastructure).

The scope of the project to construct a marine cargo terminal on the Martwa Wisła river, in the immediate vicinity of the Gdańsk refinery, was reviewed on a regular basis to accommodate planned volumes and structure of Grupa LOTOS's expected output after completion of the EFRA Programme. Concurrently, the logistics services market was being monitored to identify any alternative solutions in low-tonnage sea cargo handling.

Sea transport

Freight transport by sea is a vital element of the LOTOS Group logistics chain. The Company enjoys considerable cost advantages because of its direct access to product pipelines linking the Gdańsk refinery to the liquid fuel handling facilities at Port Północny. Maritime transport is Grupa LOTOS's main mode of exporting oil products and also accounts for a significant portion of feedstock deliveries and components used in production processes. Over 7.5m tonnes of crude oil, petroleum products, and fuel components were loaded and unloaded for or by Grupa LOTOS at sea ports in 2016; during the year, the Group received or dispatched 335 tankers.

The liquid fuel handling terminal owned by Naftoport can receive tankers with a maximum draught of 15 metres and the capacity of up to 150,000 tonnes of crude oil or petroleum products. This allows Grupa LOTOS to export surplus output and sell it mainly on the markets of Scandinavia, Northern and Western Europe and the Baltic states. Apart from the Naftoport fuel depot, Grupa LOTOS also uses the maritime bulk terminal in Gdynia and the Siarkopol terminal in Gdańsk to handle smaller cargoes.

The proximity of the LOTOS refinery to the oil handling terminal allows Grupa LOTOS to diversify sources of crude supply and facilitates receipt of oil shipments from the Company's fields in the Baltic Sea and Lithuania and, in the future, from the fields in the North Sea. In 2016, approximately 4.4m tonnes of crude oil were delivered to Grupa LOTOS by sea.

The Company seeks to assume the responsibility for transport in sea freight operations to control the transport process along as much of the supply chain as possible, from affreightment to the formal handling of sea transport. This ensures greater control and helps streamline the planning of cargo handling at sea ports, thus allowing the Company to reduce the number of ship detentions and optimise demurrage costs.

Rail transport

Rail transport of products from the Gdańsk refinery is a mainstay of the Group's production security. Comprehensive rail logistics services are provided to the entire Group by LOTOS Kolej, a rail operator.

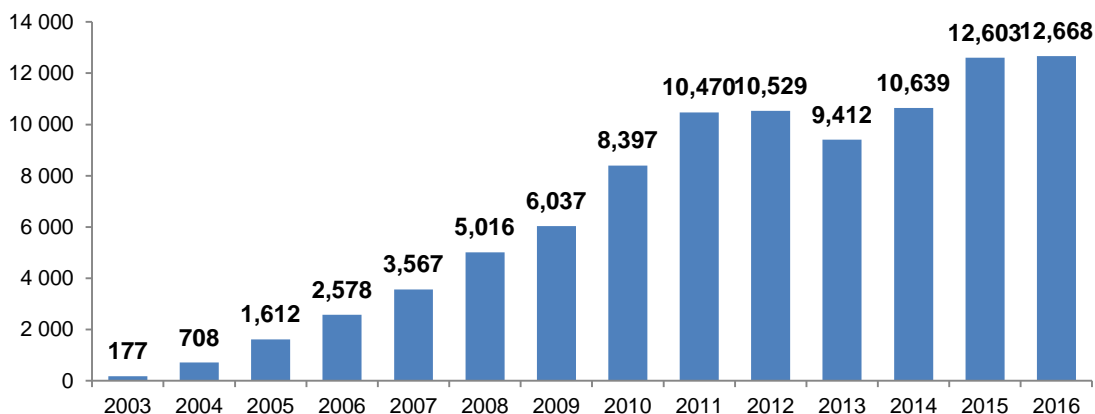
In 2016, LOTOS Kolej provided the following railway services:

- rail freight transport in Poland,
- freight transport services in Germany,
- trainload and non-trainload services,
- maintenance of rolling stock,
- eco-friendly cleaning of rail tank cars,
- international rail freight and forwarding services,
- management of railway sidings for the LOTOS Group and maintenance of railway infrastructure.

In 2016, LOTOS Kolej transported 12.7m tonnes of cargo. The company continues to develop its business relations with customers from outside the LOTOS Group in the area of both domestic and international transport, focusing on the most profitable services.

LOTOS Kolej, a modern and dynamically growing company, has been providing freight transport services in Germany for over a year now. In 2016, using the services of German train drivers, the company transported 881 thousand tonnes of products and intends to increase this volume to 1.1m tonnes in 2017 and 2m tonnes in 2019. By expanding operations in Germany, LOTOS Kolej has broadened its offering and provided fast and reliable transport services between Poland and Western Europe to its customers.

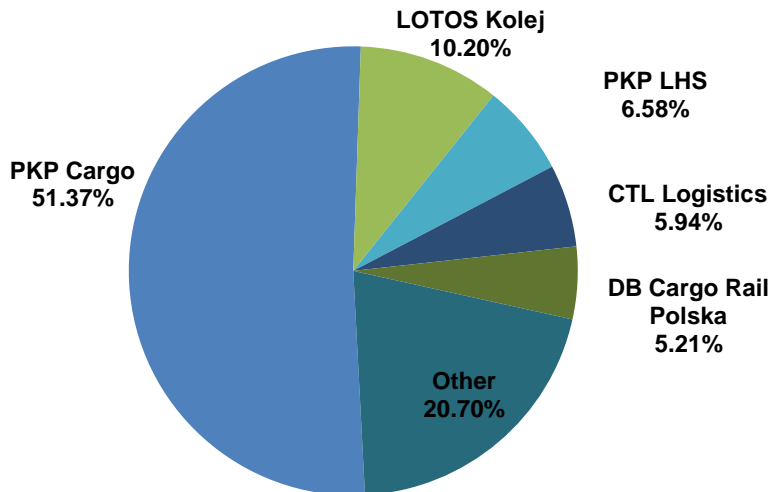
Figure 38. LOTOS Kolej rail transport operations in 2003–2016 ('000 tonnes)



Source: In-house analysis of the LOTOS Group.

LOTOS Kolej increased its share in the Polish rail freight market from 9.91% to 10.20% (in terms of tonne-kilometres, based on the Office of Rail Transport data for 2016) and retained the second position among rail cargo carriers. The company has been the market leader in transport of dangerous goods for many years. In 2016, the company reported a 24% increase in dangerous goods' volume moved (from 5.59m tonnes to 6.94m tonnes) and a 27% increase in tonne-kilometres (from 2.43bn ntkm to 3.08bn ntkm).

Figure 39. LOTOS Kolej's share in domestic rail cargo transport in 2016 (tonne-kilometres)



Source: In-house analysis of the LOTOS Group based on the Office of Rail Transport data, January 2017.

In December 2016, the company was certified for compliance with the GMP+ B4 standard. The certificate, valid until December 7th 2019, sets out the specific procedures for transporting grains and fodder. Having obtained the certificate required by most exporters of grains and fodder to Western Europe, the company is now able to transport such goods on its own, in new rail cars.

Last year, PKP PLK continued its programme of upgrading the railway network, although the investment outlays were more than halved, from PLN 8.7bn in 2015 to PLN 4.0bn in 2016. As the repair and modernisation works on PKP PLK tracks were scaled down, the average commercial speed increased by approximately 4 km/h (or by ca. 20%) year on year.

The average delay time in the third quarter of 2016 was reduced from 607 minutes to 465 minutes, down 23% year on year.

In June 2016, LOTOS Kolej opened a new Transport Division in Poznań, the company's sixth transport division to date. The opening of a new unit was a result of the expanding railway transport business and a natural step in the company's development. The priorities for the new division will include providing logistics support for the LOTOS Terminale depot in Poznań following its recent extension, and expansion of the rail transport business in Western Poland and in Germany.

On November 4th 2016, LOTOS Kolej's headcount reached 1000 employees, and at year end it grew further to 1026 employees.

At the end of 2016, the company completed implementation of a cost accounting system which will be used by the management personnel as a tool in

in resource and process management, and will serve as the source of management information

on margins and costs across a range of the company's activities.

As part of its growth-oriented strategy, LOTOS Kolej is considering a number of freight transport projects, including expansion of its transport business in Germany by establishing a company which would hold relevant authorisations to provide rail transport services in both Poland and Germany.

4.4.3. Procurement and supply

Tab14. LOTOS Group's purchases of feedstock, merchandise and petroleum materials by region

	2016		2015	
	(PLNm)	% share	(PLNm)	% share
Domestic purchases	2,301.0	16.2%	2,535.7	14.9%
Foreign purchases	11,940.1	83.8%	14,492.9	85.1%
Total	14,241.1	100.0%	17,028.6	100.0%

Table 15. Breakdown of LOTOS Group's purchases

	2016		2015	
	(PLNm)	share (%)	(PLNm)	share (%)
Raw materials	13,886.9	83.1%	16,561.0	85.1%
Merchandise	851.9	5.1%	925.2	4.8%
Services	1,759.6	10.5%	1,717.6	8.8%
Consumables	218.4	1.3%	258.0	1.3%
Total	16,716.8	100.0%	19,461.8	100.0%

Table 16. Breakdown of LOTOS Group's purchases of petroleum products for resale

	2016		2015	
	(PLNm)	% share	(PLNm)	% share
Liquid gas	0.9	0.2%	0.7	0.1%
Gasolines	73.2	15.4%	131.1	22.4%
Diesel oils	165.1	34.8%	448.2	76.8%
Other	235.4	49.6%	4.3	0.7%
Total	474.6	100.0%	584.3	100.0%

Table 17. Breakdown of LOTOS Group's purchases of raw materials, semi-finished products, chemicals and petroleum materials

	2016		2015	
	(PLNm)	% share	(PLNm)	% share
Crude oil	11,484.3	83.4%	14,446.9	87.9%
Diesel oil	6.7	0.0%	8.0	0.0%
MTBE/ETBE gasoline components	85.6	0.6%	213.5	1.3%
FAME	866.0	6.3%	582.5	3.5%
Gasolines	0.0	0.0%	0.1	0.0%
Ethyl alcohol	163.8	1.2%	109.3	0.7%
Additives	100.8	0.7%	98.8	0.6%
Gasoil	24.5	0.2%	20.5	0.1%
Diesel oil components	222.5	1.6%	32.7	0.2%
Natural gas	418.5	3.1%	573.3	3.6%
Bitumens, bitumen components and additives	36.0	0.3%	32.0	0.2%
Feedstock for FAME production	354.5	2.6%	319.6	1.9%
Other	3.2	0.0%	7.1	0.0%
Total	13,766.4	100.0%	16,444.3	100.0%

LOTOS Group's key suppliers

In 2016, the key suppliers to the LOTOS Group whose supplies accounted for more than 10% of the Group's total revenue were VITOL SA of Switzerland, Joint Stock Company Oil Company of Russia, and Tatneft Europe AG of Switzerland, with shares of 21.78%, 19.60%, and 14.53%, respectively, in the LOTOS Group's purchases.

In 2015, the key suppliers to the LOTOS Group whose supplies accounted for more than 10% of the Group's total revenue were VITOL SA of Switzerland, Rosneft Oil Company of Russia, and Tatneft Europe AG of Switzerland, with shares of 24.60%, 17.34%, and 14.94%, respectively, in the LOTOS Group's purchases.

To the best of the Company's knowledge, as at the date of issue of this Directors' Report there were no formal links between Grupa LOTOS S.A. and any of the suppliers named above, except for trade contracts.

Financial standing of the LOTOS Group



5. Financial standing of Grupa LOTOS S.A. and its Group

5.1. Discussion of key financial and economic data and assessment of material factors and non-recurring events

Table 18. Annualised macroeconomic data

USD/bbl ¹⁸	2016	2015	2014	2016 / 2015
DATED Brent FOB prices	43.58	52.28	98.98	-16.6%
Natural gas (NBP)	25.84	36.26	45.78	-28.7%
Urals-Brent differential	2.45	1.83	1.73	33.9%
Model refining margin ¹⁹	6.93	7.77	6.08	-10.8%

Margin USD/t ¹⁷	2016	2015	2014	2016 / 2015
Gasoline	137.06	173.64	168.48	-21.1%
Naphtha	54.44	64.33	84.38	-15.4%
Diesel oil (10 ppm)	72.73	113.36	114.50	-35.8%
Light fuel oil	64.72	94.60	91.99	-31.6%
Aviation fuel	92.58	127.73	154.31	-27.5%
Heavy fuel oil	-123.51	-141.16	-224.88	12.5%

Currency (USD/PLN) ²⁰	2016	2015	2014	2016 / 2015
PLN/USD exchange rate at end of period	4.18	3.90	3.51	7.2%
Average PLN/USD exchange rate	3.94	3.77	3.15	4.5%

5.1.1 Consolidated statement of comprehensive income

In 2016, the LOTOS Group posted PLN 20,913.1m in revenue (down 7.8% on 2015), driven mainly by lower prices of crude oil and petroleum products on global markets. Average net revenue per tonne/(toe) of products sold in 2016 was PLN 1,761 (down PLN 261, or 12.9%, on 2015).

The total volume of petroleum products, merchandise and materials sold in 2016 by the LOTOS Group increased by approximately 5.9% on 2015. The highest growth was reported for aviation fuel in the downstream segment and for crude oil and natural gas in the upstream segment.

¹⁸ Source: Thomson Reuters.

¹⁹ Source: Grupa LOTOS S.A., based on the methodology presented in Current Report No. 26/2016: http://inwestor.lotos.pl/1185/p.194,i.910/raporty_i_dane/raporty_biezace/korekta_metodologii_kalkulacji_modelowej_marzy_rafii_nerwjnej_grupy_lotos_sa

²⁰ Source: National Bank of Poland.

Table 19. Key financial results of the LOTOS Group (PLNm)

	2016	2015	2014	2016-2015	2016/2015
Revenue	20,931.1	22,709.4	28,501.9	-1,778.3	-7.8%
Cost of sales	-17,215.7	-20,249.0	-27,466.6	3,033.3	-15.0%
Gross profit	3,715.4	2,460.4	1,035.3	1,255.0	51.0%
Distribution costs	-1,291.1	-1,284.9	-1,162.1	-6.2	0.5%
Administrative expenses	-425.9	-459.1	-447.0	33.2	-7.2%
Other income	107.1	48.3	26.7	58.8	121.7%
Other expenses	-250.8	-341.3	-845.9	90.5	-26.5%
Operating profit/(loss)	1,854.7	423.4	-1,393.0	1,431.3	338.0%
LIFO-based EBIT	1,931.8	702.1	-430.9	1,229.7	175.1%

In 2016, cost of sales of the LOTOS Group stood at PLN 17,215.7m (down 15.0% on 2015). In the same period, the estimated unit cost of sales was PLN 1,448/t (down PLN 355/t or 19.7% on 2015). The unit sales margin in 2016 came at PLN 313/t (up 42.9% on 2015). The LOTOS Group's consolidated gross profit for 2016 was PLN 3,715.4m (up PLN 1,255.0m, or 51.0% on 2015).

Administrative expenses decreased by PLN 33.2m (-7.5% on 2015) mainly on lower employee benefit expenses.

In 2016, the Group reported net other expenses of PLN -143.7m, including chiefly:

- **PLN -61m** in net impairment losses on exploration and non-current assets and revaluation of provisions related to production activities in the Baltic Sea (including PLN -65m in impairment losses on expenditure related to the Gaz Południe licence area),
- **PLN -22m** net impairment losses on assets and revaluation of provisions related to Norwegian assets (including impairment losses on assets associated with the Utgard field in Norway (approximately PLN -68m), losses on discontinued projects associated with expenditure on the PL643 and PL655 licences (over PLN -12m), revaluation of estimated provision for Heimdal offshore oil and gas production facilities in the North Sea (approximately PLN 41m), and revaluation of provision for contingent liabilities under the agreement to acquire the Sleipner assets (PLN 28m),
- PLN -5m write-off of expenditure related to Lithuanian assets,
- PLN -12m in impairment losses on service stations

The Group's operating profit for 2016, of PLN 1,854.7m, includes:

- PLN 1,834.7m operating profit in the downstream segment,
- PLN 17.8m operating profit in the upstream segment.

The 2016 increase in operating profit was driven mainly by the uptrend in crude oil and petroleum product prices vs the previous year's downtrend, the higher USD/PLN exchange rate in 2016, and the higher differential for the Urals crude.

Table 20. LOTOS Group's revenue by products, merchandise and services (PLN '000)

	2016		2015	
	(PLNm)	% share	(PLNm)	% share
Gasolines	3,257.8	15.6%	3,649.7	16.1%
Naphtha	803.9	3.8%	880.5	3.9%
Reformate	78.8	0.4%	25.2	0.1%
Diesel oils	9,776.7	46.7%	11,163.7	49.2%
Bunker fuel	111.3	0.5%	129.5	0.6%
Light fuel oil	530.8	2.5%	565.4	2.5%
Heavy products	1,833.9	8.8%	2,143.6	9.4%
Aviation fuel	1,151.4	5.5%	1,170.3	5.1%
Lubricants	276.9	1.3%	286.7	1.3%
Base oils	502.1	2.4%	519.5	2.3%
LPG	428.0	2.0%	444.4	2.0%
Crude oil for resale	247.2	1.2%	254.2	1.1%
Crude oil, final product	270.4	1.3%	133.8	0.6%
Natural gas	529.4	2.5%	230.6	1.0%
Other refinery products, merchandise and materials	403.4	1.9%	457.0	2.0%
Other products, merchandise and materials	401.8	2.0%	358.5	1.6%
Services	439.0	2.1%	379.1	1.6%
Effect of cash flow hedge accounting	(111.7)	-0.5%	(82.3)	-0.4%
Total	20,931.1	100.0%	22,709.4	100.0%

Table 21. LOTOS Group's net revenue by markets

	2016		2015	
	(PLNm)	% share	(PLNm)	% share
Domestic sales:	14,540.1	69.5%	17,177.3	75.6%
- <i>products and services</i>	13,692.3	65.4%	15,923.4	70.1%
- <i>merchandise and materials</i>	847.8	4.1%	1,253.9	5.5%
Export sales:	6,391.0	30.5%	5,532.1	24.4%
- <i>products and services</i>	6,158.5	29.4%	5,325.3	23.4%
- <i>merchandise and materials</i>	232.5	1.1%	206.8	0.9%
Total	20,931.1	100.0%	22,709.4	100.0%

LOTOS Group's key customers

In 2016, none of the LOTOS Group's customers accounted for more than 10% of total revenue.

With a share of 10.04%, Statoil Group companies were the LOTOS Group's only customers whose aggregate share in the Group's total revenue exceeded 10% in 2015.

To the best of the Company's knowledge, as at the date of release of this Directors' Report there were no formal links between Grupa LOTOS S.A. and the Statoil Group companies, except for trade contracts.

Operating segments

Table 22. Upstream segment's key financial data (PLNm)

	2016	2015	2014	2016-2015	2016/2015
Revenue	1,228.5	711.1	906.3	517.4	72.8%
Operating profit/(loss)	17.8	-59.4	-624.1	77.2	-
Depreciation and amortisation	582.0	249.9	344.1	332.1	132.9%
EBITDA	599.8	190.5	-280.0	409.3	214.9%

Higher revenue in the upstream segment posted in 2016 (+72.8% vs 2015) was driven mainly by higher sales volumes achieved following the acquisition of interests in the Sleipner production licences in Norway in the fourth quarter of 2016; the launch of production from the B8 oil field in the Baltic Sea; and the higher average annual USD exchange rate, which was partially offset by lower crude prices on global markets.

Weighing down on the upstream segment's operating profit in 2016 were non-recurring items of approximately PLN 88m (listed above).

Table x Downstream segment's key financial data (PLNm)

	2016	2015	2014	2016-2015	2016/2015
Revenue	20,120.7	22,372.6	28,157.9	-2,251.9	-10.1%
Operating profit/(loss)	1,834.7	450.7	-774.5	1,388.1	307.1%
Depreciation and amortisation	487.4	466.2	459.5	21.2	4.5%
EBITDA	2,322.1	916.9	-315.0	1,409.3	153.3%

The lower revenue posted by the downstream segment in 2016 relative to 2015 is mainly due to a 10.9% fall in average selling prices caused by lower prices of oil products on global markets, offset by the higher USD/PLN exchange rate.

In 2016, the Group posted operating profit of PLN 1,834.7m in the downstream segment; the main contributors included upward price trends, higher exchange rates, the higher differential for the Urals crude, and lower cost of gas purchased by the refinery for its own needs.

Net profit/(loss)

Table 23. Net profit/(loss) of the LOTOS Group (PLNm)

	2016	2015	2014	2016-2015	2016/2015
Operating profit/(loss)	1,854.7	423.4	-1,393.0	1,431.3	338.0%
Finance income	26.6	100.6	21.7	-74.0	-73.6%
Finance costs	-304.8	-688.2	-728.0	383.4	-55.7%
Share in net profit/(loss) of equity-accounted joint ventures	2.9	-31.1	-24.4	34.0	-
Pre-tax profit/(loss)	1,579.4	-195.3	-2,123.7	1,774.7	-
Income tax	-564.2	-68.0	657.3	-496.2	729.7%
Net profit/(loss)	1,015.2	-263.3	-1,466.4	1,278.5	-

In 2016, the Group posted a loss on financing activities of PLN -278.2m chiefly as a result of:

- negative net balance of interest on debt, interest income and commission fees of PLN -245.0m (2015: PLN -284.4m),
- net loss on measurement and settlement of market risk hedging derivative instruments of PLN -33.5m (2015: PLN +78.8),
- foreign exchange gains of PLN 7.8m (2015: PLN -344.9m).

Grupa LOTOS S.A. applied cash flow hedge accounting with respect to foreign-currency denominated loans contracted to finance the 10+ Programme, designated as hedges of future USD-denominated petroleum product sales transactions. In the period January 1st–December 31st 2016, foreign exchange losses of PLN -138.2m were charged to cash-flow hedging reserve.

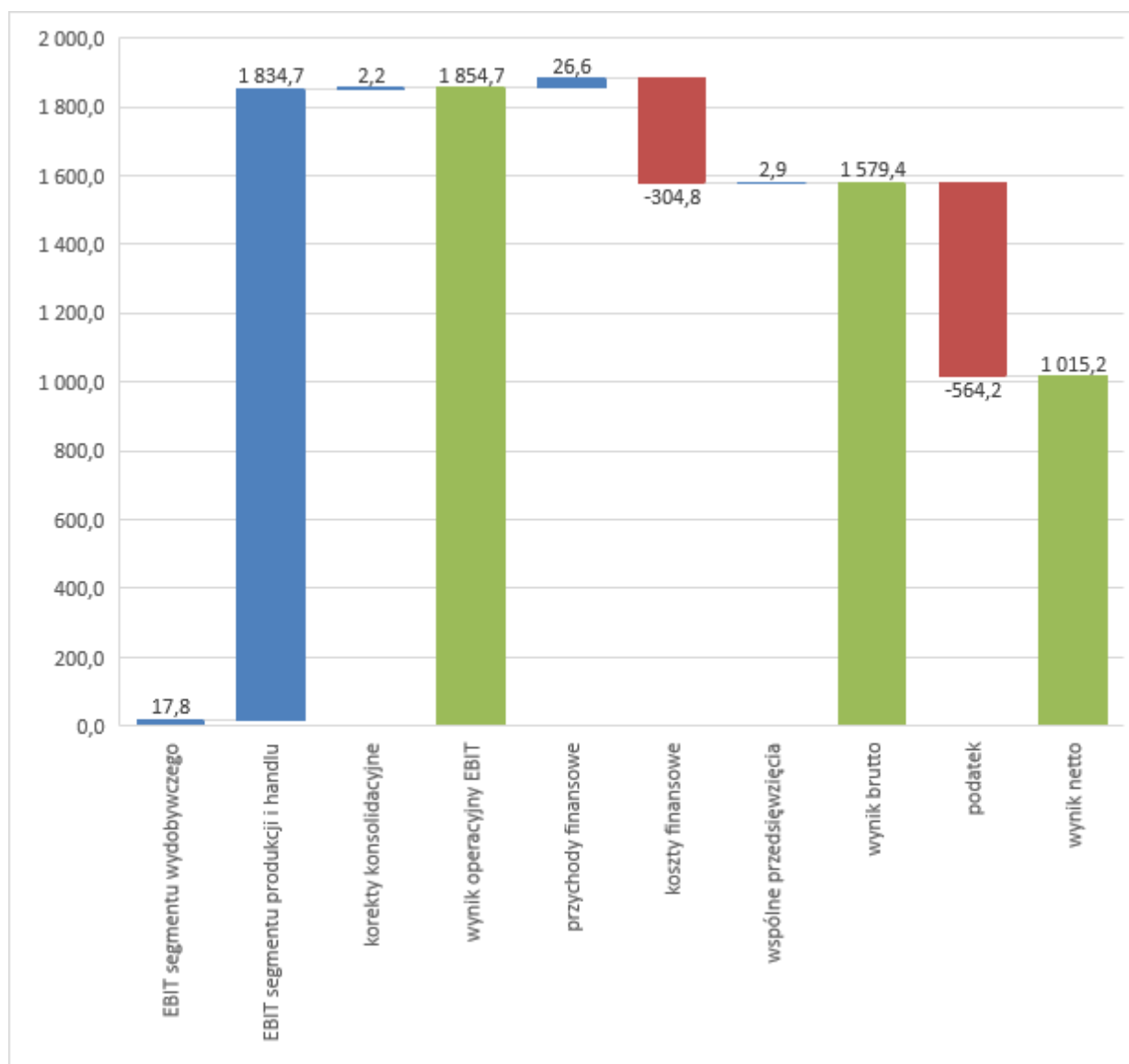
In 2016, the Group's net loss on measurement and settlement of market risk hedging transactions was PLN -33.5m and included:

- net gain on settlement and measurement of transactions hedging petroleum product prices, including options, of PLN +69.9m,
- net loss on settlement and measurement of derivative instruments hedging the foreign exchange risk of PLN -88.1m,

- net loss on settlement and measurement of interest rate hedging IRS transactions of PLN - 7.9m,
- net loss on settlement of futures hedging the risk of changes in prices of carbon dioxide emission allowances of PLN -7.4m,

In 2016, the LOTOS Group posted net profit of PLN 1,015.2m.

Figure 40. Consolidated financial result of the LOTOS Group (PLNm)



5.1.2. Consolidated statement of financial position

Table 24. **Financial position – Assets (PLNm)**

	Dec 31 2016	Dec 31 2015	Dec 31 2014	change in 2016	%
Assets	19,326.3	19,169.3	18,947.2	157.0	0.8%
Non-current assets	12,330.7	12,437.7	11,781.9	-107.0	-0.9%
Property, plant and equipment	10,651.7	10,568.4	9,481.9	83.3	0.8%
Intangible assets	651.9	664.4	604.2	-12.5	-1.9%
Equity-accounted joint ventures	98.1	70.7	99.6	27.4	-
Deferred tax assets	596.0	924.5	1,488.9	-328.5	-35.5%
Derivative financial instruments	20.9	8.7	0.0	12.2	-
Other non-current assets	312.1	201.0	107.3	111.1	55.3%
Current assets	6,995.1	6,723.2	7,154.9	271.9	4.0%
Inventories	3,333.6	3,235.8	3,917.1	97.8	3.0%
Trade receivables	2,251.7	1,550.9	1,406.5	700.8	45.2%
Current tax assets	8.0	12.0	59.1	-4.0	-33.3%
Derivative financial instruments	80.0	208.5	4.4	-128.5	-61.6%
Other current assets	577.2	856.3	1,419.6	-279.1	-32.6%
Cash and cash equivalents	744.6	859.7	348.2	-115.1	-13.4%
Assets held for sale	0.5	8.4	10.4	-7.9	-94.0%

As at December 31st 2016, the LOTOS Group carried total assets of PLN 19,326.3m (up PLN 157.0m on December 31st 2015).

The most significant changes in assets included:

- PLN 700.8m increase in trade receivables, attributable mainly to higher product prices as at the end of 2016 vs 2015,
- PLN 328.5m decrease in deferred tax assets,
- PLN 168.0m decrease in other assets, mainly due to:
 - use of proceeds from the issue of Grupa LOTOS shares to finance the EFRA Project (PLN -438.3m),
 - cash pledged as security for contractual obligations related to future asset decommissioning (PLN +192.0m),
 - increase in bank deposits (PLN +103.7m),
- PLN 115.1m decrease in cash and cash equivalents,
- PLN 116.3m decrease in positive fair value of financial instruments,
- PLN 97.8m increase in inventories, mainly emergency stocks, on higher prices of product and crude inventories held as at the end of 2016 compared with the inventories held as at the end of 2015,
- PLN 83.3m increase in property, plant and equipment due to completion of investment projects (mainly at LOTOS Asphalt Sp. z o.o.).

Table 25. **Financial position – equity and liabilities (PLNm)**

	Dec 31 2016	Dec 31 2015	Dec 31 2014	change in 2016	%
Equity and liabilities	19,326.3	19,169.3	18,947.2	157.0	0.8%
Equity	8,610.9	7,712.2	8,258.5	898.7	11.7%
Share capital	184.9	184.9	184.9	0.0	0.0%
Share premium	2,228.3	2,228,3	2,229,6	0,0	0.0%
Cash flow hedging reserve	-812.8	-700.9	-412.5	-111.9	16.0%
Retained earnings	6,945.5	5,928.5	6,191.0	1,017.0	17.2%
Translation reserve	64.9	71.3	65.3	-6.4	-9.0%
Non-controlling interests	0.1	0.1	0.2	0.0	0.0%
Non-current liabilities	5,443.7	6,031.2	5,456.7	-587.5	-9.7%
Borrowings, other debt instruments and finance lease liabilities	3,980.6	4,454.5	4,495.6	-473.9	-10.6%
Derivative financial instruments	36.3	54.3	62.6	-18.0	-33.1%
Deferred tax liabilities	57.4	47.6	55.5	9.8	20.6%
Employee benefit obligations	168.5	182.2	185.4	-13.7	-7.5%
Other liabilities and provisions	1,200.9	1,292.6	657.6	-91.7	-7.1%
Current liabilities	5,271.7	5,425.9	5,222.9	-154.2	-2.8%
Borrowings, other debt instruments and finance lease liabilities	1,576.7	2,544.8	2,168.1	-968.1	-38.0%
Derivative financial instruments	172.9	110.8	135.9	62.1	56.0%
Trade payables	1,718.2	1,232.5	1,692.8	485.7	39.4%
Current tax payables	49.2	11.8	4.7	37.4	316.9%
Employee benefit obligations	135.6	122.2	84.1	13.4	11.0%
Other liabilities and provisions	1,619.1	1,403.8	1,137.3	215.3	15.3%
Liabilities directly associated with assets held for sale	0.0	0.0	9.1	0.0	-

Increase in the LOTOS Group's equity as at the end of 2016 to PLN 8,610.9m (up PLN 898.7m on 2015) was driven primarily by higher retained earnings (up PLN 1,017.0m), offset by foreign exchange losses on valuation of cash flow hedges recognised in capital reserves, adjusted by the tax effect of PLN 111.9m.

The share of equity in total equity and liabilities increased by 4.4pp year on year, to 44.6%.

Key changes in liabilities (PLN -741.7m):

- PLN 1,442.0m decrease in bank and non-bank borrowings, bonds, and finance lease liabilities, mainly due to partial repayment of foreign currency loans and lower utilisation of overdraft facilities, combined with the valuation of foreign currency loans at a higher exchange rate (up 7.2%) as at the end of 2016,
- PLN 485.7m increase in trade payables, primarily as a result of a year-on-year rise in prices of crude oil purchases made in November and December 2016,
- PLN 123.6m increase in other provisions and liabilities, mainly liabilities to the state budget on higher excise tax, fuel charge, and stocks charge.

As at December 31st 2016, the LOTOS Group's financial debt totalled PLN 5,557.3m, down PLN 1,442.0m on December 31st 2015. The ratio of financial debt (adjusted for free cash), including cash earmarked to finance the objectives of the issue of Series D shares, to equity was 55.9% (down 18.0pp on December 31st 2015.)

5.1.3 Consolidated statement of cash flows

Table 26. Cash flows (PLNm)

	2016	2015	Change
Cash flows from operating activities	2,653.9	1,488.1	1,165.8
Cash flows from investing activities	-1,003.2	-1,162.0	158.8
Cash flows from financing activities	-1,201.4	114.7	-1,316.1
Change in net cash	452.7	444.8	7.9
Cash and cash equivalents at beginning of period	278.1	-166.7	444.8
Cash and cash equivalents at end of period	730.8	278.1	452.7

As at December 31st 2016, the LOTOS Group's cash balance (including current account overdrafts) was PLN 730.8m. In 2016, net cash flows added PLN 452.7m to cash and cash equivalents.

The Group generated positive cash flows from operating activities of PLN 2,653.9m (up PLN 1,165.9m on 2015), mainly on net profit before depreciation and amortisation, income tax, and higher trade payables, which were offset by lower trade receivables.

Cash flows from investing activities of PLN -1,003.2m primarily involved expenditure on acquisition of property, plant and equipment and other intangible assets. A portion of expenditure on the EFRA Project in 2016 was financed with proceeds from the issue of Grupa LOTOS Series D shares deposited in a separate bank account.

Net cash flows from financing activities of PLN -1,201.4m mainly comprised repayments of bank and non-bank borrowings and interest payments, offset by proceeds from bank and non-bank borrowings and gain on settlement of financial instruments.

5.1.4. Off-balance sheet items by entity, type and value

Material contingent liabilities

- As at December 31st 2016 and December 31st 2015, two promissory notes issued by the Company on July 17th 2015 for up to PLN 40,000 thousand and PLN 200,000 thousand, respectively, and deposited with the Head of the Customs Office in Gdańsk, were outstanding. The promissory notes were deposited as lump-sum security for future excise liabilities of PLN 800,000 thousand, valid until August 19th 2017.
- An unconditional and irrevocable guarantee issued on June 17th 2008 by LOTOS Petrobaltic S.A. for the benefit of the government of Norway, covering the exploration and production activities of LOTOS Exploration and Production Norge AS on the Norwegian Continental Shelf, was effective as at December 31st 2016 and December 31st 2015. In the guarantee, LOTOS Petrobaltic S.A. undertook to assume any financial liabilities which may arise in connection with the operations of LOTOS Exploration and Production Norge AS on the Norwegian Continental Shelf, consisting in exploration for and extraction of the natural resources from the sea bottom, including their storage and transport using means of transport other than ships.

Contingent liabilities also include future investment commitments presented by the Group in Note 13.3 to the consolidated financial statements.

5.1.5. Non-recurring factors and events affecting financial performance

The key factors and non-recurring events affecting results of the Group's operations in 2016 included:

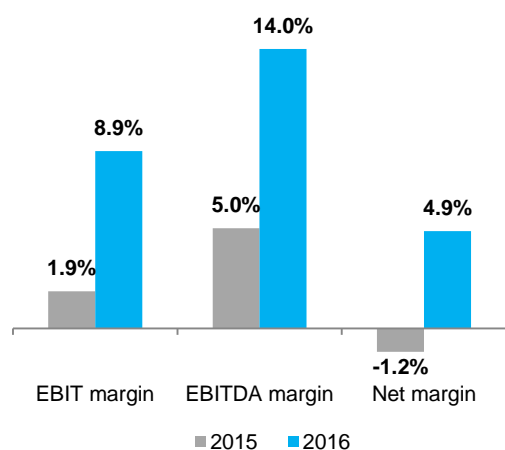
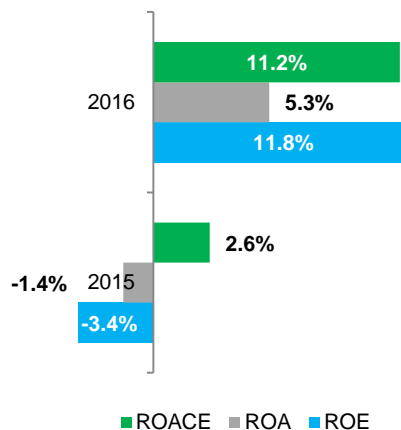
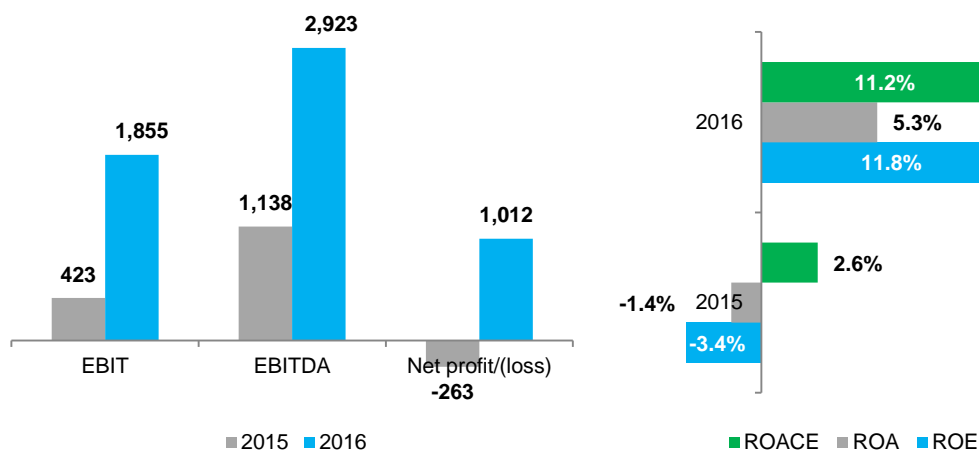
- PLN -22m in net impairment losses on assets and remeasurement of provisions related to the Norwegian fields
- PLN -66m in net impairment losses on assets and remeasurement of provisions related to the crude oil production on the Baltic Sea
- PLN -5m in impairment losses on Lithuanian fields
- PLN -12m in impairment losses on service stations
- PLN -38m in costs related to the Polish National Foundation and provision for deficit in CO₂ emission allowances at Grupa LOTOS.

5.1.6. Ratio analysis

A brief assessment of the LOTOS Group's overall economic and financial standing has been prepared in the form of a ratio analysis covering margins, liquidity, turnover and debt levels.

Profitability ratios

(PLNm or %)

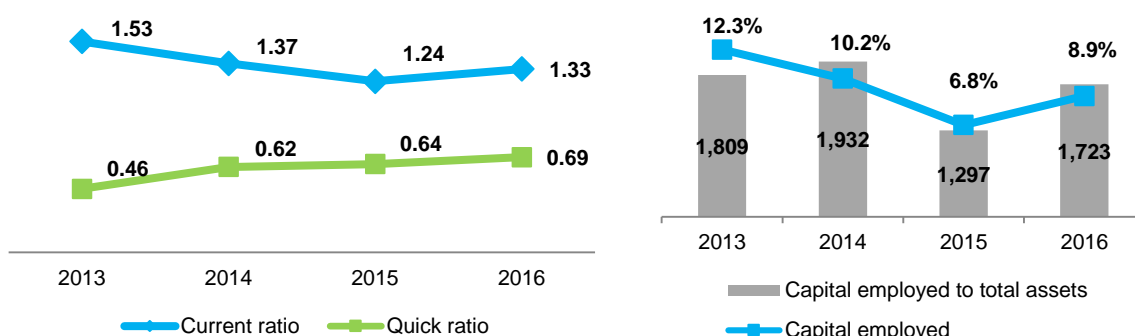


- Improved profitability ratios:
 - higher EBIT/EBITDA and net ratios on improved financial performance

Formulas	
EBIT margin	operating profit/(loss) to net sales
EBITDA	EBIT before amortisation/depreciation
EBITDA margin	EBITDA to net sales
Net margin	net profit/(loss) to net sales
ROE	net profit/(loss) to equity at end of period
ROA	net profit/(loss) to assets at end of period
Return on average capital employed (ROACE)	operating profit/(loss) after tax to equity plus net debt at end of period

Liquidity ratios

(PLNm, in absolute terms or in %)

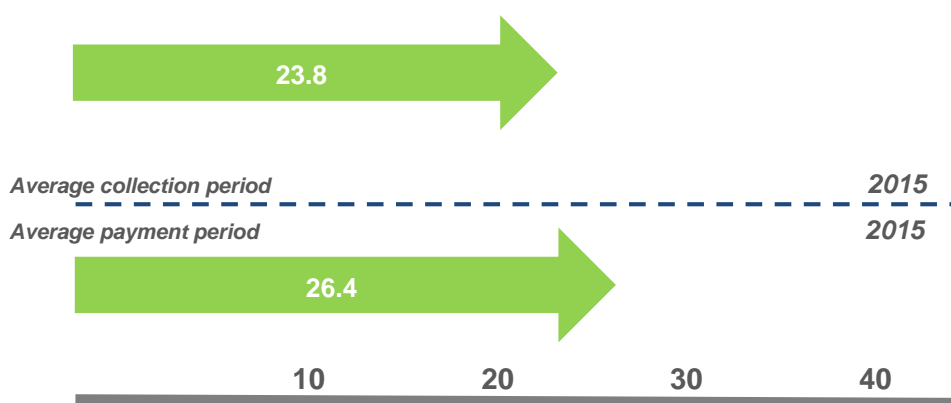


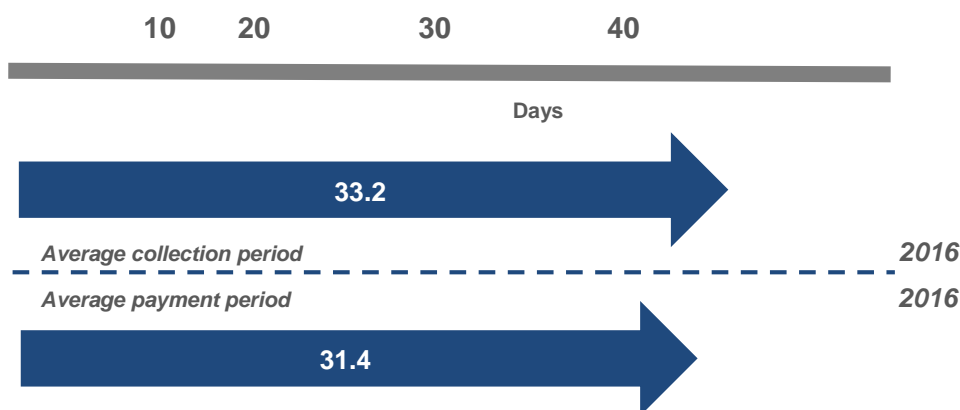
- Current ratio (1.33) higher year on year (up 7.1%), as current assets increased (up 4.0%) and current liabilities fell (down 2.8%)
- quick ratio (0.69) similar as in 2015 (0.64)
- PLN 426.1m increase in capital employed, following increase in current assets (up PLN 271.9m), and decrease in current liabilities (down PLN 154.2m), with higher share of capital employed in total assets.

Formulas	
Current ratio	current assets to current liabilities (at period end)
Quick ratio	current assets less inventory to current liabilities (at period end)
Capital employed	current assets less current liabilities (at period end)
Capital employed to total assets	capital employed to total assets (at period end)

Collection and payment periods

(days)



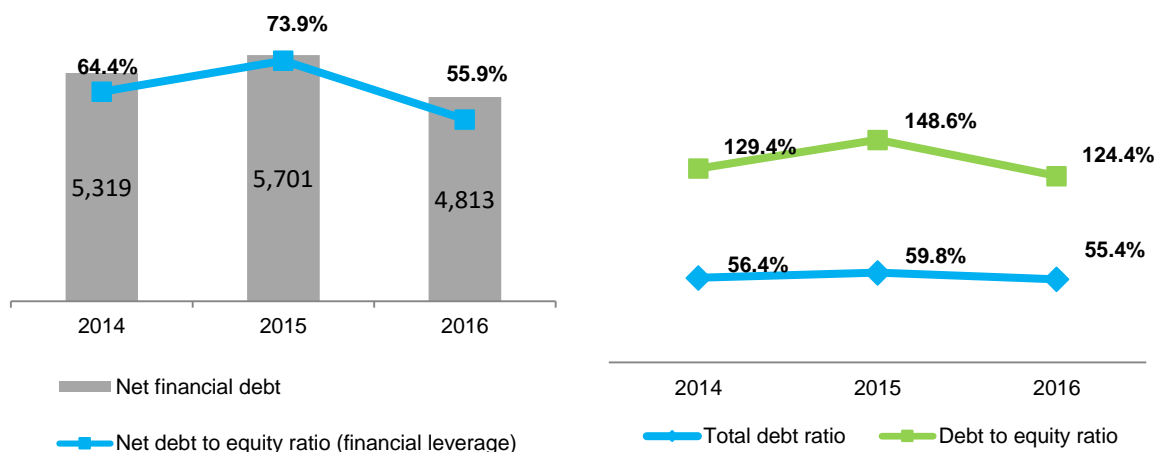


- Average collection period in 2016 was 33.3 days (up 9.5 days on 2015) as average trade receivables grew (up 28.6%) and revenue fell (down 7.8%)
- Average payment period was longer by 5 days, as average trade payables increased (up 0.9%), and cost of sales fell (down 15.0%).

Formulas	
Average collection period (days)	average trade receivables to net sales times 366 days in the period
Average payment period (days)	average trade payables to cost of sales times 366 days in the period

Capital structure and debt ratios

(PLNm or %)



- decrease in the share of liabilities in the financing of assets by 4.3pp as liabilities decreased by 6.5% and assets increased by 0.8%.
- decrease in net debt to equity ratio (financial leverage) by 18.0pp, as net financial debt fell (by 15.6%) while equity grew (by 11.7%),
- decrease in debt to equity ratio by 24.1pp, as liabilities fell (by 6.5%) and equity grew (by 11.7%).

Formulas	
Total debt ratio	total liabilities to total assets (at period end)
Net financial debt	long-term and short-term borrowings, other debt instruments, and finance lease liabilities less cash and cash proceeds from the issue of shares (at period end)
Net debt to equity ratio (financial leverage)	net financial debt to equity (at period end)
Debt to equity ratio	total liabilities to equity (at end of period)

5.1.7. Use of share issue proceeds to implement the issue objectives

In 2016, the LOTOS Group continued to pursue its investment projects using proceeds from the public offering of Series D ordinary bearer shares closed in January 2015. For more details about the projects, see Section 2.2. on pages 19–21.

5.1.8. Explanation of differences between actual financial performance and previously published forecasts for 2016

Grupa LOTOS S.A. did not publish any consolidated financial guidance for 2016.

5.1.9. Separate results and financial position of Grupa LOTOS S.A.

In 2016, Grupa LOTOS S.A. posted PLN 18,110.0m in revenue (down 11.6% on 2015); the decline was caused mainly by falling prices of petroleum products on global markets. The Company's average unit selling price was PLN 1,652/t in 2016 (down PLN 231/t, or 12.2%, on 2015).

The total volume of petroleum products, merchandise and materials sold by the Company in 2016 was 10,961.8 thousand tonnes (up 82.5% on 2015). In 2016, the share of domestic sales in the total sales volume increased by 4.2pp,

and cost of sales came at PLN 15,578.2m (down 18.6% on 2015). Decrease in cost of sales by PLN 3,570.2m, coupled with PLN 2,372.3m decline in revenue, resulted in a PLN 1,197.9m increase of gross profit, to PLN 2,531.8m. The average unit cost of sales was PLN 1,421/t (down PLN 339/t, or 19.3%, on 2015), and was PLN 231/t lower than the average net selling price.

The 1.2% decrease in distribution costs in 2016 was mainly attributable to a 10.5% decline in the volume of sales to foreign markets.

The Company's administrative expenses fell by 11.0% in 2016, mainly due to lower employee benefits expense.

Net other expenses were PLN -67.1m in 2016 (2015: PLN -139.2m).

In 2016, Grupa LOTOS S.A. posted operating profit of PLN 1,487.9m (up PLN 1,304.1m on 2015). The 2016 increase in operating profit was driven mainly by the uptrend in crude oil and petroleum product prices vs the previous year's downtrend, the higher USD/PLN exchange rate in 2016, higher differential for the Urals crude, and lower cost of gas purchased by the refinery for its own needs.

Table 27. Statement of comprehensive income of Grupa LOTOS S.A. (PLNm)

	2016	2015	2016-2015	2016/2015
Revenue	18,110.0	20,482.3	-2,372.3	-11.6%
Cost of sales	-15,578.2	-19,148.4	3,570.2	-18.6%
Gross profit/loss	2,531.8	1,333.9	1,197.9	89.8%
Distribution costs	-774.9	-784.1	9.2	-1.2%
Administrative expenses	-201.9	-226.8	24.9	-11.0%
Other income	24.6	34.0	-9.4	-27.6%
Other expenses	-91.7	-173.2	81.5	-47.1%
EBIT	1,487.9	183.8	1,304.1	709.5%
Finance income	143.0	212.0	-69.0	-32.5%
Finance costs	-202.8	-416.5	213.7	-51.3%
Profit/(loss) before tax	1,428.1	-20.7	1,448.8	-
Income tax	-267.3	-16.4	-250.9	1,529.9%
Net profit/(loss)	1,160.8	-37.1	1,197.9	-

The Company posted a loss on financing activities of PLN -59.8m, chiefly as a result of:

- dividends received in 2015 of PLN +115.9m,
- foreign exchange losses of PLN -56.0m,
- offset interest on debt, interest income, commission fees, and bank guarantees of PLN -123.8m.

Grupa LOTOS S.A.'s net loss on financing activities in 2016 (PLN -59.8m) and income tax (PLN -267.3m) reduced the Company's operating result in 2016 to PLN 1,160.8m.

Table 28. Grupa LOTOS S.A.'s financial position – assets (PLNm)

	Dec 31 2016	Dec 31 2015	Change	%
Total assets	14,530.6	13,909.9	620.7	4.5%
Total non-current assets	8,327.5	8,357.3	-29.8	-0.4%
Property, plant and equipment	6,045.0	6,114.8	-69.8	-1.1%
Intangible assets	104.6	110.7	-6.1	-5.5%
Shares	1,670.5	1,670.6	-0.1	0.0%
Deferred tax assets	18.5	216.3	-197.8	-91.4%
Derivative financial instruments	20.8	0.7	20.1	2,871.4%
Other non-current assets	468.1	244.2	223.9	91.7%
Total current assets	6,203.1	5,552.6	650.5	11.7%
Inventories	3,092.8	2,902.8	190.0	6.5%
Trade receivables	2,078.5	1,309.0	769.5	58.8%
Derivative financial instruments	79.8	206.9	-127.1	-61.4%
Other current assets	401.3	604.6	-203.3	-33.6%
Cash and cash equivalents	550.7	529.3	21.4	4.0%

As at December 31st 2016, the Company's total assets were PLN 14,530.6m.

The key factors that contributed to the PLN 620.7m increase in assets included:

- PLN 769.5m increase in trade receivables, mainly on higher prices of refined products,
- PLN 190.0m increase in inventories, including emergency stocks, on higher prices of products and crude oil,
- PLN 197.8m decrease in deferred tax assets,
- PLN 107.0m decrease in positive fair value of financial instruments.

Table 29. **Grupa LOTOS S.A.'s financial position – equity and liabilities (PLNm)**

	Dec 31 2016	Dec 31 2015	Change	%
Equity and liabilities	14,530.6	13,909.9	620.7	4.5%
Total equity	7,069.6	6,020.0	1,049.6	17.4%
Share capital	184.9	184.9	0.0	0.0%
Share premium	2,228.3	2,228.3	0.0	0.0%
Cash flow hedging reserve	-812.8	-700.9	-111.9	-16.0%
Retained earnings	5,469.2	4,307.7	1,161.5	27.0%
Total non-current liabilities	3,312.5	3,623.4	-310.9	-8.6%
Bank borrowings	3,201.3	3,501.7	-300.4	-8.6%
Derivative financial instruments	31.1	54.1	-23.0	-42.5%
Employee benefit obligations	61.1	67.0	-5.9	-8.8%
Other provisions and liabilities	19.0	0.6	18.4	3,066.7%
Total current liabilities	4,148.5	4,266.5	-118.0	-2.8%
Bank borrowings	1,083.6	1,960.2	-876.6	-44.7%
Derivative financial instruments	150.4	110.8	39.6	35.7%
Trade payables	1,598.2	1,112.3	485.9	43.7%
Current tax payables	43.9	0.0	43.9	-
Employee benefit obligations	48.3	44.0	4.3	9.8%
Other liabilities and provisions	1,224.1	1,039.2	184.9	17.8%

Grupa LOTOS S.A.'s equity as at the end of 2016 was PLN 7,069.6m (up PLN 1,049.6m on 2015). The increase resulted mainly from net profit for 2016 of PLN 1,160.8m, adjusted for foreign exchange losses on measurement of cash flow hedges less the tax effect (PLN -111.9m) and charged to reserve capital.

The share of equity in total equity and liabilities increased from 43.3% in 2015 to 48.7% in 2016.

The key factors that contributed to the PLN -428.9m decrease in liabilities included:

- PLN 1,177.0m decrease in bank and non-bank borrowings, mainly due to repayment of investment loans and inventory financing facilities of PLN 947.8m and lower utilisation of overdraft facilities (down PLN 546.6m), combined with the valuation of foreign currency loans at a higher exchange rate (up 7.2%) as at the end of 2016,
- PLN 485.9m increase in trade payables, primarily on higher prices of crude oil purchased in November and December 2016 compared with the prices paid for crude in the corresponding period in 2015,
- PLN 203.3m increase in other provisions and liabilities, mainly liabilities to the state budget on higher excise tax, fuel charge, and stocks charge.

As at December 31st 2016, the Company's financial debt was PLN 4,284.9m (down PLN 1,177.0m on December 31st 2015). The ratio of financial debt (adjusted for free cash) to equity was 52.8% (down 28.0pp on December 31st 2015).

Table 30. Grupa LOTOS S.A.'s cash flows (PLNm)

Cash flows	2016	2015	Change
Cash flows from operating activities	1,526.6	654.0	872.6
Cash flows from investing activities	-83.8	-689.7	605.9
Cash flows from financing activities	-875.5	192.8	-1,068.3
Change in net cash	568.0	157.4	410.6
Cash and cash equivalents at beginning of period	-31.1	-188.5	157.4
Cash and cash equivalents at end of period	536.9	-31.1	568.0

As at December 31st 2016, the Company's cash balance, including current account overdrafts, was PLN 536.9m. In 2015, net cash flows were PLN 568.0m (up PLN 410.6m on 2015).

The Company generated positive cash flows of PLN 1,526.6m from operating activities (up PLN 872.6m on 2015), primarily on the back of net profit for 2015 before depreciation and amortisation.

In 2016, net cash from investing activities came at PLN -83.8m and mainly included expenditure on purchase of property, plant and equipment and loans advanced to related entities, as well as positive cash flows from cash pooling and received dividends.

Net cash flows from financing activities of PLN -875.5m mainly comprised repayments of borrowings and interest payments, offset by gain on settlement of derivative financial instruments.

5.2. Key capital expenditure and equity investments in Poland and abroad

5.2.1. Expenditure on property, plant and equipment

In 2016, the LOTOS Group's **capital expenditure** was **PLN 1,285.5m**, most of which was involved spending on the construction of a delayed coking unit (EFRA Project), oil and gas production (mainly from the B-8 field in the Baltic Sea), and production from the Sleipner and Heimdal fields in Norway.

The Group also incurred capital expenditure on the expansion and modernisation of the service station network and the construction of a Hydrogen Recovery Unit (HRU).

Table 31. LOTOS Group's capital expenditure in 2016 by key downstream projects (PLNm)

Downstream segment	2016
EFRA	672.6
Hydrogen Recovery Unit (HRU)	55.8
Expansion of service station network	106.7
Other	100.5

Table 32. LOTOS Group's capital expenditure in 2016 by key upstream projects (PLNm)

Upstream segment	2016	
	B-8 field	
Norway – Sleipner		61.4
Norway – Heimdal		34.8
Other		41.3

5.2.2. Equity investments

In 2016, Grupa LOTOS S.A. did not make any equity investments outside of the group of its related entities; for details, see Section 6.1.2. 'Ownership changes at the LOTOS Group'.

5.2.3. Feasibility of planned investments, including equity investments, in the context of available funding

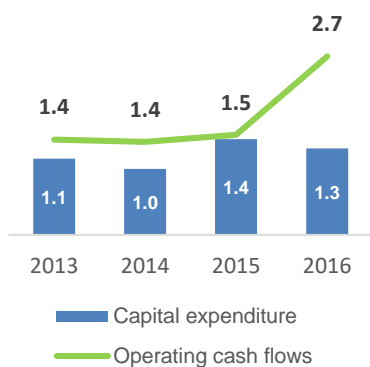
In 2016, the LOTOS Group companies managed their liquidity position in an effective manner. Grupa LOTOS S.A.'s debt is serviced on a regular basis. In 2016, the Company repaid part of its debt incurred to finance the 10+ Programme. The net debt²¹ to equity ratio decreased by 18pp (from 73.9% to 55.9%).

Thus, the key measure of the Company's ability to service its debt, the net debt to LIFO-based EBITDA ratio,²² was down to 1.8 as at December 31st 2016 from 2.6 as at December 31st 2015, and 3.8 as at December 31st 2014.

²¹ Long- and short-term debt less cash and cash equivalents and proceeds from the issue of Series D ordinary shares.

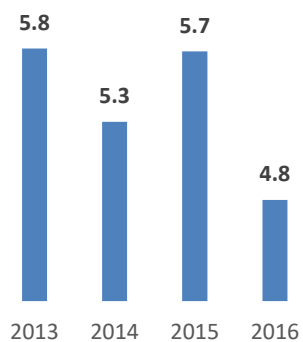
²² LIFO-based EBITDA net of non-recurring items, estimated by the Management Board.

Capex and operating cash flows (PLNbn)



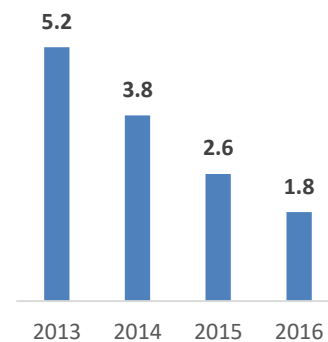
Financing development projects with generated cash.

Net debt at end of period (PLNm)



Reduction of net debt despite stronger USD/PLN exchange rate.

Net debt/LIFO-based EBITDA



Net debt/LIFO-based EBITDA ratio at secure level.

5.3. Financing

5.3.1. Bank and non-bank borrowings

Table 33. LOTOS Group's bank and non-bank borrowings as at December 31st 2016

Lender	Principal amount as per agreement		Outstanding amount				Repayment date of the		Financial terms (interest rate, interest payment schedule, etc.)	Security
			(current portion)		(non-current portion)		current portion	non- current portion		
	PLN	Currency	PLN	Currency	PLN	Currency				
	(million)	(million)	(million)	(million)	(million)	(million)				
Bank syndicate (1)	-	USD 400.0	836.3	USD 200.1	-	-	20.12.2017	-	3M or 6M LIBOR USD, depending on the interest period selected at a given time + bank margin registered pledge over inventories, registered pledge over bank accounts, assignment of rights under inventory insurance agreements, assignment of rights under inventory storage agreements, voluntary submission to enforcement	
Bank syndicate (2)	-	USD 1,125.0	418.2	USD 99.8	2,339.5	USD 558.1	15.10.2017	15.01.2021	1M, 3M or 6M LIBOR USD, depending on the interest period selected at a given time + bank margin mortgage, registered pledge over existing and future movables, registered pledge over bank accounts, assignment of rights under insurance agreements relating to the Gdańsk refinery, assignment of licence and sale agreements with a value of over PLN 10m per year, submission to enforcement	
Bank syndicate (3)	-	USD 425.0	159.5	USD 37.7	861.7	USD 203.7	15.10.2017	15.01.2021	fixed interest rate	
Bank syndicate (4)		USD 200.0 or equivalent	13,7	-	-	-	Overdraft facility	-	3M LIBOR USD for USD funds, 3M WIBOR PLN for PLN funds and 3M EURIBOR	

Lender	Principal amount as per agreement		Outstanding amount				Repayment date of the		Financial terms (interest rate, interest payment schedule, etc.)	Security
			(current portion)		(non-current portion)		current portion	non- current portion		
	PLN	Currency	PLN	Currency	PLN	Currency				
	(million)	(million)	(million)	(million)	(million)	(million)				
			0.2	USD 0.04	-	-			for EUR funds + bank margin for each currency as for Credit Facility A. Interest payable every three months, on Jan 15, Apr 15, Jul 15 or Oct 15.	
			0.001	EUR 0	-	-				
Bank syndicate (5)	150.0	-	16.7	-	91.8	-	31.12.2017	30.06.2023	3M WIBOR + bank margin	mortgages
Bank PEKAO S.A.	20.0	-	5.1	-	4.0	-	31.12.2017	31.12.2018	3M WIBOR + bank margin	mortgages
PKO BP S.A.	20.0	-	4.0	-	4.0	-	31.12.2017	31.12.2018	3M WIBOR + bank margin	mortgages
Fund for Environmental Protection and Water Management in Gdańsk	5.0	-	1.3	-	-	-	30.11.2017	30.11.2017	0.8 of rediscount rate on promissory notes, not less than 3%	blank promissory note, assignment of claims
Fund for Environmental Protection and Water Management in Gdańsk	6.9	-	0.7	-	4.9	-	30.11.2017	31.07.2024	0.8 of rediscount rate on promissory notes, not less than 3%	blank promissory note, assignment of claims
Fund for Environmental Protection and Water Management in Katowice	1.2	-	0.5	-	0.4	-	31.12.2017	31.05.2019	0.95 of rediscount rate on promissory notes, not less than 3%	assignment of receivables
PKO BP S.A.	-	USD 80.0	64.2	USD 15.3	75.4	USD 18.0	31.12.2017	31.12.2018	1M LIBOR + bank margin	pledge, guarantee
PKO BP S.A.	-	USD 105.0	84.1	USD 20.1	96.3	USD 22.9	31.12.2017	31.12.2018	1M LIBOR + bank margin	pledge, guarantee

Lender	Principal amount as per agreement		Outstanding amount				Repayment date of the		Financial terms (interest rate, interest payment schedule, etc.)	Security
			(current portion)		(non-current portion)		current portion	non- current portion		
	PLN	Currency	PLN	Currency	PLN	Currency				
	(million)	(million)	(million)	(million)	(million)	(million)				
Bank syndicate (6)	-	USD 30.0	29.2	USD 6.9	31.1	USD 7.4	30.12.2017	30.06.2019	6M LIBOR + bank margin	registered pledge over inventories, registered pledge over bank accounts, assignment of rights under sale agreements, pledge over shares in subsidiaries
Agencja Rozwoju Przemysłu S.A.	100.0	-	10.1	-	64.0	-	Dec 31 2016	31.01.2021	1M WIBOR + bank margin	registered and financial pledges over shares, assignment of rights under insurance policies and blank promissory note
Bank syndicate (7)	100.0	-	10.0	-	72.5	-	31.12.2017	31.03.2025	3M WIBOR + bank margin	mortgages
Consortium of financial institutions (8)	-	USD 382.0	(0.8)	-	-	-	31.12.2017	-	3M LIBOR or 6M LIBOR + bank margin	ceiling mortgage; registered pledges over inventories, all assets and rights, and on receivables; power of attorney over bank accounts; representation on voluntary submission to enforcement; assignment of rights under project agreements, insurance policies, trade contracts; pledge over the shares of the Parent in LOTOS Asfalt Sp. z o.o.; assignment of rights under conditional loan agreement
Bank Millennium S.A.	50.9	-	5.1	-	37.3	-	31.12.2017	30.04.2025	3M WIBOR + bank margin	first-ranking mortgage and registered pledge, assignment of receivables and assignment of rights under insurance policies.

Lender	Principal amount as per agreement		Outstanding amount				Repayment date of the		Financial terms (interest rate, interest payment schedule, etc.)	Security
			(current portion)		(non-current portion)					
	PLN	Currency	PLN	Currency	PLN	Currency	current portion	non- current portion		
	(million)	(million)	(million)	(million)	(million)	(million)				
PKO BP S.A.	100	-	10.1	-	64.0	-	Dec 31 2016	31.01.2021	1M WIBOR + margin	registered and financial pledges over shares and assignment of rights under insurance policies
Funds in bank deposits securing payment of interest and principal*	-	-	(344.3)	USD (82.4)	-	-	-	-	-	-
			76.5	-	343.1	-				
	TOTAL		1.249,2	USD 297.9	3.496,1	USD 848.6				
			1.325,7	-	3.839,2	-				

Bank margins on the borrowings are within the range of 0.30pp. – 4.00pp.

Bank syndicate (1): Pekao S.A., Société Générale S.A., Bank Handlowy w Warszawie S.A., mBank S.A., Industrial and Commercial Bank of China (Europe) S.A. (Spółka Akcyjna) Polish Branch. On October 21st 2016, on signing of an annex to the credit facility agreement, the composition of the syndicate changed; see below for details.

Bank syndicate (2): Banco Bilbao Vizcaya Argentaria S.A., MUFG Bank (Europe) N.V., Pekao S.A., BNP Paribas Fortis SA/NV, Credit Agricole CIB (formerly Calyon), DNB Bank Polska S.A., ING Bank Śląski S.A., KBC Bank NV London, PKO BP S.A., Société Générale S.A., Bank Zachodni WBK S.A., BGŻ BNP Paribas Bank Polska S.A., Sumitomo Mitsui Banking Corporation Europe Ltd.,

Bank syndicate (3): Banco Bilbao Vizcaya Argentaria S.A., BNP Paribas Fortis NV,

Bank syndicate (4): Pekao S.A., PKO BP S.A., BNP Paribas S.A. Polish Branch, ING Bank Śląski S.A., BGŻ BNP Paribas Bank Polska S.A.,

Bank syndicate (5): Pekao S.A., PKO BP S.A.,

Bank syndicate (6): Pekao S.A., mBank S.A.

Bank syndicate (7): Bank Gospodarstwa Krajowego, Bank Millennium S.A., Pekao S.A., Bank Zachodni WBK S.A., PKO BP S.A., Powszechny Zakład Ubezpieczeń S.A., Powszechny Zakład Ubezpieczeń na Życie S.A. and Société Générale S.A.

*As at December 31st 2016, Grupa LOTOS S.A. offset a financial asset (cash reserved for repayment of the facilities) against a financial liability under the facilities and, in accordance with IAS 32 *Financial Instruments: presentation*, it disclosed the relevant net amount in the statement of financial position (the Company holds a valid legal title to set off the amounts and intends to realise the asset and settle the liability simultaneously). Accumulation of funds for the repayment of credit facilities is expressly provided for in the documentation of the investment facilities obtained to finance the 10+ Programme, as well as the inventory financing and refinancing facility. The Company is required to set aside and maintain funds for repayment of principal instalments and interest due over the next six months. The purpose of adopting the net-basis presentation approach is to reflect the expected future cash flows from settlement of two or more financial instruments.

Bank borrowings of the Parent

Inventory financing and refinancing facility

As at December 31st 2016, the nominal amount drawn under the credit facility for the refinancing and financing of inventories, advanced by Bank syndicate (1) was PLN 835.9m (USD 200m).

Amendments to the inventory refinancing and financing facility

On October 21st 2016, an annex was signed to the agreement for the financing and refinancing of inventories of October 10th 2012. Under the annex, the term of the agreement was extended by 12 months (i.e. until December 20th 2017) and the facility amount was reduced from USD 400m to USD 345m. The financial terms of the agreement were adjusted to reflect current market conditions.

Amendments to the credit facility agreement came into effect on December 20th 2016. On the same day, a partial repayment of the credit facility of PLN 421.5m (USD 100m) was made.

Investment facilities

As at December 31st 2016, the Company had drawn PLN 3,794.7m (USD 908m) under the investment facilities advanced by Bank syndicates (2) and (3) to finance the 10+ Programme. As at December 31st 2015, the amount was PLN 4,074.8m (USD 1,044.5m).

Working-capital facilities

The working-capital facility was made available to Grupa LOTOS S.A. in the form of overdraft facilities, used by the Company on an as-needed basis.

The Parent has access to working-capital facility financing totalling PLN 400m. As at December 31st 2016 and December 31st 2015, the Company carried no liabilities under these facilities.

Agreement for the financing of the EFRA Project

On June 30th 2015, LOTOS Asphalt Sp. z o.o. and a consortium of financial institutions signed a credit facility agreement (and supporting agreements) under which the company obtained additional funds necessary to finance the implementation of the EFRA Project. The agreement covers two credit facilities:

- an investment credit facility of up to USD 432m (PLN 1,626m translated at the USD/PLN mid rate quoted by the National Bank of Poland as at June 30th 2015), repayable on December 21st 2024,
- a working capital facility of up to PLN 300m, to be disbursed in two tranches:
 - up to PLN 100m, repayable by June 30th 2020,
 - up to PLN 200m, repayable by December 21st 2024.

On May 10th 2016, the principal amount of the investment facility was reduced from USD 432m to USD 382m. The reduction was requested by LOTOS Asphalt Sp. z o.o. in line with its rights under the agreement. The other terms of the agreement remained unchanged.

The interest rate of the investment credit facility is based on 3M or 6M LIBOR, depending on the selected interest period, while the working capital facility bears interest based on 1M WIBOR.

The main security instruments include a ceiling mortgage over rights to property, registered pledges over all assets and rights (including over new units and inventories) of LOTOS Asphalt Sp. z o.o.'s, registered and financial pledge over bank accounts of LOTOS Asphalt Sp. z o.o., assignment of rights under agreements related to the EFRA Project, insurance agreements and trade contracts, power of attorney over bank accounts, and a declaration on submission to enforcement.

Other security instruments provided under the agreement include a registered and financial pledge over shares in LOTOS Asphalt Sp. z o.o. held by Grupa LOTOS S.A., Grupa LOTOS S.A.'s declaration on submission to enforcement and assignment of both parties' rights under a loan agreement of June 30th 2015 between Grupa LOTOS S.A. and LOTOS Asphalt Sp. z o.o., including under a promissory note securing the loan. The agreement provides for a conditional revolving loan of up to USD 53m, repayable by January 17th 2026. The loan is to be used to finance the EFRA Project if LOTOS Asphalt Sp. z o.o. fails to generate sufficient own funds, and also to improve LOTOS Asphalt Sp. z o.o.'s liquidity.

As at December 31st 2016, the amount of outstanding liabilities under the agreements was PLN 93.3m (December 31st 2015: PLN 131.4m).

Bank borrowings of other Group companies

The aggregate liabilities outstanding under bank borrowings of other Group companies as at December 31st 2016 were PLN 704.8m (December 31st 2015: PLN 888.2m). The outstanding amount comprised mainly liabilities incurred by LOTOS Paliwa Sp. z o.o. and companies of the LOTOS Petrobaltic Group: LOTOS Exploration and Production Norge AS, SPV Baltic Sp. z o.o., and AB LOTOS Geonafta.

Bank borrowings of LOTOS Exploration and Production Norge AS

As at December 31st 2016, LOTOS Exploration and Production Norge AS disclosed PLN 180.4m (USD 43m) in liabilities under the investment facility taken out to finance the acquisition of Heimdal assets, provided by PKO BP S.A. (agreement of December 11th 2013); As at December 31st 2015, the amount of outstanding liabilities under the agreement was PLN 234.2m (USD 60.0m).

In addition, LOTOS Exploration and Production Norge AS uses another facility, provided by PKO BP S.A., to finance its day-to-day operating and investing activities. As at December 31st 2016, the amount of outstanding liabilities under the facility was PLN 139.5m (USD 33.3m), and as at December 31st 2015 it was PLN 175.6m (USD 45m).

Bank borrowing of SPV Baltic Sp. z o.o.

On January 31st 2014, SPV Baltic Sp. z o.o. signed an investment facility agreement with Nordea Bank Polska S.A. (currently PKO BP S.A.) to finance the purchase of a drilling rig (agreement of December 20th 2013). As at December 31st 2016, the amount of outstanding liabilities under the credit facility was PLN 74.1m (December 31st 2015: PLN 83.6m).

Bank borrowings of AB LOTOS Geonafta

On June 29th 2015, AB LOTOS Geonafta (a LOTOS Petrobaltic Group company operating in the upstream segment) and Nordea Bank AB Lithuanian Branch signed an annex to the credit facility agreement of September 27th 2012, under which Nordea Bank AB Lithuanian Branch granted AB LOTOS Geonafta:

- a long-term credit facility of up to USD 20m,
 - a working capital facility of up to USD 10m,
- to refinance its existing credit facilities.

As at December 31st 2016, the amount of outstanding liabilities of AB LOTOS Geonafta under the agreement was PLN 60.3m (USD 14.3m). As at December 31st 2015, the amount was PLN 84.5m (USD 21.8m).

Bank borrowings of LOTOS Paliwa Sp. z o.o.

Liabilities of LOTOS Paliwa Sp. z o.o. under bank borrowings include primarily amounts outstanding under investment facilities granted by PKO BP S.A., Pekao S.A and mBank S.A. for the refinancing and financing of service station acquisitions.

As at December 31st 2016, the amount of outstanding liabilities under the investment facility agreements was PLN 208.1m (December 31st 2015: PLN 241.8m).

5.3.2. Other financing agreements

Changes in financing of the B8 project

On October 19th 2016, B8 Spółka z ograniczoną odpowiedzialnością Baltic Spółka komandytowo-akcyjna (the 'B8 SPV'), Fundusz Inwestycji Infrastrukturalnych – Dłużny Fundusz Inwestycyjny Zamknięty Aktywów Niepublicznych ('PFR') and Bank Gospodarstwa Krajowego ('BGK') entered into the following financing agreements for the development of the B8 oil field on the Baltic Sea:

- Senior Note Programme Agreement,
- Subordinated Note Programme Agreement,
- Accounts Agreement,
- Powers of Attorney over the Issuer's Accounts,
- Investment Agreement,
- Bank Guarantee Facility Agreement.

Under the Senior Note Programme Agreement, the B8 SPV will issue notes to finance further development of the B8 field, including the purchase of project-related assets from LOTOS Petrobaltic, and VAT liabilities. BGK will subscribe for the notes on the terms specified in the agreement. Under the Subordinated Note Programme Agreement, the B8 SPV will issue notes to finance further development of the B8 field, including the purchase of project-related assets from LOTOS Petrobaltic S.A. PFR will subscribe for the notes on the terms specified in the agreement. The relations between senior and subordinate creditors and the seniority of claims against the B8 SPV are governed by the Intercreditor Agreement.

To finance the remaining expenditure on the project, the B8 SPV will obtain USD 42.5m with BGK under the Senior Note Programme Agreement, and PLN 160m from PFR under the Subordinated Note Programme Agreement. Pursuant to the Senior Note Issue Programme Agreement, the B8 SPV will also be able to issue notes to cover its VAT liabilities up to the amount of PLN 90m. The notes subscribed for by BGK are to be redeemed by March 31st 2018, while those subscribed for by PFR – by December 31st 2022.

The parties agreed that the transaction will be secured with collateral to be established under the following agreements:

- Agreement on civil-law, registered and financial pledges over shares (Investor),
- Agreement on civil-law, registered and financial pledges over shares (General partner),
- Agreement on registered pledges over assets,
- Agreement on civil-law, registered and financial pledges over bank accounts,
- Agreement on registered pledges over contractual receivables,
- Agreement on registered pledges over the EPMS agreement,
- Agreement on civil-law, registered and financial pledges over shares,
- Agreement on registered pledges over receivables (Investor),
- Agreement on registered pledges over General Partner's interest,
- Agreement on creation of mortgages over the Petrobaltic platform.

The agreements will be signed and the value of security will be determined at a later date, as part of fulfilling the conditions precedent for the note issue.

On October 19th 2016, the B8 SPV, PFR (formerly Polskie Inwestycje Rozwojowe), BGK and Bank Polska Kasa Opieki S.A. ('Pekao') agreed to terminate the Senior Note Programme Agreement for the financing of development of the B8 field of up to USD 210m and PLN 80m; the Subordinated Note Programme Agreement of up to PLN 430.6m; and the Intercreditor Agreement, executed on August 25th 2014 (for more information, see [Current Report No. 21/2014](#) of October 15th 2014).

On February 15th 2017, the B8 SPV received the final confirmation of fulfilment of the conditions precedent to disbursement of the financing specified in the subordinated and senior note programme agreements. On February 27th, BGK and PFR accepted the invitation to purchase notes issued by the B8 SVP, and on March 1st 2017 the B8 SVP issued the first tranche of notes under the senior note programme (for USD 26,931,000.00), and under the subordinated note programme (for PLN 100,998,317.49), as well as notes to cover VAT liabilities (for PLN 85,300,000.00).

Amendments to the agreement for refinancing and financing of Grupa LOTOS S.A.'s inventories

On October 21st 2016, Grupa LOTOS S.A. and a syndicate of six banks, currently comprising:

- Bank Polska Kasa Opieki S.A. of Warsaw,
- mBank S.A. of Warsaw,
- ING Bank Śląski S.A. of Katowice,
- Societe Generale of Paris,
- Bank Handlowy w Warszawie S.A. of Warsaw,
- Bank Zachodni WBK S.A. of Wrocław,

and Industrial and Commercial Bank of China (Europe) S.A. (Spółka Akcyjna) of Luxembourg Oddział w Polsce (Polish Branch),

signed an annex to the credit facility agreement for refinancing and financing of Grupa LOTOS S.A.'s inventories of October 10th 2012 (see [Current Report No. 32/2012](#) of October 10th 2012 and [Current Report No. 35/2012](#) of October 31st 2012), as amended ([Current Report No. 27/2013](#) of November 7th 2013, [Current Report No. 28/2013](#) of November 28th 2013, [Current Report No. 24/2014](#) of October 29th 2014, and [Current Report No. 33/2015](#) of November 18th 2015).

The agreement provides for a revolving credit facility of USD 400m. The annex was signed pursuant to the provisions of the credit facility agreement which stipulate that the lending period may be extended by 12-month periods.

Under the amendment, as of December 20th 2016: (i) the lending period was extended until December 20th 2017, (ii) the facility amount was reduced from USD 400m to USD 345m, and (iii) the financing terms were adjusted to reflect the then-prevailing market conditions.

The terms and conditions of the amendment do not differ materially from the terms and conditions commonly applied in agreements of such type. The amendment contains no conditions precedent to its coming into force and does not provide for any contractual penalties.

The other terms and conditions of the credit facility agreement of October 10th 2012 were not amended.

Under the amendment documentation, as of December 20th 2016 ING Bank Śląski S.A. and Bank Zachodni WBK S.A. ceased to be party to the credit facility agreement and Industrial and Commercial Bank of China (Europe) S.A. (Spółka Akcyjna) Oddział w Polsce (Polish Branch) became a new financing party.

5.3.3. Intercompany loans

Table 34. LOTOS Group's intercompany loans as at December 31st 2016:

Lender	Borrower	Agreement date	Principal amount as per agreement		Amount outstanding as at Dec 31st 2016				Repayment date		Financial terms (interest rate, interest payment schedule, etc.)	Security
			PLN	Currency	(current portion)		(non-current portion)		current portion	non-current portion		
					PLN	Currency	PLN	Currency				
			(million)	(million)	(million)	(million)	(million)	(million)				
LOTOS Petrobaltic S.A.	ENERGOBALTIC Sp. z o.o.	30.10.2013	9.9	-	-	-	5.0	-	-	31.12.2017	1M WIBOR + margin	blank promissory note with a 'protest waived' clause and promissory note declaration
LOTOS Petrobaltic S.A.	LOTOS Norge AS	26.08.2008	832.5	USD 273.2	-	-	319.6	USD 89.4	-	31.12.2019	6M LIBOR + margin	blank promissory note with a 'protest waived' clause and promissory note declaration
LOTOS Petrobaltic S.A.	LOTOS Norge AS	08.05.2015	Loan conversion from USD to NOK	NOK 26.2	-	-	334.2	NOK 686.6	-	31.12.2019	6M LIBOR + margin	blank promissory note with a 'protest waived' clause and promissory note declaration
LOTOS Petrobaltic S.A.	AB LOTOS Geonafta	17.12.2010	29.3	EUR 7.1	-	-	20.6	EUR 4.7	-	31.12.2020	6M EURIBOR + margin	blank promissory note with a 'protest waived' clause and promissory note declaration
LOTOS Petrobaltic S.A.	SPV Baltic Sp. z o.o.	27.01.2014	46.3	-	-	-	50.9	-	-	31.01.2022	6M WIBOR + margin	Blank promissory note
LOTOS Petrobaltic S.A.	SPV Baltic Sp. z o.o.	23.12.2013	58.5	USD 14.0	-	-	66.0	USD 15.1	-	31.01.2022	6M LIBOR + margin	Blank promissory note

Lender	Borrower	Agreement date	Principal amount as per agreement		Amount outstanding as at Dec 31st 2016				Repayment date		Financial terms (interest rate, interest payment schedule, etc.)	Security
			PLN	Currency	(current portion)		(non-current portion)		current portion	non-current portion		
					PLN	Currency	PLN	Currency				
			(million)	(million)	(million)	(million)	(million)	(million)				
LOTOS Petrobaltic S.A.	B8 Sp. Z o.o. SKA	20.10.2015	8.5	-	-	-	8.9	-	-	31.12.2022	3M WIBOR + margin	Blank promissory note
AB LOTOS Geonafta	LOTOS Norge AS	24.10.2011	83.6	USD 20.0	-	-	105.2	USD 25.2	-	31.12.2019/31.03.2020	3M LIBOR + margin	Promissory note
Aphrodite Offshore N.V.	LOTOS Petrobaltic S.A.	15.12.2014	5.2	USD 1.6	-	-	5.7	USD 1.4	-	01.01.2018	3M LIBOR + margin	blank promissory note with a 'protest waived' clause and promissory note declaration
LOTOS Norge AS	LOTOS Petrobaltic S.A.	04.02.2016	59.6	USD 15.0	65.4	USD 15.7	-	-	31.01.2017	-	3M LIBOR + margin	blank promissory note with a 'protest waived' clause and promissory note declaration
Grupa LOTOS S.A.	LOTOS Petrobaltic S.A.	01.02.2016	36.0		-	-	37.1	-	-	31.01.2018	6M LIBOR + margin	Blank promissory note
Grupa LOTOS S.A.	LOTOS Petrobaltic S.A.	31.05.2016	54.0		-	-	55.6	-	-	31.01.2018	6M LIBOR + margin	Blank promissory note
Grupa LOTOS S.A.	LOTOS Petrobaltic S.A.	26.09.2016	84.3	USD 22.0	-	-	93.2	USD 22.3	-	31.12.2019	3M LIBOR + margin	Blank promissory note
Kambr Navigation Company Limited	Miliana Shipmanagement Limited	29.05.2013	0.9	USD 0.2	0.3	USD 0.07	0.1	USD 0.04	30.09.2017	30.06.2018	1M LIBOR + margin	None
Petro Icarus Company Limited	Miliana Shipmanagement Limited	29.05.2013	4.6	USD 1.1	1.6	USD 0.4	0.8	USD 0.2	30.09.2017	30.06.2018	1M LIBOR + margin	None

Lender	Borrower	Agreement date	Principal amount as per agreement		Amount outstanding as at Dec 31st 2016				Repayment date		Financial terms (interest rate, interest payment schedule, etc.)	Security
			PLN	Currency	(current portion)		(non-current portion)		current portion	non-current portion		
					(million)	(million)	(million)	(million)				
Granit Navigation Company Limited	Miliana Shipmanagement Limited	29.05.2013	0.7	USD 0.2	0.3	USD 0.06	0.1	USD 0.03	30.09.2017	30.06.2018	1M LIBOR + margin	None
Bazalt Navigation Company Limited	Miliana Shipmanagement Limited	29.05.2013	0.7	USD 0.2	0.2	USD 0.06	0.1	USD 0.03	31.12.2017	30.06.2018	1M LIBOR + margin	None
Granit Navigation Company Limited	Miliana Shipmanagement Limited	10.12.2014	2.3	USD 0.6	1.4	USD 0.3	1.9	USD 0.4	31.12.2017	30.06.2019	1M LIBOR + margin	None
Petro Icarus Company Limited	Miliana Shipmanagement Limited	10.12.2014	14.9	USD 3.6	5.9	USD 1.4	8.0	USD 1.9	31.12.2017	30.06.2019	1M LIBOR + margin	None
Kambr Navigation Company Limited	Miliana Shipmanagement Limited	10.12.2014	3.0	USD 0.7	1.5	USD 0.3	0.4	USD 0.09	31.12.2017	30.06.2019	1M LIBOR + margin	None
Bazalt Navigation Company Limited	Miliana Shipmanagement Limited	10.12.2014	2.4	USD 0.6	1.3	USD 0.3	1.7	USD 0.4	31.12.2017	30.09.2017	1M LIBOR + margin	None
Miliana Shipping Group	Miliana Shipmanagement Limited	25.08.2016	0.7	USD 0.2	0.4	USD 0.09	0.4	USD 0.09	31.12.2017	31.12.2018	1M LIBOR + margin	None
Petro Aphrodite	Miliana Shipmanagement Limited	19.08.2016	0.9	USD 0.2	0.4	USD 0.09	0.5	USD 0.1	31.12.2017	30.06.2019	1M LIBOR + margin	None

Miliana Shipmanagement Limited	St. Barbara Nav.	10.11.2016	4.6	USD 1.1	0.7	USD 0.2	3.8	USD 0.9	31.12.2017	28.02.2023	1M LIBOR + margin	None
Grupa LOTOS S.A.	ENERGOBALTIC Sp. z o.o.	19.12.2016	10.0	-	-	-	10.0	-	-	30.06.2018	6M WIBOR + margin	Blank promissory note
					-	-	167.5	-				
					79.4	USD 19.0	607.5	USD 157.6				
TOTAL					-	- EUR	20.6	EUR 4.7				
					-	- NOK	334.2	NOK 686.6				
					79.4		1,129.8					

Notes of LOTOS Exploration and Production Norge AS purchased by LOTOS Asphalt Sp. z o.o.

As at December 31st 2016, LOTOS Exploration and Production Norge AS's total debt under the notes (principal and accrued interest) was PLN 359m (USD 86m).

The issue proceeds were used to finance development of the PL316 and 316B production licences (the YME field) and for general corporate purposes related to oil exploration and production operations. Under an annex to the agreement signed on October 24th 2016, the redemption date and the interest payment date (for interest accrued from the date when the notes were purchased) were set for December 31st 2020.

Notes of Miliana Shipmanagement Ltd. purchased by Technical Ship Mamanegemnt Sp. z o.o.

On November 8th 2016, MILIANA Shipmanagement Ltd. issued notes for PLN 1.8m, which were purchased by Technical Ship Mamanegemnt Sp. z o.o. in a private placement transaction.

5.3.4. Financial resources management

In 2016, the LOTOS Group was able to meet all of its liabilities towards third parties. In the period from January 1st to December 31st 2016, the LOTOS Group used investment and working capital overdraft facilities. As at December 31st 2016, the LOTOS Group had PLN 1,101.0m in funds available under working capital facilities. As at December 31st 2016, the balance of overdraft facilities was PLN 13.1m. Under the credit facilities incurred to finance the 10+ Programme and the facility for the refinancing of inventories, Grupa LOTOS S.A. is required to maintain the Tangible Consolidated Net Worth ratio of no less than specified in the facility agreements.

Under the refinancing facility, the Company is also required to maintain the Loan to Pledged Inventory Value ratio of no more than specified in the facility agreement.

As at December 31st 2016 and December 31st 2015, the covenants were complied with.

5.4. Management Board's representations

5.4.1. On compliance of the full-year financial statements and the Directors' Report on the Operations of Grupa LOTOS S.A. and the LOTOS Group

The Management Board of LOTOS S.A., composed of:

Marcin Jastrzębski – President of the Board, Chief Executive Officer

Mateusz Aleksander Bonca – Chief Strategy and Development Officer

Jarosław Kawula – Chief Refining Officer

Mariusz Machajewski – Chief Financial Officer

hereby represent that, to the best of their knowledge, the annual financial statements of Grupa LOTOS S.A. and the annual consolidated financial statements of the LOTOS Group for 2016 as well as the comparative data were prepared in compliance with the applicable accounting standards and give a

true, clear and fair view of the assets, financial standing and financial results of Grupa LOTOS S.A. and the LOTOS Group.

Furthermore, the Management Board of Grupa LOTOS S.A. represents that the Directors' Report on the Operations of Grupa LOTOS S.A. and the LOTOS Group in 2016 gives a true view of the LOTOS Group's development, achievements and position, and includes a description of key risks and threats.

5.4.2. On appointment of the qualified auditor of financial statements

The Management Board of Grupa LOTOS S.A. represents that the qualified auditor of the consolidated financial statements of the LOTOS Group for 2016 and the financial statements of Grupa LOTOS S.A. for 2016 was appointed in accordance with the applicable laws, and that the auditing firm and the qualified auditors who performed the audit met the conditions necessary to issue an impartial and independent auditor's opinion in accordance with the applicable regulations and professional standards.

For information on the LOTOS Group's [auditor rotation policy](#) see the 'Investor relations' website.

5.5. Policies applied in the preparation of full-year consolidated financial statements

The full-year 2016 consolidated financial statements of the LOTOS Group and the full-year 2016 separate financial statements of Grupa LOTOS S.A. were prepared in accordance with published International Financial Reporting Standards ('IFRSs') endorsed by the European Union, in effect as at December 31st 2016. Given the ongoing process of implementation of IFRSs in the European Union and the scope of the Group's and the Company's business, as far as the accounting policies applied by the Group and the Company are concerned, there is no difference between the IFRSs which have come into force and the IFRSs endorsed by the European Union for 2016, save for the standards which have been modified or introduced as a result of applying new IFRS regulations for annual periods beginning after January 1st 2016 (see Note 4 to the consolidated financial statements).

The following new standards, amendments to the existing standards and interpretations which have been endorsed by the European Union (the 'EU') are effective in periods beginning on or after January 1st 2016 and have been applied by the Company:

- Amendments to IAS 16 *Property, Plant AND Equipment* and IAS 41 *Agriculture: bearer plants*; issued on June 30th 2014 (effective for annual periods beginning on or after January 1st 2016),
- Amendments to IFRS 11 *Joint Arrangements: accounting for acquisitions of interests in joint operations*, published on May 6th 2014 (effective for annual periods beginning on or after January 1st 2016),
- Amendments to IAS 16 *Property, Plant and Equipment* and IAS 38 *Intangible assets: clarification of acceptable methods of depreciation and amortisation* (issued on May 12th 2014), effective for annual periods beginning on or after January 1st 2016,
- Amendments introduced as part of the Improvements to IFRSs 2012-2014 cycle, published on September 25th 2014 (effective for annual periods beginning on or after January 1st 2016),
- Amendments to IAS 1 *Presentation of Financial Statements: disclosures*, published on December 18th 2014 (effective for annual periods beginning on or after January 1st 2016),

- Amendments to IAS 27 *Separate Financial Statements: equity method in separate financial statements*, published on August 12th 2014 (effective for annual periods beginning on or after January 1st 2016),
- Amendments to IFRS 10 *Consolidated Financial Statements*, IFRS 12 *Disclosure of interests in other entities*, and IAS 28 *Investments in associates and joint ventures: investment entities: applying the consolidation exception* (issued on December 18th 2014), effective for annual periods beginning on or after January 1st 2016.

In particular, the consolidated financial statements have been prepared taking into account amendments to IAS 1 *Presentation of Financial Statements* with respect to disclosures. The Group has made changes in the scope and form of disclosures in terms of:

- materiality – immaterial disclosures are not presented, even if required under a given standard,
- aggregation or disaggregation of certain items in order to enhance clarity and usefulness of the information presented,
- accounting policies – only those policies are presented that have a material impact on the presentation of the Group's results and situation.

Other amendments to and interpretations of IFRSs specified above have no material effect on the Group's financial statements.

The consolidated and separate financial statements were prepared on the assumption that the Group companies will continue as going concerns in the foreseeable future. As at the date of authorisation of these financial statements for issue, no circumstances were identified which would indicate any threat to the Group companies' continuing as going concerns.

The Parent's functional currency and the presentation currency of these consolidated and individual financial statements is the Polish złoty ('złoty', 'zł', 'PLN'). These consolidated and separate financial statements were prepared in thousands of złoty and, unless indicated otherwise, all amounts are stated in thousands of złoty.

LOTOS Group's business risks



6. Grupa LOTOS S.A.'s and the LOTOS Group's business risks

In 2016, the Group reviewed the delivery of the business strategy and the important lessons learnt to date, and outlined further path of strategic development for 2017-2022. Grupa LOTOS S.A., as an enterprise involved in the strengthening of Poland's energy security, strives to create added value for its shareholders with due respect for corporate social responsibility, security, and environmental protection. The Group's business is affected by rapidly changing crude oil and natural gas prices and exchange rates, which have a material bearing on the Group's financial performance. The market environment is also changing fast, with prices of refined products reflecting the balance of demand and supply, while the strong competition requires us to constantly review and adjust our oil and gas procurement strategy and pricing policies.

The Group identifies and manages a range of diverse risks, which may affect all areas of its business. Many of them are interrelated, so we analyse their interactions and seek to minimise their impact.

Figure 41 Key risks in the LOTOS Group



Political and regulatory risks

Political risks in 2016 included the Russia-Ukraine conflict and the resulting sanctions imposed on Russia by the European Union and the United States of America. The Company monitors the geopolitical situation. In 2016, the EU sanctions did not materially affect the Company's activities in the area of crude oil procurement or trade in oil products. Sources of regulatory risks included plans to implement new EU legislation, especially related to the EU's more stringent climate policy until 2030. The European Union proposes that the greenhouse gas emissions target be reduced to 40% compared with 1990, the share of renewable energy sources (RES) in total electricity consumption be raised to 27%, and the annual rate of CO₂ emissions reduction in the emissions trading system (ETS) be increased from 1.7% to 2.2%. This will have a major bearing on the European refining business, and may even lead to further refineries being closed down (in 2010-2015 there were 25 plant closures).

Grupa LOTOS S.A. consistently pursues its policy of upgrading the Gdańsk refinery; the EFRA Project, designed to build a delayed coking unit (DCU) for the processing and management of heavy fractions, is currently under way.

A positive regulatory change that significantly affected Grupa LOTOS S.A.'s trading operations was the enactment of fuel market legislation (in effect as of August 2016) and the energy market legislation (in effect as of September 2016). The new laws helped to curb illegal imports of and trade in fuels, thus supporting demand for fuels from legal sources in Poland.

Financial risks

Grupa LOTOS S.A. and its Group finance their investment projects and carry out day-to-day operations in compliance with the Polish law and relevant financing and tax rulings.

The Group's financial risk management policy (addressing liquidity risk, currency risk, credit risk, and risks related to debt service costs) is a pillar of the Group's efforts to ensure security of investment projects and delivery of strategic objectives.

All documents and financial statements presenting the LOTOS Group's financial performance are prepared in accordance with IFRS.

Environmental risks

The activities of Grupa LOTOS S.A. and its Group have significant environmental impacts; therefore, all regulatory requirements raising the bar on environmental standards are treated responsibly. Our community and environmental impacts are monitored on an on-going basis, environmental risks are analysed, and a number of measures are taken to prevent the risks from becoming reality. Grupa LOTOS S.A. and its Group manage their environmental risks effectively, which is confirmed by the necessary business-critical licences and administrative approvals held by the Group.

Reputation and social risk

Reputation risks are related to events which may have a heavy negative bearing on the image of Grupa LOTOS S.A. and the LOTOS brand, as perceived by a large group of stakeholders. Social risks are associated with the influence of Grupa LOTOS S.A. and its Group on the local community in which it operates. As a socially responsible partner, Grupa LOTOS S.A. communicates with all stakeholder groups in an open and reliable manner, thus building the Company's transparent image among business partners and communities. We take special care to make sure that the stakeholders are duly informed about the progress of any projects and growth plans related to our activities. Dialogue with external business environment is an integral part of the Company's operations.

Compliance risks

Compliance risks are associated with the need to ensure that our operations are in keeping with all applicable legal regulations and requirements. This applies to all areas of activity, including, but not limited to, occupational health and safety, information security, personal data protection, work ethics, relations with stakeholders, misconduct, regulatory and reporting obligations, and CSR. In 2016, the LOTOS Group rolled out the corporate Compliance Policy, to ensure that all Group-wide operations are in compliance with applicable laws, internal regulations, ethical values, and standards of conduct across the Group.

Exploration and production risks

The LOTOS Group also identifies and manages risks related to its exploration and production activities. In particular, these risks are inherent in running upstream projects, estimation of hydrocarbon resources and reserves, as well as all technical, production, environmental, and financial aspects of the Group's operations affected by the volatilities in the macroeconomic environment. With support from professional external advisers, the Group's upstream companies carry out relevant surveys and analyses to determine the size, accessibility and quality of hydrocarbon accumulations.

2016 saw a reversal of negative oil and gas price trends in the upstream sector, which encouraged a shift in investor sentiment towards upstream companies. In Norway new circumstances emerged which prompted the Group to consider reviving the Yme project. The operator is currently working on the new field development plan, which is to be endorsed in mid-2017.

Operational risks related to the refinery

Personnel, process and infrastructure security and safety are essential for the oil processing and refining business. Infrastructure-related operational risks are managed based on prioritisation of plant and equipment or, in other words, criticality assessment and hierarchy. In the area of diagnostics and assessment of the technical condition of high-pressure equipment, the Company implemented Risk Based Inspection methodology for selected units. To mitigate the risk of near misses, incidents or accidents, automatic control systems are used to support production processes. Automatic alarm and emergency shutdown systems are in place, and process units are also fitted with safety and fire protection systems.

Commercial risks

Flexibility is a precondition for running a business in a highly volatile and challenging market. In an effort to ensure continuity of supplies and the highest quality of our products and services, we identify and manage commercial and logistics risks. Continuity of supplies of crude oil, as the main feedstock for our refining processes, is of critical importance. We also monitor risks associated with the sale of our products, the grey market, logistics of crude oil and petroleum products, and compliance with the regulatory requirements concerning the National Indicative Target and sales of bio-hydrocarbons.

Risk management system at the LOTOS Group

Since 2011, the Enterprise Risk Management (ERM) system has been in place across the LOTOS Group. Risk management is based on internal regulations and the ERM Portal. All identified risks are assessed from the annual perspective and against the Group's current and planned business strategies. The process involves assessment of potential consequences for the LOTOS Group's financial standing and reputation (including adverse impact on the LOTOS Group's image, the environment and people's health). Based on the adopted risk matrix, risks are classified as high, moderate or low. High risks are subject to more stringent controls, including, in particular, by:

- defining and monitoring Key Risk Indicators (KRIs) so as to control risk exposure,
- developing a risk mitigation plan and defining acceptable risk levels,
- developing risk materialisation action plans, which define actions to be taken when risks actually occur.

As at the end of 2016, 69 corporate risks were identified, including:

High risks	11
Moderate risk	44
Low risks	13

The ERM Portal supports risk management efforts of risk owners, through on-going registration and assessment of risks, recording of current status of all measures taken, and monitoring of KRIs. All incidents are documented in the system.

The LOTOS Group's risk management system is consistently developed so as to upgrade its functionality. New functions and upgrades are added in the ERM Portal, to reflect and address the users' needs.

Active management of development opportunities and related risks is one of the key strategic objectives featured in the LOTOS Group Strategy 2017–2022, and the risk management system is an important element of delivering the objective.

Organisation and management at the LOTOS Group



7. Organisation and management at Grupa LOTOS S.A. and the LOTOS Group

7.1. Ownership links and management rules

7.1.1. Divisions of Grupa LOTOS S.A.

Grupa LOTOS S.A. has no divisions within the meaning of the Polish Accountancy Act.

7.1.2. Changes in organisational or capital links between Grupa LOTOS S.A. and other entities

The LOTOS Group comprises Grupa LOTOS S.A. (the Parent), a number of production, service and trading companies which are direct or indirect subsidiaries of Grupa LOTOS S.A., and one foundation.

The Group also holds shares in equity-accounted joint ventures (for more information, see Note 14 to the consolidated financial statements).

Key information on the Group entities and on the Group's ownership interests in those entities as at December 31st 2016 is presented below. The ownership interests did not change relative to December 31st 2015.

Table 35. Companies with organisational links to Grupa LOTOS S.A. as at December 31st 2016

Name	Registered office	Description of business	Group's ownership interest
Parent			
<i>Downstream segment</i>			
Grupa LOTOS S.A.	Gdańsk	Manufacturing and processing of refined petroleum products (mainly fuels) and their wholesale	Not applicable
Direct fully-consolidated subsidiaries			
<i>Upstream segment</i>			
• LOTOS Petrobaltic S.A. (parent of another group: LOTOS Petrobaltic Group)	Gdańsk	Acquisition of crude oil and natural gas deposits, extraction of hydrocarbons	99.99%
<i>Downstream segment</i>			
• LOTOS Paliwa Sp. z o.o.	Gdańsk	Wholesale and retail sale of fuels and light fuel oil, management of the LOTOS service station network	100.00%
• LOTOS Oil Sp. z o.o.	Gdańsk	Manufacturing and sale of lubricating oils and lubricants, and sale of base oils	100.00%
• LOTOS Asfalt Sp. z o.o.	Gdańsk	Manufacturing and sale of bitumens	100.00%
• LOTOS Kolej Sp. z o.o.	Gdańsk	Railway transport	100.00%
• LOTOS Serwis Sp. z o.o.	Gdańsk	Maintenance of mechanical and electric operations and controlling devices, overhaul and repair services	100.00%
• LOTOS Lab Sp. z o.o.	Gdańsk	Laboratory testing	100.00%
• LOTOS Straż Sp. z o.o.	Gdańsk	Fire service activities	100.00%
• LOTOS Ochrona Sp. z o.o.	Gdańsk	Security services	100.00%
• LOTOS Terminale S.A. (parent of another group: LOTOS Terminale Group)	Czechowice-Dziedzice	Storage and distribution of fuels	100.00%
• LOTOS Infrastruktura S.A. (parent of another group: LOTOS Infrastruktura Group)	Jasło	Storage and distribution of fuels, Renting and operating of own or leased real estate	100.00%
• LOTOS Gaz S.A. w likwidacji (in liquidation)	Kraków	Dormant	100.00%
Non-consolidated direct subsidiaries ⁽¹⁾			
• Infrastruktura Kolejowa Sp. z o.o.	Gdańsk	Dormant	100.00%
• LOTOS Foundation	Gdańsk	Socially beneficial activity within the scope of public tasks defined in the Act on Public Benefit and Volunteer Work. The Foundation does not conduct any business activity.	100.00%

Name	Registered office	Description of business	Group's ownership interest
Indirect fully-consolidated subsidiaries			
<i>Downstream segment</i>			
<i>LOTOS Infrastruktura Group</i>			
• RCEkoenergia Sp. z o.o.	Czechowice-Dziedzice	Production and distribution of electricity, heat and gas	100.00%
<i>LOTOS Terminale Group</i>			
• LOTOS Biopaliwa Sp. z o.o.	Czechowice-Dziedzice	Production of fatty acid methyl esters (FAME)	100.00%
<i>Upstream segment</i>			
<i>LOTOS Petrobaltic Group</i>			
• LOTOS Exploration and Production Norge AS	Norway, Stavanger	Oil exploration and production on the Norwegian Continental Shelf, provision of services incidental to oil and gas exploration and production	99.99%
• Aphrodite Offshore Services N.V.	Curaçao	Sea transport services (dormant)	99.99%
• B8 Sp. z o.o.	Gdańsk	Support activities for extraction and quarrying operations	99.99%
• B8 Spółka z ograniczoną odpowiedzialnością BALTIC S.K.A.	Gdańsk	Exploration for and production of crude oil and natural gas	99.99%
• Miliana Shipholding Company Ltd. (parent of another group: Miliana Shipholding Group)	Nicosia, Cyprus	Storage and transport of crude oil, other sea transport services	99.99%
• Technical Ship Management Sp. z o.o. (parent of another group: Technical Ship Management Group)	Gdańsk	Sea transport support activities. ship operation advisory services	99,99%
• SPV Baltic Sp. z o.o.	Gdańsk	Provision of sea transport and related services	99,99%
• Miliana Shipmanagement Ltd.	Nicosia, Cyprus	Provision of sea transport and related services	99,99%
• Miliana Shipping Group Ltd. (parent of another group: Miliana Shipping Group Group)	Nicosia, Cyprus	Management of own assets	99,99%
• Bazalt Navigation Co. Ltd.	Nicosia, Cyprus	Ship chartering	99,99%
• Granit Navigation Company Ltd.	Nicosia, Cyprus	Ship chartering	99,99%
• Kambr Navigation Company Ltd.	Nicosia, Cyprus	Ship chartering	99,99%
• St. Barbara Navigation Company Ltd.	Nicosia, Cyprus	Ship chartering	99,99%
• Petro Icarus Company Ltd.	Nicosia, Cyprus	Ship chartering	99,99%
• Petro Aphrodite Company Ltd.	Nicosia, Cyprus	Ship chartering	99,99%
• AB LOTOS Geonafta (parent of another group: AB LOTOS Geonafta Group)	Lithuania, Gargždai	Crude oil exploration and production, drilling services, and purchase and sale of crude oil	99.99%
• UAB Genciu Nafta	Lithuania, Gargždai	Crude oil exploration and production	99,99%
• UAB Manifoldas	Lithuania, Gargždai	Crude oil exploration and production	99,99%
• Energobaltic Sp. z o.o.	Władysławowo	Production of electricity, heat, LPG and natural gas condensate	99.99%

(1) The companies were excluded from consolidation due to immateriality of the amounts disclosed in their financial statements as at December 31st 2016 (IFRS 10) *Consolidated Financial Statements*.

7.1.3. Ownership changes at the LOTOS Group

Below are discussed changes in the Group's structure in 2016.

B8 Sp. z o.o. – registration of share capital increase

On December 3rd 2015, the Extraordinary General Meeting of B8 Sp. z o.o. passed a resolution to increase the company's share capital from PLN 205,000 to PLN 305,000, i.e. by PLN 100,000, through the issue of 2,000 new shares with a par value of PLN 50 per share. All new shares were subscribed for by the company's existing shareholder – LOTOS Petrobaltic S.A., and were paid for with cash (PLN 100 thousand) on December 14th 2015.

On February 2nd 2016, the share capital increase was registered in the Business Register of the National Court Register.

Baltic Gas Sp. z o.o. – registration of share capital increase

On April 6th 2016, the Extraordinary General Meeting of Baltic Gas Sp. z o.o. passed a resolution to increase the company's share capital from PLN 145,000 to PLN 220,400, i.e. by PLN 75,400, through the issue of 1,508 new shares with a par value of PLN 50 per share. All new shares were subscribed for by the company's existing shareholders, namely:

- LOTOS Petrobaltic S.A. acquired 754 shares with a total par value of PLN 37,700 for cash,
- CalEnergy Resources Poland Sp. z o.o. acquired 754 shares with a total par value of PLN 37,700 for cash.

On May 19th 2016, the share capital increase was registered in the Business Register of the National Court Register.

Contributions to Baltic Gas Spółka z ograniczoną odpowiedzialnością i Wspólnicy sp.k.

In April 2016, as part of the agreed contributions, the following cash contributions were made to the company:

- PLN 7,552,607.30 – by LOTOS Petrobaltic S.A.,
- PLN 7,956,620.38 – by CalEnergy Resources Poland Sp. z o.o.

The contributions were recorded in the Business Register of the National Court Register on May 30th 2016.

Below are presented the contributions agreed and made as at June 30th 2016:

Baltic Gas Sp. z o.o. i Wspólnicy spółka komandytowa			
Partners	Baltic Gas Sp. z o.o.	LOTOS Petrobaltic S.A.	CalEnergy Resources Poland Sp. z o.o.
agreed contribution	PLN 1.000	PLN 81,869,711.00	PLN 98,933,897.00
contribution made, including:	PLN 1.000	PLN 75,862,731.84	PLN 90,278,564.09
a) cash	PLN 1.000	PLN 24,192,731.84	PLN 90,278,564.09
b) contribution in-kind	- PLN	PLN 51,700,000.00	- PLN
unpaid contribution	- PLN	PLN 5,976,979.16	PLN 8,655,332.91

B8 Sp. z o.o. – registration of share capital increase

On June 21st 2016, the Extraordinary General Meeting of B8 Sp. z o.o. passed a resolution to increase the company's share capital from PLN 305,000 to PLN 355,000, i.e. by PLN 50,000, through the issue of 1,000 new shares with a par value of PLN 50 per share. All new shares were subscribed for by the company's only shareholder – LOTOS Petrobaltic S.A., and were paid for with cash.

On August 8th 2016, the share capital increase was registered in the Business Register of the National Court Register.

LOTOS Exploration and Production Norge AS – issue of warrants

On August 24th 2016, the General Meeting of LOTOS Exploration and Production Norge AS passed a resolution on private placement of 800,000,000 warrants for LOTOS Petrobaltic S.A., each carrying the right to acquire one Series B share with a par value of NOK 1 per share. The transaction is part of the planned increase of the company's share capital. All warrants were acquired by LOTOS Petrobaltic S.A.

Until the date of this Report, the share capital of LOTOS Exploration and Production Norge AS has not been increased.

B8 spółka z ograniczoną odpowiedzialnością BALTIC S.K.A. – share capital increase

On November 8th 2016, the Extraordinary General Meeting passed a resolution to increase the company's share capital from PLN 787,817,450 to PLN 987,817,450, i.e. by PLN 200,000,000, through the issue of 20,000,000 ordinary Series D shares with a par value of PLN 10 per share. Series D shares are non-preference shares and were offered at par (issue price) in private placement exclusively to LOTOS Petrobaltic S.A. The increase was fully paid for in cash in November 2016. In the performance of its obligation, by November 16th 2016 LOTOS Petrobaltic S.A. had paid the entire amount due for the new shares of B8 spółka z ograniczoną odpowiedzialnością BALTIC S.K.A.

Dates and amounts of the cash payments:

- November 8th 2016 – PLN 20m;
- November 9th 2016 – PLN 40m (2 x PLN 20m);
- November 10th 2016 – PLN 60m (2 x PLN 30m);
- November 14th 2016 – PLN 30m;
- November 16th 2016 – PLN 50m (PLN 30m + PLN 20m), in total: PLN 200m.

On November 22nd 2016, increase of the company's share capital from PLN 787,817,450 to PLN 987,817,450, i.e. by PLN 200,000,000, through the issue of 20,000,000 ordinary Series D shares with a par value of PLN 10 per share, was registered in the Business Register of the National Court Register.

B8 spółka z ograniczoną odpowiedzialnością BALTIC S.K.A. – pledge over shares, B8 sp. z o.o. – pledge over shares

On October 12th 2016, the Extraordinary General Meeting of B8 sp. z o.o. passed a resolution to approve:

1) conclusion of the following agreements by the company's Management Board for and on behalf of the company, as the pledgee, with Bank Gospodarstwa Krajowego S.A. ('BGK'), acting as the pledge administrator, or on its own behalf, or, as the case may be, with Fundusz Inwestycji Infrastrukturalnych – Dłużny Fundusz Inwestycyjny Zamknięty Aktywów Niepublicznych, managed by Polski Fundusz Rozwoju S.A. ('PFR'), and establishment of the following pledges under the agreements:

- a) civil-law agreements establishing registered and financial pledges over the shares of B8 spółka z ograniczoną odpowiedzialnością BALTIC S.K.A. held by the company;
- b) agreements establishing registered pledges over the company's interest as the general partner in B8 spółka z ograniczoną odpowiedzialnością BALTIC S.K.A.;

2) representations on submission to enforcement made by the Company's Management Board, for and on behalf of the Company, pursuant to Art. 777.1.6 of the Code of Civil Procedure, for the benefit of BGK acting as a security agent, on its own behalf or for PFR in connection with the pledge agreements referred to in par. 1 above;

3) civil-law agreements establishing registered and financial pledges over all of the company's shares under an agreement on registered pledges over the shares, to be signed by LOTOS Petrobaltic S.A. and BGK acting as the pledge administrator, on its own behalf or, as the case may be, jointly with Fundusz Inwestycji Infrastrukturalnych – Dłużny Fundusz Inwestycyjny Zamknięty Aktywów Niepublicznych, managed by PFR.

Baltic Gas spółka z ograniczoną odpowiedzialnością i Wspólnicy sp.k. – increase in the amount of agreed contributions, payments to cover the agreed contributions

On October 13th 2016, CALEnergy Resources Poland Sp. z o.o., as part of the agreed contribution, made a cash contribution of PLN 8,655,000.85 to Baltic Gas spółka z ograniczoną odpowiedzialnością i Wspólnicy spółka komandytowa (total amount of all contributions paid by the shareholder was PLN 98,933,564.09).

On October 14th 2016, LOTOS Petrobaltic S.A., as part of the agreed contribution, made a cash contribution of PLN 4,753,079.31 to Baltic Gas spółka z ograniczoną odpowiedzialnością i Wspólnicy spółka komandytowa (total amount of all contributions paid by the limited partner was PLN 80,645,811.15).

(On October 22nd 2015, the partners of Baltic Gas spółka z ograniczoną odpowiedzialnością i Wspólnicy sp.k. passed resolutions to amend the Articles of Association of Baltic Gas spółka z ograniczoną odpowiedzialnością i Wspólnicy sp.k. with respect to:

- a) increase in the agreed contribution of CalEnergy Resources Poland sp. z o. o. from PLN 66,070,580 to PLN 98,933,897, i.e. by PLN 32,863,317, through an additional cash contribution of PLN 32,863,317,
- b) increase in the agreed contribution of LOTOS Petrobaltic S.A., the limited partner, from PLN 53,627,500 to PLN 81,869,711, i.e. by PLN 28,242,211, through an additional cash contribution of PLN 28,242,211,

On November 18th 2015, the increase in the agreed contributions to Baltic Gas Spółka z ograniczoną odpowiedzialnością i Wspólnicy s.k. was registered in the Register of Businesses of the National Court Register, including:

- a) increase in the agreed contribution of CalEnergy Resources Poland sp. z o. o. from PLN 66,070,580 to PLN 98,933,897, i.e. by PLN 32,863,317, through an additional cash contribution of PLN 32,863,317,
- b) increase in the agreed contribution of LOTOS Petrobaltic S.A., the limited partner, from PLN 53,627,500 to PLN 81,869,711, i.e. by PLN 28,242,211, through an additional cash contribution of PLN 28,242,211.

Baltic Gas Sp. z o.o. i Wspólnicy Spółka komandytowa

Partners	Baltic Gas Sp. z o.o.	LOTOS Petrobaltic S.A.	CalEnergy Resources Poland Sp. z o.o.
agreed contribution	PLN 1,000.00	PLN 81,869,711.00	PLN 98,933,897.00
contribution made, including:			
a) cash	1 000,00	PLN 28,945,811.15	PLN 98,933,564.09
b) contribution in-kind	- PLN	PLN 51,700,000.00	- PLN
unpaid contribution	- PLN	PLN 1,223,899.85	PLN 332.91

Granit Navigation Company Ltd – sale of sea vessel

On December 12th 2016, the company signed an agreement to sell an AHTS type sea vessel GRANIT, sailing under the flag of St. Vincent and Grenadines, to a third party (the vessel was out of service).

St. Barbara Navigation Company Ltd – purchase of sea vessel

On September 9th 2016, the company purchased an SPV (multipurpose) sea vessel (for support of offshore rig operations) from a third party. It is the company's second sea vessel; the first one, GEOTECHNICAL SURVEY VESSEL ST. BARBARA, sailing under the flag of St. Vincent and Grenadines, is currently out of service.

7.1.4. Changes in key management policies of Grupa LOTOS S.A. and its subsidiaries

Except changes in the composition of the Management Board and in the Company's organisational structure, there were no other changes of key management policies of Grupa LOTOS S.A. and the LOTOS Group.

7.2. Employment at the LOTOS Group

7.2.1. Structure of the LOTOS Group workforce

Table 36. Breakdown of the LOTOS Group workforce by type of position

Company	Number of employees as at December 31st 2016	
	Blue-collar jobs	White-collar jobs
Grupa LOTOS S.A.	498	908
LOTOS Paliwa Sp. z o.o.	0	273
LOTOS Kolej Sp. z o.o.	709	318
LOTOS Oil S.A.	110	183
LOTOS LAB Sp. z o.o.	13	108
LOTOS Serwis Sp. z o.o.	318	154
LOTOS Straż Sp. z o.o.	74	15
LOTOS Asfalt Sp. z o.o.	120	122
LOTOS Gaz S.A.	0	1
LOTOS Ochrona Sp. z o.o.	143	22
LOTOS Park Technologiczny Sp. z o.o.	0	0
LOTOS Air BP Polska Sp. z o.o.	32	16
LOTOS Infrastruktura S.A.	40	33
LOTOS Terminale S.A.	63	49
RC Ekoenergia Sp. z o.o.	42	31
LOTOS Biopaliwa Sp. z o.o.	23	15
LOTOS Petrobaltic S.A.	148	230
ENERGOBALTIC Sp. z o.o.	0	27
LOTOS E&P Norge AS	3	28
AB LOTOS Geonafta	34	9
UAB Genciu Nafta	1	1
UAB Manifoldas	0	3
Miliana Shipping Ltd	0	1
Technical Ship Management	0	8
SPV Baltic Spółka z o.o.	7	3
	2,398	2,452

Company	Number of employees as at December 31st 2016	
	Blue-collar jobs	White-collar jobs
Total		4,936

Table 37. Breakdown of Grupa LOTOS S.A. workforce by sex (as at December 31st 2016)

Job type	Men	Women	Total
blue-collar jobs	497	1	498
white-collar jobs	466	442	908
Total	963	443	1,406

Table 38. Breakdown of the LOTOS Group workforce by sex (as at December 31st 2016)

Job type	Men	Women	Total
blue-collar jobs	2,297	81	2,378
white-collar jobs	1,513	1,045	2,558
Total	3,810	1,126	4,936

Table 39. Employment at the LOTOS Group in 2010-2016

Workforce	Dec 31 2011	Dec 31 2012	Dec 31 2013	Dec 31 2014	Dec 31 2015	Dec 31 2016
Grupa LOTOS S.A.	1,310	1,329	1,349	1,345	1,350	1,406
LOTOS Group	5,010	5,168	5,015	4,983	5,106	4,936

7.2.2. Remuneration policy – remuneration system, rules of remunerating Management Board members, changes in remuneration policy

Management Board of Grupa LOTOS S.A.

In 2016, the rules of remunerating Members of the Management Board of Grupa LOTOS S.A. were regulated by the Act on Remunerating Persons Who Manage Certain Legal Entities, dated April 10th 2000, and the Act on Rules of Remunerating Persons Who Manage Certain Companies, dated June 9th 2016. In 2016, the monthly remuneration of Members of the Management Board of Grupa LOTOS S.A. was computed as six times the average monthly salary in the business sector, net of annual bonuses

from profit, in the fourth quarter of 2015 (PLN 4.280,39), and amounted to PLN 25,682.34. Furthermore, pursuant to Art. 10 of the Act of April 10th 2000, Members of the Management Board of Grupa LOTOS S.A. may be awarded an annual bonus for the previous year of not more than threefold their average monthly salary in the preceding year. In 2016, no annual bonus was paid to Members of the Management Board of Grupa LOTOS S.A. for 2015.

7.2.3. Control systems for employee stock option plans

In 2015, the LOTOS Group did not operate any employee stock option plan.

7.2.4. Agreements between the Company and the management staff; remuneration, awards and benefits paid to the management and supervisory staff of Grupa LOTOS S.A.

Table 40. Remuneration paid to members of the Management Board of Grupa LOTOS S.A. for 2016 (PLN)

Management Board members	Short-term employee benefits (salaries)	Management Board – subsidiaries*	Total remuneration paid
Paweł Olechnowicz	110,165.05	418,189.52	528,354.57
Marek Sokołowski	109,032.57	222,166.35	331,198.92
Mariusz Machajewski	309,412.93	542,848.35	852,261.28
Maciej Szozda	200,015.25	391,116.91	591,132.16
Zbigniew Paszkowicz	110,303.05	260,667.49	370,970.54
Mateusz A. Bonca	158,904.57	297,249.54	456,154.11
Marcin Jastrzęski	172,395.28	279,646.00	452,041.28
Robert Pietryszyn	151,525.80	298,480.95	450,006.75
Przemysław Marchlewicz	171,108.26	275,755.73	446,863.99
Total	1,492,862.76	2,986,120.84	4,478,983.60

In 2016, the Company made a PLN 128,411.70 retirement severance pay to a Management Board member.

Annual bonuses for Management Board members (PLN)

Management Board members	Current liabilities under annual bonus for 2016
Mariusz Machajewski	77,047.08
Total	77,047.08

Table 41. Remuneration paid to members of the Supervisory Board of Grupa LOTOS S.A. for 2016 (PLN)

Supervisory Board members	Total remuneration paid
Wiesław Skwarko	7,182.74
Małgorzata Hirszel	7,182.74
Oskar Pawłowski	7,182.74
Michał Rumiński	7,182.74
Katarzyna Witkowska	51,321.54
Agnieszka Trzaskalska	7,182.74
Dariusz Figura	44,190.67
Mariusz Golecki	22,360.16
Marcin Jastrzęski	4,367.88
Beata Kozłowska-Chyla	26,648.90
Cezary Krasodomski	21,807.00
Katarzyna Lewandowska	44,221.75
Robert Pietryszyn	20,866.35
Agnieszka Szklarczyk-Mierzwa	21,829.99
Maria Sierpińska	44,750.95
Total	338,278.89

7.3. Environmental protection

In 2016, environmental activities undertaken at Grupa LOTOS S.A. focused on bringing the Gdańsk refinery into compliance with the requirements of the BAT conclusions, which will take effect in October 2018. The activities are related to two areas of the Company's operations.

The first one is the obligation to improve the monitoring of air pollution emissions from the refinery units. To date, the refinery was required by the Polish law to measure emissions from each process emitter twice a year – in summer and in winter. Measurements were performed for four primary organic pollutants (sulfur dioxide (SO₂), nitric oxides (NO_x), carbon monoxide (CO) and particulate matter (PM)). The new legal regulations require the refinery to:

- start continuous measurements of SO₂, NO_x, CO and PM emissions on two process emitters,
- start continuous measurements of SO₂ emissions on emitters of flue gases from the Claus unit,
- install measurement systems to perform periodic measurements of polychlorinated dibenzodioxins and furans (PCDD/F) on the outlets of two reforming units.

Additionally, apart from extending the scope of air emission measurements, the BAT conclusions impose more stringent requirements on monitoring pollutant concentrations in discharged wastewater. In the case of Grupa LOTOS S.A., this will entail introduction of continuous measurements of chemical oxygen demand, total nitrogen concentration, oil index, and suspended solids in treated effluents and wastewater discharged into the Martwa Wisła river.

The other area concerns fugitive emissions of volatile organic compounds (VOC) from the refinery. These emissions result from various types of small leaks from individual components of the refinery units. Firstly, the BAT conclusions oblige the refinery to implement the Leak Detection And Repair (LDAR) programme, i.e. a systemic approach to detection and removal of leaks in production units. This programme will help the Company to reduce harmful air emissions, improve safety at work, and reduce losses of raw materials. Secondly, apart from imposing the obligation to curb the fugitive emissions of VOC, the BAT conclusions require monitoring of such emissions and reporting the volumes

of material losses due to leaks. In 2017, Grupa LOTOS intends to focus on developing a rational approach which would ensure: a high level of protection of both the environment and the employees, and compliance with the legal requirements, while not entailing excessive costs.

In 2017, as in the previous year, low prices of oil and the related low price of energy generation from the refinery's own products led to an increased consumption of heavy fuel oil in process furnaces. Such was the case in the first seven months of 2016, when SO₂ and PM emissions from the refinery units increased. Despite the increase, annual emissions volumes remained, by a wide margin, within the limits defined in the integrated permit granted to the Grupa LOTOS.

In connection with the EFRA Project, Grupa LOTOS also prepares a formal request for modification of the integrated permit; the request will include an amended technological description of the units and will be extended to cover the Hydrowax Vacuum Distillation Unit. At present, the Company expects that a decision amending the existing integrated permit should be issued in November 2017.

7.4. Material agreements and court proceedings in 2016

7.4.1. Significant agreements executed in 2016

Table 42. Agreements significant to the LOTOS Group's operations in 2016

No.	Party	Date	Subject matter	Estimated value, VAT exclusive (PLN)	Further details	More information
1	Rosneft Oil Company	22.01.2016	Crude oil supplies	5.0bn ¹	Current Report No. 2/2016	http://inwestor.lotos.pl/1185/p.194,i.880/raporty_i_dane/raporty_biezace/zawarcie_aneksu_do_umowy_na_dostawy_ropy_naftowej_pomiedzy_rosneft_oil_company_a_grupa_lotos_sa
2	Petraco	27.01.2016	Crude oil supplies	759m ¹	Current Report No. 4/2016	http://inwestor.lotos.pl/1185/p.194,i.882/raporty_i_dane/raporty_biezace/zawarcie_umow_o_wartosci_znaczacej_pomiedzy_grupa_lotos_sa_a_spolka_mi_z_grupy_petraco
3	Varo Energy Supply Trading	18.03.2016	Sale of unleaded gasoline	731m ¹	Current Report No. 11/2016	http://inwestor.lotos.pl/1185/p.194,i.891/raporty_i_dane/raporty_biezace/zawarcie_umow_o_wartosci_znaczacej_pomiedzy_grupa_lotos_sa_a_varo_energy_supply_trading_bv
4	Glencore Energy UK Limited	11.08.2016	Sale of naphtha	693m ¹	Current Report No. 38/2016	http://inwestor.lotos.pl/1185/p.194,i.924/raporty_i_dane/raporty_biezace/umowy_pomiedzy_grupa_lotos_sa_a_glencore_energy_uk_limited
5	Tatneft	22.12.2016	Crude oil supplies	11.3bn	x	Term of the agreement: January 1st–December 31st 2017
5	CIRCLE K Polska Spółka z o.o.	27.12.2016	Sale of liquid fuels	3.5bn	x	Term of the agreement: January 1st–December 31st 2017
6	BP Europe SE	29.12.2016	Sale of liquid fuels	2.97bn	x	Term of the agreement: January 1st–December 31st 2017
7	Shell Polska z o.o.	30.12.2016	Sale of liquid fuels	1.3bn	x	Term of the agreement: January 1st–December 31st 2017

1) Total value of agreements with the counterparty since the issue of the previous current report or within 12 months preceding the agreement date (execution of the agreement results in reaching or exceeding the threshold value for a significant agreement).

7.4.2. Material related-party transactions executed on non-arms' length terms

In the year ended December 31st 2016, no related-party transactions were concluded on non-arms' length terms.

7.4.3. Agreement with qualified auditor of financial statements

Based on resolutions passed by the Grupa LOTOS Supervisory Board on October 31st 2012 and July 31st 2015, Ernst & Young Audyty Polska spółka z ograniczoną odpowiedzialnością sp. k. (formerly: Ernst & Young Audit sp. z o.o.), entered in the register of entities qualified to audit financial statements maintained by the National Board of Chartered Auditors under entry No. 130, was selected as the qualified auditor to audit the Company's financial statements for the years 2013-2015 and 2016-2017.

Under the agreement executed with Grupa LOTOS S.A. on July 30th 2013 (including annexes), Ernst & Young Audyty Polska sp. z o.o. sp. k. of Warsaw performed the following services:

- review of the separate and consolidated financial statements for the first six months of 2013, 2014, 2015 and 2016,
- audit of full-year separate and consolidated financial statements for 2013, 2014, 2015 and 2016.

Table 43. Total fees for audit, review and verification procedures performed by Ernst & Young Audyty Polska sp. z o.o. sp. k. (PLNm)

	2016
Audit of full-year separate and consolidated financial statements of selected companies of the LOTOS Group, including: ⁽¹⁾	1.1
<i>Grupa LOTOS S.A.</i>	0.3
Assurance services, including:	0.8
<i>Grupa LOTOS S.A.</i>	0.7
Tax advisory services	-
Other services: ⁽²⁾	0.1
<i>Grupa LOTOS S.A.</i>	0.01
Total	2.0

(1) Remuneration for the audit of accounts of selected LOTOS Group companies is paid under separate agreements between the auditor and each of the LOTOS Group companies.

(2) Fees paid for auditor training services and additional audit services.

The fees for audit, assurance services, tax advisory services and other services for LOTOS Exploration and Production Norge AS, and AB LOTOS Geonafta due to, respectively, Ernst & Young AS and UAB Ernst & Young Baltic (companies of the Ernst & Young Group) for 2016 amounted to PLN 0.9m.

In 2016, the Group used the services of other entities from the Ernst & Young Group, including of Ernst & Young spółka z ograniczoną odpowiedzialnością and Business Advisory spółka komandytowa, for a total of PLN 0.2m.

In 2015, total fees for audit, review and verification procedures amounted to PLN 2.8m (Grupa LOTOS S.A.: PLN 1m), of which: for audit of separate and consolidated financial statements of selected companies of the LOTOS Group – PLN 1.6m (Grupa LOTOS S.A.: PLN 0.3m), for assurance services

- PLN 0.8m (Grupa LOTOS S.A.: PLN 0.7m), for tax advisory services – PLN 0.3m and other services
- PLN 0.1m (Grupa LOTOS S.A.: 0.04m).

7.4.4. Court, arbitration or administrative proceedings

In 2016 no court, arbitration or administrative proceedings were pending where the value of claims of or against Grupa LOTOS S.A. or its subsidiaries would equal or exceed 10% of the Company's equity. Material litigation and other proceedings are presented in Note 30.1 to the consolidated financial statements.

Grupa LOTOS shares



8. Grupa LOTOS shares

8.1 Grupa LOTOS shares on the Warsaw Stock Exchange

Grupa LOTOS shares have been listed on the Warsaw Stock Exchange since June 9th 2005.

ISIN	Warsaw Stock Exchange	Thomson Reuters	Bloomberg
PLLOTOS00025	LTS	LTSP.WA	LTS PW

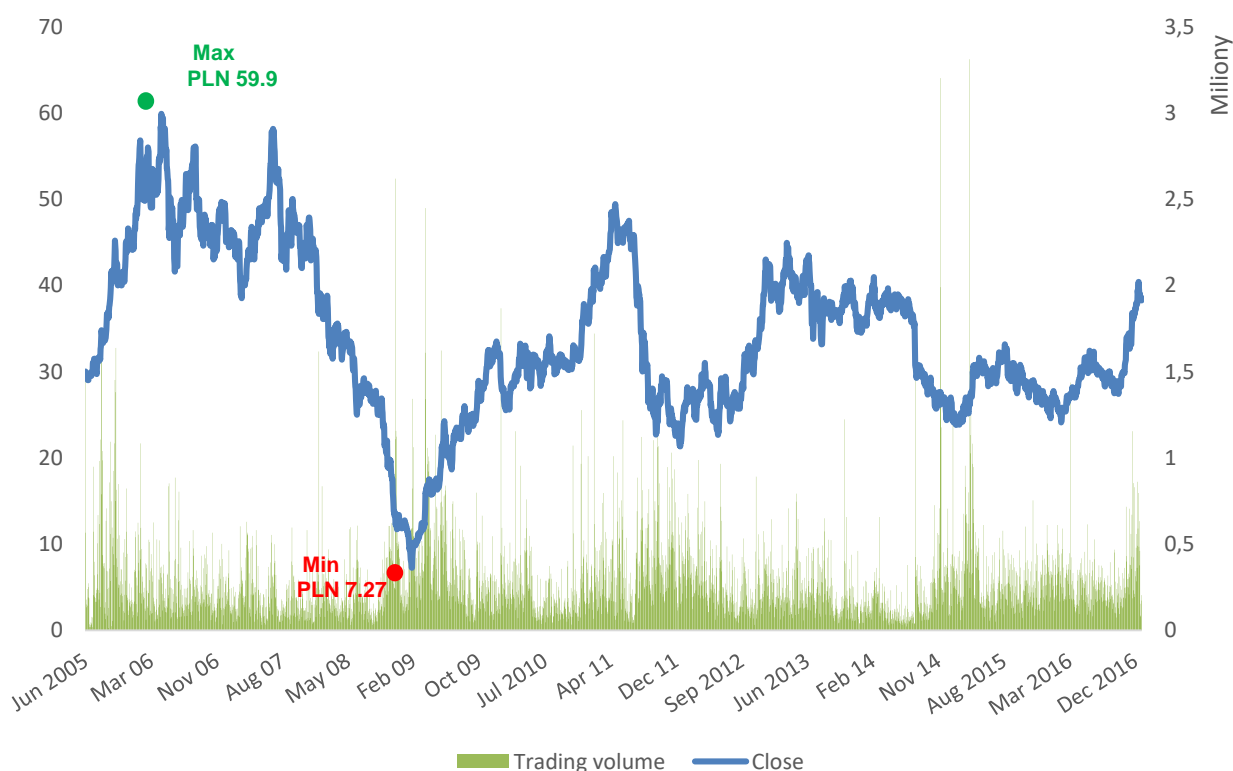
The share capital of Grupa LOTOS S.A. is PLN 184,873,362 and is divided into 184,873,362 shares, with a par value of PLN 1 per share, including:

- 78,700,000 Series A ordinary bearer shares,
- 35,000,000 Series B ordinary bearer shares,
- 16,173,362 Series C ordinary bearer shares,
- 55,000,000 Series D ordinary bearer shares.

Each share confers the right to one vote at the Company's General Meeting.

The Company's market capitalisation as at the end of 2016 was approximately PLN 7bn.

Figure 42. Grupa LOTOS share price (PLN) and trading volume (number of shares)



In 2016, Grupa LOTOS shares were constituents of the following indices:

Return indices

- WIG – comprises all stocks traded on the WSE Main Market which satisfy the basic eligibility criteria
- WIG-PALIWA – comprises WIG index companies operating in the fuels sector
- WIG Poland – comprises only shares of Polish companies included in the WIG index
- WIG RESPECT – comprises socially responsible companies included in the WIG index

Price indices

- WIG 20 – calculated based on the value of the 20 largest and most liquid stocks traded on the WSE Main Market
- WIG 30 – calculated based on the value of the 30 largest and most liquid stocks traded on the WSE Main Market
- mWIG40 – calculated based on the value of the 40 largest and most liquid stocks traded on the WSE Main Market

* Return index – calculated to reflect the prices of constituent stocks as well as dividend and rights income.

* Price index – calculated to reflect only the prices of constituent stocks, excluding dividend income.

Table 44. **Grupa LOTOS shares**

	2011	2012	2013	2014	2015	2016
Free float shares (million shares)	129.87	129.87	129.87	129.87	184.87	184.87
Low	22.26	21.3	32.97	24.05	23.83	24.1
High	49.5	43.78	45.45	40.96	33.15	40.4
Close	23.3	41.2	35.45	25.5	27	38.25
Rate of return at end of period (%)	-35.9	76.82	-13.96	-28.07	4.4	44
Trading value (PLNm)	3,299.07	2,013.15	2,211.43	1588.52	2,227.56	2,229.86
Share in trade (%)	1.31	1.07	1	0.77	1.1	1.1
Average trading volume per session	377,048	282,163	229,877	203,839	314,239	292,032

Average number of trades per session	967	810	877	851	1,534	1569
	2011	2012	2013	2014	2015	2016
Capitalisation (PLNm)	3,026.00	5,351.00	4,603.89	3,311.69	4,991.58	7,075.10
Book value (PLNm)	7,782.40	9,066.40	9,189.60	8,258.50	7,712.20	8,610.9
EV (PLNm)	10,232.00	11,642.30	10,319.79	9,627.39	11,131.3	13,373.4
Earnings per share (PLN)	5.03	7.11	0.3	-	-	5.5
P/E (x)	4.66	5.8	118	-	-	6.9
P/BV (x)	0.38	0.59	0.5	0.4	0.65	0.82
EV/EBITDA (x)	5.7	11.58	12.85	-	10.22	4.58

*In-house analysis based on WSE and Company data.

* EV (Enterprise Value) – market capitalisation plus debt, non-controlling interests, and preferred shares, minus cash and cash equivalents.

* P/E – Price/Earnings

* P/BV – Price/Book Value

* EV/EBITDA – Enterprise Value/EBITDA

Figure 43. Grupa LOTOS S.A. share price in 2016

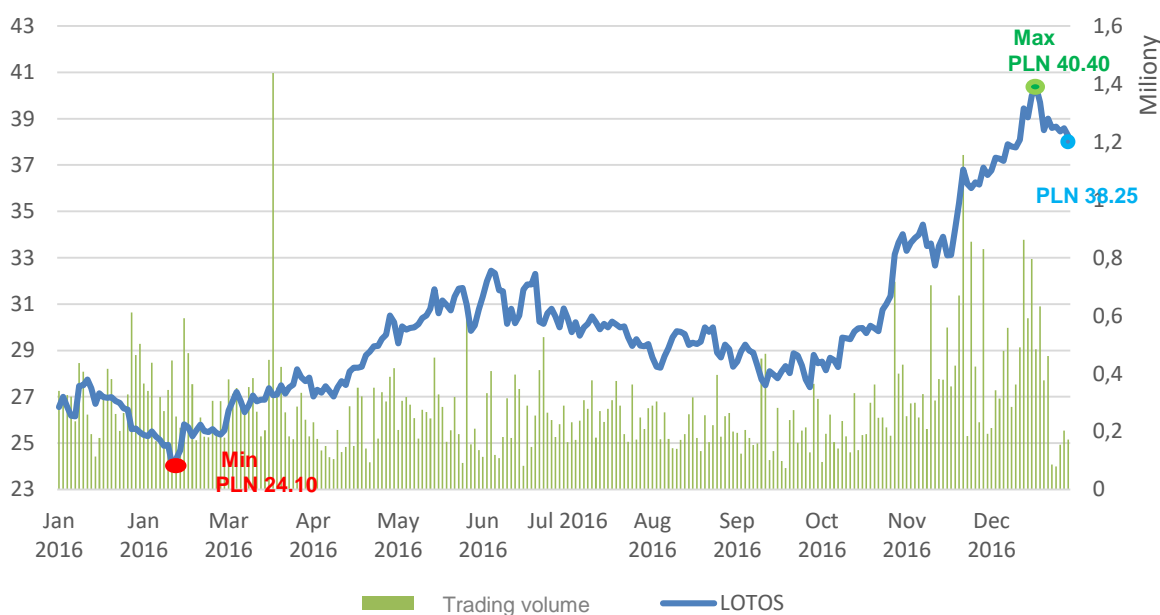
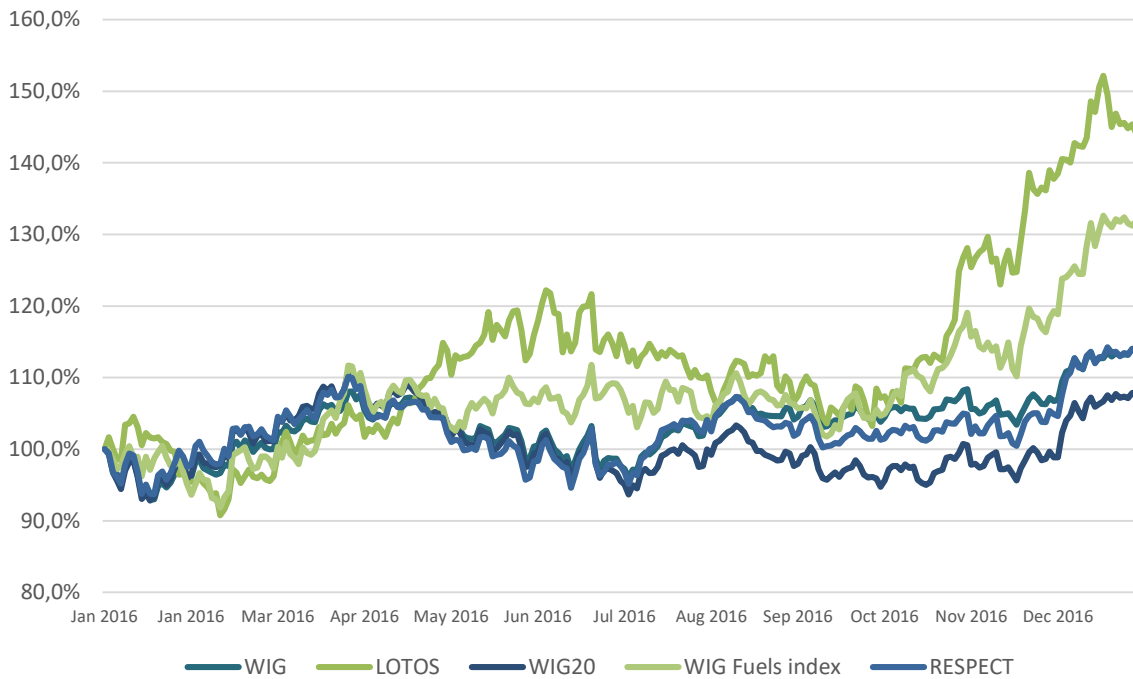


Figure 44. Grupa LOTOS share price performance vs index performance in 2016



* Rebased (100 = closing price at December 30th 2015)

Brokers' recommendations on Grupa LOTOS shares

Recommendations on Grupa LOTOS shares are issued by 13 investment firms (including brokerage houses and investment banks):

Table 45. Recommendations on Grupa LOTOS shares issued by investment houses

Based in Poland	Based abroad
Citi	HSBC
DM mBanku	Erste Bank
DM BZ WBK	Raiffeisen Centrobank
DM BOŚ	Societe Generale
DM PKO BP	Wood & Co.
DM BDM	
DI Investors	
Ipopema Securities	

To the Company's knowledge, brokers issued 12 recommendations on the Company shares in 2016:

- 4 BUY recommendations
- 3 ACCUMULATE recommendations
- 2 HOLD recommendations
- 2 NEUTRAL recommendations
- 1 SELL recommendation

* BUY – total expected rate of return will exceed 15% in 12 months.

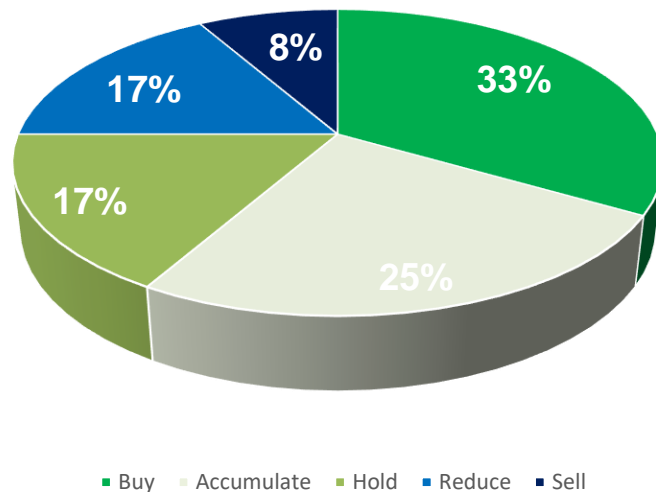
*ACCUMULATE – total expected rate of return will be between 5% and 15% in 12 months.

* HOLD – total expected rate of return will be between -5% and +5% in 12 months.

* REDUCE – total expected rate of return will be between -5% and -15% in 12 months.

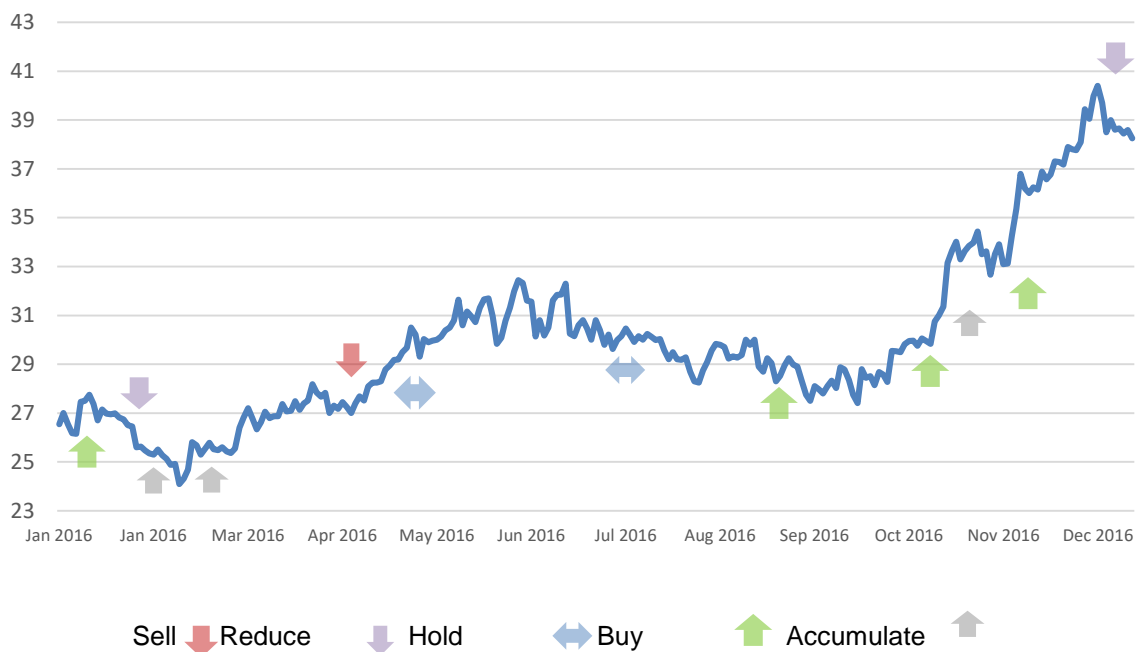
* SELL – total expected rate of return will be more than -15% in 12 months.

Figure 45. Breakdown of broker recommendations on Grupa LOTOS shares in 2016



The target price of Grupa LOTOS shares in brokers' research reports fluctuated from PLN 24.00 to PLN 41.20, compared with PLN 22.90 to PLN 33.50 in 2015. The average target price in 2016 was PLN 31.26 (2015: PLN 30.47).

Grupa LOTOS shares traded within the range: from PLN 24.10 to PLN 40.40. The closing price on the last day of 2016 was PLN 38.25.

Figure 46. Recommendations and moving average of target prices against the market price of the Company shares


8.2 Dividend policy

Distributions from profit for 2011-2015 depended on the optimisation of the financing structure of the LOTOS Group. Grupa LOTOS S.A.'s financing strategy provides for distribution of up to 30% of net profit to shareholders.

The Grupa LOTOS Management Board proposed to offset the PLN 37,102,910.78 net loss for 2015 against future profits.

Taking into consideration the Management Board's proposal, on June 28th 2016 the General Meeting resolved to offset Grupa LOTOS S.A.'s net loss of PLN 37,102,910.78 for 2015 against future profits.

Table 46. Dividend and dividend yield (PLN)

Financial year	Dividend	Dividend per share	Share price at year end	Dividend yield
2005	0.0	0.0	44.2	-
2006	40,932,000.0	0.4	49.3	0.7
2007	0.0	0.0	44.5	-
2008	0.0	0.0	12.0	-
2009	0.0	0.0	31.8	-

2010	0.0	0.0	36.4	-
2011	0.0	0.0	23.3	-
2012	0.0	0.0	41.2	-
2013	0.0	0.0	35.5	-
2014	0.0	0.0	27	-
2015	0.0	0.0	38.25	

* Dividend yield – dividend per share to price per share.

Table 47. Historical dividend per share (PLN)

Financial year	Dividend per share	% of net profit	Dividend record date	Dividend payment date
2005	0.0	0.0	-	-
2006	0.4	10.1	11.06.2007	not later than Jul 31 2007
2007	0.0	0.0	-	-
2008	0.0	0.0	-	-
2009	0.0	0.0	-	-
2010	0.0	0.0	-	-
2011	0.0	0.0	-	-
2012	0.0	0.0	-	-
2013	0.0	0.0	-	-
2014	0.0	0.0	-	-
2015	0.0	0.0	-	-

* Dividend record date – the date on which the list of shareholders entitled to receive dividend for a given financial year is determined.

* Dividend payment date – the date on which dividend is paid to the Company's shareholders.

8.3 Share buyback

Grupa LOTOS S.A. did not buy back any of its shares in 2016.

8.4 Aggregate number and par value of all Grupa LOTOS shares and shares in the issuer's related entities, held by Grupa LOTOS Management and Supervisory Board members (separately for each person)

To the best of the Company's knowledge, as of day of publication of the report, 2016 the Management and Supervisory Board members did not hold any shares neither in Grupa LOTOS S.A. nor its related companies.

8.4 Agreements which may give rise to future changes in shareholding structure

The Management Board of Grupa LOTOS S.A. has no knowledge of any agreements which may give rise to future changes in the number of shares held by the existing shareholders and bondholders.

Corporate governance



9. Corporate governance

9.1. Shareholding structure

9.1.1. Significant holdings of shares

In 2016, the share capital of Grupa LOTOS S.A. did not change relative to 2014 and comprised 184,873,362 fully paid-up ordinary shares with a par value of PLN 1 per share. Each Company share confers the right to one vote at the General Meeting and carries the right to dividend.

On April 29th 2013, the Company was notified that – as a result of acquisition of Grupa LOTOS shares in transactions on the Warsaw Stock Exchange, settled on April 24th 2013 – the open-end pension fund ING Otwarty Fundusz Emerytalny increased its shareholding in the Company and exceeded the threshold of 5% of total voting rights at the Company's General Meeting ([Current Report No. 11/2013](#)). ING OFE announced that as at December 31st 2014 it held 8.57% of total voting rights at the Company's General Meeting; then Nationale Nederlanden OFE (formerly ING OFE) announced that as at December 31st 2015 it held 5.73% of total voting rights at the Company's General Meeting.

Otwarty Fundusz Emerytalny PZU Złota Jesień with over 5% of total voting rights in Grupa LOTOS S.A.

On October 25th 2016, the Company received was notified by Powszechnie Towarzystwo Emerytalne PZU S.A., acting on behalf of Otwarty Fundusz Emerytalny PZU Złota Jesień (the 'Fund'), that following the settlement of a transaction executed on October 20th 2016, the Fund increased its share in total voting rights at the Company's General Meeting to more than 5% ([Current Report No. 42/2016](#).)

Table 48. Share capital and voting rights at the General Meeting held by significant shareholders of Grupa LOTOS as at December 31st 2015

Shareholder	Interest in share capital/total voting rights at the GM
State Treasury	53.19%
Nationale Nederlanden OFE	5.73%
PZU OFE	5.02%
Other	36.06%
Total	100.0%

Figure 47. Shareholding structure of Grupa LOTOS S.A. as at December 31st 2016²³

²³ Based on the annual structure of investment funds' asset as at December 31st 2016 (Polish Press Agency).

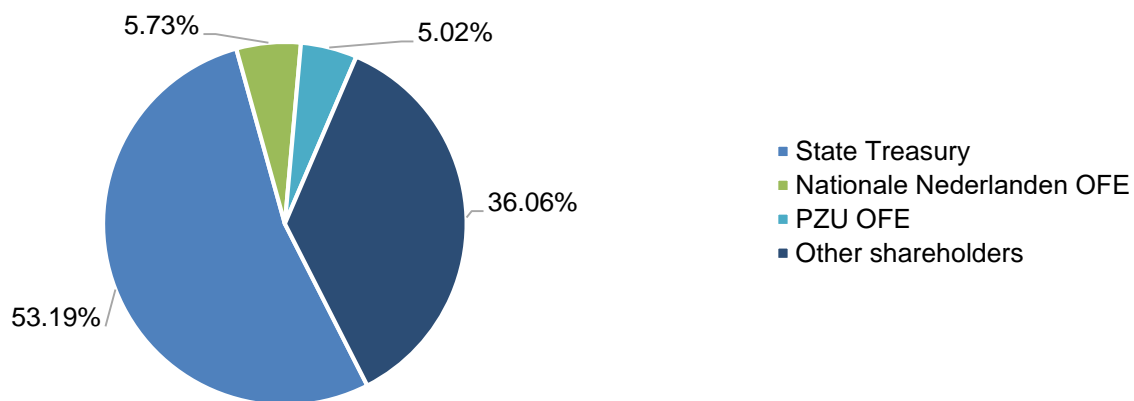


Table 49. Pension funds holding Grupa LOTOS shares as at December 31st 2016

Pension fund	Value of holding in Grupa LOTOS S.A.	% of ownership interest	% change, 2016 vs 2015
Metlife OFE	357,620	0.19%	-2.84%
Aegon OFE	371,864	0.20%	0.00%
Pekao OFE	379,436	0.21%	0.28%
Pocztylion OFE	385,514	0.21%	0.37%
Nordea OFE	717,121	0.39%	-0.84%
Generali OFE	723,311	0.39%	-0.22%
Bankowy OFE	898,142	0.49%	0.32%
AXA OFE	909,356	0.49%	0.04%
Allianz OFE	1,514,498	0.82%	0.32%
Aviva OFE	5,389,591	2.92%	0.01%
Nationale Nederlanden OFE	9,244,287	5.00%	-0.09%
PZU OFE	9,300,332	5.03%	-0.06%

Share capital

The share capital of Grupa LOTOS S.A. comprises 184,873,362 fully paid-up ordinary shares with a par value of PLN 1 per share. Each share carries the right to one vote at the General Meeting and the right to dividend.

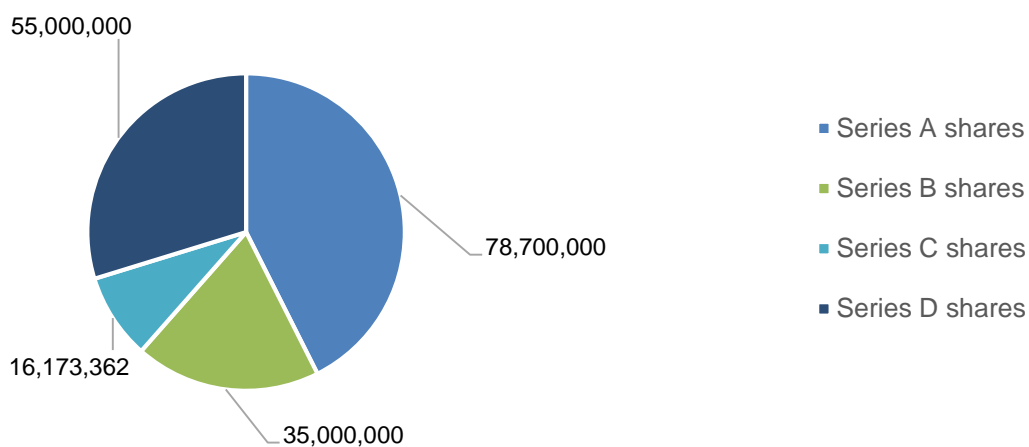


Figure 48. Structure of Grupa LOTOS share capital

Shareholders holding at least 5% of total voting rights at the General Meetings convened in 2016:

Extraordinary General Meeting held on January 27th 2016

Entity	Number of Grupa LOTOS shares held	% of total voting rights at GM	% ownership interest
State Treasury	98,329,515	75.84%	53.19%
Nationale Nederlanden OFE	10,584,287	8.16%	5.73%
OFE PZU Złota Jesień	9,100,000	7.02%	4.92%

Annual General Meeting held on June 28th 2016

Entity	Number of Grupa LOTOS shares held	% of total voting rights at GM	% ownership interest
State Treasury	98,329,515	76.45%	53.19%
Nationale Nederlanden OFE	9,000,000	7.00%	4.87%
OFE PZU Złota Jesień	8,900,000	6.92%	4.81%

Extraordinary General Meeting held on September 14th 2016

Company	Number of Grupa LOTOS shares held	% of total voting rights at GM	% ownership interest
State Treasury	98,329,515	76.45%	53.19%
Nationale Nederlanden OFE	9,000,000	7.00%	4.87%
OFE PZU Złota Jesień	8,000,000	6.22%	4.33%

Extraordinary General Meeting held on December 22nd 2016

Entity	Number of Grupa LOTOS shares held	% of total voting rights at GM	% ownership interest
State Treasury	98,329,515	75.38%	53.19%
Nationale Nederlanden OFE	9,000,000	6.90%	4.87%
OFE PZU Złota Jesień	9,285,132	7.12%	5.02%

Special rights giving control of Grupa LOTOS S.A. non-commensurate with the shareholding

The Company has not issued any securities conferring special control powers. As at the issue date of this Directors' Report, the Company has no information on any shareholder agreements on joint exercise of voting rights (for more information, see Section 5.1.4).

Limitations on exercise of voting rights at the General Meeting of Grupa LOTOS S.A.

One share in Grupa LOTOS S.A. confers the right to one vote at the General Meeting. However, pursuant to the Company's Articles of Association, the voting rights of Company shareholders are limited so that none of them can exercise more than 10% of total voting rights at the Company as at the day on which the General Meeting is held, with the proviso that for the purpose of determining the obligations of buyers of significant shareholdings provided for in the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies of July 29th 2005, and the Act on Insurance Activity of May 22nd 2003, such limitation of voting rights is deemed non-existent.

9.1.1. Holders of securities which confer special control powers, and description of such powers

Grupa LOTOS S.A. has not issued any securities conferring special control powers.

9.1.2. Special rights of the State Treasury and their exercise

The Act on Special Rights Vested in the Minister Competent for the State Treasury and How Those Rights Should Be Exercised at Certain Companies or Groups of Companies Operating in the Power, Crude Oil and Gas Fuels Sectors, dated March 18th 2010 (Dz.U. No. 65, item 404) ('the Act'), instituted a special officer responsible for the protection of critical infrastructure.

In accordance with the Act, the Company's Management Board, acting in consultation with the minister competent for the State Treasury and the Head of the Government Centre for Security, has the right to

appoint and remove from office a special officer responsible for critical infrastructure protection at the Company. The special officer's duties include, in particular, providing the minister competent for the State Treasury with information on the execution by the Company's governing bodies of any of the acts in law referred to above, providing the Head of the Government Centre for Security with information on critical infrastructure whenever requested, and – together with the Head of the Government Centre for Security – providing to and receiving from other entities information on any threats to the critical infrastructure.

The special officer responsible for protection of critical infrastructure is authorised to request from company governing bodies any documents or explanations regarding the issues referred to above, and, having analysed them, is required to submit the same to the minister competent for the State Treasury and the Head of the Government Centre for Security, along with the officer's written position and the grounds for it.

On July 11th 2011, Grupa LOTOS S.A. received a notification to the effect that its assets have been included in the list of assets, facilities, units, equipment, and services comprising critical infrastructure. As a result, on August 23rd 2011 the Management Board of Grupa LOTOS S.A. appointed a special officer responsible for protection of critical infrastructure.

Under the Act, the minister competent for the State Treasury has the right to raise objections to passed resolutions, or to any other act in law performed, by the Company's Management Board with respect to any of the assets included in the single list of facilities, units, equipment, and services comprising critical infrastructure, referred to in Art. 5b.7.1 of the Crisis Management Act of April 26th 2007, if such constitute a material threat to the operation, continuity of operation and integrity of critical infrastructure, including:

- In the power sector – infrastructure used for the purpose of generation or transmission of electricity,
- In the oil sector – infrastructure used for the purpose of production, refining, processing, storage and transmission via pipelines of crude oil and petroleum products, as well as seaports used for handling crude oil and petroleum products,
- In the gas fuels sector – infrastructure used for the purpose of production, refining, processing, storage and transmission via gas pipelines of gas fuels, as well as LNG terminals.

The minister competent for the State Treasury may also raise an objection with respect to any resolution by the Company's governing bodies providing for:

- dissolution of the Company,
- changes in the intended use or discontinuation of use of any of the Company's assets (1) included in the single list of facilities, units, equipment, and services comprising critical infrastructure, referred to in Art. 5b.7.1 of the Polish Crisis Management Act of April 26th 2007,
- change in the Company's principal business activity,
- sale or lease of the Company's business or its organised part, or creation of any proprietary interest therein,
- adoption of a budget, plan of investment activities, or a long-term strategic plan,
- relocation of the Company's registered office abroad,

if the implementation of any such resolution could constitute a material threat to the security, continuity, or integrity of critical infrastructure operations.

9.1.3. Limitations on the exercise of voting rights at the General Meeting

One share in Grupa LOTOS S.A. confers the right to one vote at its GM. However, pursuant to the Company's Articles of Association, the voting rights of Company shareholders are limited so that none of them can exercise more than 10% of total voting rights at the Company as at the date of the General Meeting, with the proviso that for the purpose of determining the obligations of buyers of major holdings of shares provided for in the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies of July 29th 2005, and the Act on Insurance Activity of May 22nd 2003, such limitation of voting rights is deemed non-existent.

The above limitation does not apply to:

- 1) shareholders who as at the date of the General Meeting's resolution imposing the limitation on voting rights are holders of shares conferring more than 10% of total voting rights at the Company;
- 2) shareholders acting together with the shareholders referred to in item 1 under agreements on joint exercise of voting rights.

For the purpose of limiting the voting rights referred to above, the voting rights of shareholders bound by a parent-subsidary relationship are aggregated in the following manner:

1. A shareholder is any person, including a parent and a subsidiary of such person, directly or indirectly entitled to exercise voting rights at the General Meeting under any legal title, including persons who do not hold shares in the Company, in particular usufructuaries, pledgees, holders of rights under depositary receipts, as defined in the Act on Trading in Financial Instruments of July 29th 2005, as well as persons entitled to participate in the General Meeting despite having disposed of their shareholdings after the record date.
2. A parent or a subsidiary is any person which:
 - 1) meets the relevant criteria set forth in Art. 4.1.4) of the Commercial Companies Code, or
 - 2) is a parent, a subsidiary or both a parent and a subsidiary within the meaning of the Act on Competition and Consumer Protection of February 16th 2007, or
 - 3) is a parent, ultimate parent, subsidiary, lower-tier subsidiary, jointly-controlled entity or both a parent (including an ultimate parent) and a subsidiary (including a lower-tier subsidiary and a jointly-controlled entity) within the meaning of the Accountancy Act of September 29th 1994, or
 - 4) exerts (in the case of a parent) or is subject to (in the case of a subsidiary) decisive influence within the meaning of the Act on the Transparency of Financial Relations between State Authorities and State-Controlled Enterprises, as well as on Financial Transparency of certain Entrepreneurs, of September 22nd 2006, or
 - 5) whose voting rights conferred by Company shares held directly or indirectly are aggregated with voting rights of other person or persons pursuant to the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies of July 29th 2005, in connection with the holding, disposal or acquisition of significant shareholdings in the Company.

Shareholders whose voting rights are aggregated or reduced pursuant to the rules described above, are jointly referred to as a Grouping. The aggregation of voting rights consists in adding up all voting rights held by individual shareholders comprising a Grouping. The reduction of voting rights involves decreasing the total number of voting rights at the General Meeting held by shareholders comprising a Grouping.

The reduction of voting rights is made as follows:

- 1) the number of voting rights of the shareholder holding the highest number of voting rights in the Company from among all the shareholders comprising a Grouping is reduced by the number of voting rights in excess of 10% of the total number of voting rights in the Company held by all the shareholders in the Grouping;
- 2) if, despite the reduction referred to above, the total voting rights held by the shareholders comprising the Grouping exceeds 10% of total voting rights at the Company on the date the General Meeting, the number of voting rights held by the other shareholders in the Grouping is further reduced. Such further reduction is made in a sequence established based on the number of voting rights held by individual shareholders comprising the Grouping (from the highest to the lowest). The number of voting rights of the Grouping is further reduced until the number of voting rights held by the shareholders comprising the Grouping does not exceed 10% of the total vote at the Company;
- 3) if the sequence for the purpose of the reduction of voting rights cannot be established because one or more shareholders hold the same number of voting rights, the voting rights of shareholders holding the same number of voting rights are reduced proportionally, with fractional numbers rounded down to the whole number of shares. To the extent not provided for above, the rules set forth in the preceding items apply accordingly;
- 4) in any case, a shareholder whose voting rights have been limited retains the right to exercise at least one vote;
- 5) the limitation of voting rights also applies to shareholders absent from the General Meeting.

In order to determine the basis for aggregation or reduction of voting rights, each of the Company's shareholders, the Management Board, the Supervisory Board, and individual members of these bodies, as well as the Chairperson of the General Meeting, may request that a Company shareholder subject to the limitation of voting rights disclose whether it is a parent or a subsidiary of any other Company shareholder within the meaning of the Company's Articles of Association. The authority referred to in the previous sentence also includes the right to request a Company shareholder to disclose the number of voting rights held individually or jointly with other shareholders with respect to which it is a parent or a subsidiary within the meaning of the Company's Articles of Association. A person who fails to perform or improperly performs the above disclosure obligation may exercise its voting rights from a single share only, until the disclosure obligation is duly fulfilled, and any attempts to exercise its voting rights from the remaining shares are ineffective.

When in doubt, the provisions on the limitation of voting rights are interpreted in accordance with Art. 65.2 of the Civil Code.

The limitation of voting rights expires once the shareholding of a Company shareholder who as at the date of the General Meeting's resolution imposing the limitation of voting rights held shares conferring more than 10% of total voting rights at the Company falls below 5% of the Company's share capital.

Subject to the relevant provisions of the Commercial Companies Code, the Company's principal business activity may be materially changed without a buy-out of Company shares held by the shareholders who do not agree to such a change.

9.1.4. Restrictions on transfer of securities

There are no restrictions on transfer of title to any Grupa LOTOS shares.

9.2. The Company's governing bodies

Figure 49. Corporate governance hierarchy of Grupa LOTOS S.A. as at December 31st 2016



9.2.1. General Meeting of Grupa LOTOS S.A.

The powers and proceedings of the General Meeting (GM) of Grupa LOTOS S.A. are stipulated in detail in the Company's [Articles of Association](#) (consolidated text of September 20th 2016) and the [Rules of Procedure for the General Meeting](#) (consolidated text of August 26th 2009). Both documents are available in the [Corporate Governance](#) section of the Company's website.

General Meetings are held at the Company's registered office and are convened by the Management Board of Grupa LOTOS S.A., as provided for in the Articles of Association or in the Commercial Companies Code, by publishing an announcement on the Company's website and in the manner determined for publication of current reports, in accordance with the provisions of the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies.

In 2016, the Annual General Meeting (AGM) was held on June 28th.

Extraordinary General Meetings (EGM) may be convened by the Management Board on its own initiative, by the Supervisory Board (if the Supervisory Board deems it appropriate), or by shareholders representing at least half of the Company's share capital or at least half of total voting rights at the Company.

A shareholder or shareholders representing at least 1/20 of the Company's share capital may request that an EGM be convened and that certain items be placed on its agenda. If an EGM is not convened within two weeks of the submission of such a request to the Management Board, the Registry Court may authorise the requesting shareholders to convene an Extraordinary General Meeting.

A request to convene a General Meeting and put particular items on its agenda, made by parties entitled to do so, should be presented with grounds. A shareholder or shareholders representing at least 1/20 of the Company's share capital may, before a GM, submit to the Company draft resolutions for items which have been or are to be placed on the agenda of the General Meeting.

In 2016, an Extraordinary General Meeting was held three times: on January 27th, September 14th and December 22nd, each time at the request of the State Treasury (a Shareholder).

Only persons who are the Company shareholders sixteen days prior to the date of a General Meeting (i.e. on the date of registration of participation in the GM) are entitled to participate in the General Meeting. Holders of rights under registered shares or provisional certificates (*świadcetwa tymczasowe*) as well as pledgees and usufructuaries holding voting rights are entitled to participate in the General Meeting, provided that they are entered in the Share Register on the registration date. A Shareholder may participate in a General Meeting and exercise voting rights in person or by proxy. The proxy is obliged to disclose to the shareholder any circumstances leading to any actual or potential conflict of interest and may vote exclusively in line with the voting instructions issued by the appointing shareholder.

Any matter to be discussed at a General Meeting is subject to prior consideration by the Supervisory Board. No resolution may be passed on matters not included in the agenda of the General Meeting, unless the Company's entire share capital is represented at the GM and no objections to the adoption of such resolution are raised by any of the persons participating in the GM, with the exception of motions to convene an Extraordinary General Meeting and procedural motions. Resolutions of a General Meeting are adopted by an absolute majority of votes, unless the Articles of Association or Commercial Companies Code provide otherwise. Resolutions and proceedings of a General Meeting are recorded by a notary public. The minutes of the GM are signed by the Chairman of the GM and the notary public.

9.2.2. Supervisory Board of Grupa LOTOS S.A.

The Supervisory Board of Grupa LOTOS S.A. operates under the Company's Articles of Association (consolidated text of September 20th 2016) and the Rules of Procedure for the Supervisory Board of Grupa LOTOS S.A. (consolidated text of December 17th 2009) ([link: http://inwestor.lotos.pl/226/lad_korporacyjny/dokumenty_spolki](http://inwestor.lotos.pl/226/lad_korporacyjny/dokumenty_spolki)). Procedures for and the scope of powers and duties of the Supervisory Board of Grupa LOTOS S.A. are stipulated in detail in the Rules of Procedure for the Supervisory Board of Grupa LOTOS S.A. (consolidated text of December 17th 2009).

The Supervisory Board may comprise five to nine members, appointed for a joint three-year term of office by the General Meeting in a secret ballot, by an absolute majority of votes, from an unlimited number of candidates. The number of Supervisory Board members is determined by the General Meeting. The Chairperson of the Supervisory Board is appointed by the General Meeting, while the Deputy Chairperson and the Secretary are elected by the Supervisory Board from among its other members. Any or all Supervisory Board members may be removed at any time prior to expiry of their term of office. As long as the State Treasury remains a shareholder in the Company, the State Treasury, represented by the minister competent for energy, is entitled to directly appoint and remove one member of the Supervisory Board.

The Supervisory Board of Grupa LOTOS S.A. exercises ongoing supervision of the Company's business, across all areas of its operations. It performs its duties collectively, but may set up ad hoc or standing committees to supervise specific areas of the Company's activities or investigate specific issues. Standing committees of the Supervisory Board include the Audit Committee, Strategy and Development Committee, and Organisation and Management Committee.

By way of Resolution No. 21 and in accordance with Art. 11.1 of the Company's Articles of Association, the Annual General Meeting (AGM) held on June 30th 2014 set the number of members of the Supervisory Board of the current 9th joint term of office (expiring in 2017) at seven.

Following these changes, the composition of the Supervisory Board as at January 1st 2016 was as follows: Mr Wiesław Skwarko, Ms Agnieszka Trzaskalska, Mr Oskar Pawłowski, Ms Małgorzata Hirszel, Ms Katarzyna Witkowska, Mr Michał Rumiński, and Mr Robert Pietryszyn.

The State Treasury, the Company's shareholder, represented by the Minister of State Treasury, in exercise of its rights set out in Art. 11.2 of the Company's Articles of Association, on January 26th 2016 removed Mr Robert Pietryszyn from the Supervisory Board.

The Extraordinary General Meeting held on January 27th 2016, convened at the request of the State Treasury, acting pursuant to Art. 385.1 of the Commercial Companies Code and Art. 9.4 of the Company's Articles of Association, changed the composition of the Grupa LOTOS Supervisory Board of the 9th joint term of office, by way of Resolutions No. 3–12. Concurrently, in line with Section 6.5 of the Rules of Procedure for the General Meeting, by Resolution No. 2 the General Meeting resolved not to adopt a resolution to set the number of Supervisory Board members, leaving it unchanged at seven.

On January 27th 2016, the Extraordinary General Meeting of Grupa LOTOS S.A. removed the following persons from the Supervisory Board: Mr Wiesław Skwarko – Chairman, Ms Agnieszka Trzaskalska – Deputy Chairperson, Mr Oskar Pawłowski – Secretary, Ms Małgorzata Hirszel and Mr Michał Rumiński, and appointed the following persons to the Supervisory Board: Mr Robert Pietryszyn, as the Chairman, Ms Katarzyna Lewandowska, Mr Dariusz Figura, Mr Cezary Krasodowski and Ms Maria Sierpińska.

Following the General Meeting's decision, as of January 27th 2016 the composition of the Grupa LOTOS Supervisory Board of the 9th joint term of office was as follows: Mr Robert Pietryszyn, Mr Dariusz Figura,

Mr Cezary Krasodomski, Ms Katarzyna Lewandowska, Ms Maria Sierpińska and Ms Katarzyna Witkowska.

On February 24th 2016, the Supervisory Board of the 9th joint term of office held the first meeting in its new composition and appointed Ms Katarzyna Lewandowska as Deputy Chairwoman of the Board (Resolution No. 68/IX/2016), and Mr Cezary Krasodomski as Secretary of the Board (Resolution No. 69/IX/2016) During the meeting, the Supervisory Board also determined the composition of the Supervisory Board's standing committees, which had not operated since January 27th 2016, when the General Meeting resolved to change the composition of the Supervisory Board (for more information, see Table 45).

On April 12th 2016, the State Treasury, represented by the Minister of State Treasury, exercised its right set forth in Art. 11.2 of the Articles of Association, under which it may directly appoint and remove one member of the Supervisory Board, and appointed Mr Marcin Jastrzębski as member of the Supervisory Board of Grupa LOTOS S.A.

Following the removal of the Management Board members acting as President of the Board, Vice President of the Management Board – Chief Strategy and Development Officer, and Vice President of the Management Board – Chief Exploration and Production Officer, on April 13th 2016 the Supervisory Board decided to temporarily delegate its Chairman, Mr Robert Pietryszyn, to act as President of the Board until new President is appointed. Following the temporary appointment of Mr Pietryszyn, Ms Katarzyna Lewandowska, Deputy Chairperson of the Supervisory Board, acted as Chairperson of the Supervisory Board, in accordance with the Rules of Procedure for the Supervisory Board.

On May 13th 2016, Mr Robert Pietryszyn, Chairman of the Supervisory Board of Grupa LOTOS S.A., and Mr Marcin Jastrzębski, who were appointed to the Management Board of Grupa LOTOS S.A. for the remaining period of the 9th joint term of office, submitted their resignations from the Supervisory Board of Grupa LOTOS S.A.

On May 25th 2016, the State Treasury, represented by the Minister of State Treasury, exercised its right set forth in Art. 11.2 of the Articles of Association, under which it may directly appoint and remove one member of the Supervisory Board, and appointed Ms Beata Kozłowska-Chyła as member of the Supervisory Board of Grupa LOTOS S.A. of the 9th joint term of office, and subsequently removed her on June 28th 2016.

On June 28th 2016, the Annual General Meeting made further changes in the composition of the Grupa LOTOS Supervisory Board of the 9th joint term of office by removing Mr Cezary Krasodomski and appointing the following new members: Mr Mariusz Golecki and Ms Beata Kozłowska-Chyła, who was appointed as the Chairperson of the Supervisory Board. On the same day the State Treasury, represented by the Minister of State Treasury, exercised its right set forth in Art. 11.2 of the Articles of Association, under which it may directly appoint and remove one member of the Supervisory Board, and appointed Ms Agnieszka Szklarczyk-Mierzwa as member of the Supervisory Board of Grupa LOTOS S.A. of the 9th joint term of office.

After those changes, from June 28th to December 22nd 2016, the composition of the Supervisory Board of Grupa LOTOS S.A. was as follows: Ms Beata Kozłowska-Chyła, Ms Katarzyna Lewandowska, Ms Agnieszka Szklarczyk-Mierzwa, Ms Maria Sierpińska, Ms Katarzyna Witkowska, Mr Dariusz Figura and Mr Mariusz Golecki.

On July 21st 2016, during the meeting of the newly appointed Supervisory Board, the Board appointed Ms Agnieszka Szklarczyk-Mierzwa as its Secretary (Resolution No. 125/IX/2016), and made changes in the composition of the Audit Committee, the Strategy and Development Committee, and the Organisation and Management Committee. (For details, see Table 45.)

On December 22nd 2016, the Extraordinary General Meeting of Grupa LOTOS S.A., convened at the request by the State Treasury represented by the Minister of Energy, removed Ms Maria Sierpińska and

Ms Katarzyna Witkowska from the Supervisory Board and appointed Mr Piotr Ciach and Mr Adam Lewandowski to the Board.

From December 22nd 2016 to December 31st 2016 and until the date of issue of this Report, the composition of the Supervisory Board was as follows: Ms Beata Kozłowska-Chyła, Ms Katarzyna Lewandowska, Ms Agnieszka Szklarczyk-Mierzwa, Mr Piotr Ciach, Mr Dariusz Figura, Mr Mariusz Golecki and Mr Adam Lewandowski.

Table xx. Composition of the Supervisory Board of Grupa LOTOS S.A. of the 9th term.

Supervisory Board members	Position	on the Supervisory Board of the 9th term
 <p>Wiesław Skwarko</p>	Chairman	30.06.2014 – 27.01.2016
 <p>Agnieszka Trzaskalska</p>	Member, Deputy Chairwoman	30.06.2014 – 28.07.2014 28.07.2014 – 27.01.2016
 <p>Oskar Pawłowski</p>	Member Secretary	30.06.2014 – 8.07.2014 28.07.2014 – 27.01.2016
 <p>Małgorzata Hirszel</p>	Member	30.06.2014 – 27.01.2016

**Magdalena Bohusz-Boguszewska**

Member

30.06.2014 – 30.06.2015

**Michał Rumiński**

Member

30.06.2014 – 27.01.2016

**Katarzyna Witkowska**

Member

30.06.2015 – 22.12.2016

**Robert Pietryszyn**Member
Chairman23.12.2015 – 26.01.2016
27.01.2016 – 13.05.2016**Dariusz Figura**

Member

27.01.2016 –


Cezary Krasodowski

Member	27.01.2016 – 24.02.2016
Secretary	24.02.2016 – 28.06.2016


Katarzyna Lewandowska

Member, Deputy Chairwoman	27.01.2016 – 24.02.2016 24.02.2016
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Maria Sierpińska

Member	27.01.2016 – 22.12.2016
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**Beata Kozłowska-
Chyła**

Member	25.05.2016 – 8.06.2016
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Mariusz Golecki

Chairperson	28.06.2016 –
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Member	28.06.2016 –
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 Member

28.06.2016 –


Agnieszka Szklarczyk-Mierzwa

Member

22.12.2016 –


Piotr Ciach

Member

22.12.2016 –


Adam Lewandowski

For more information on the professional experience of the Supervisory Board members, see the Company's [website](#).

Delegation of specific duties to individual Supervisory Board members

The Supervisory Board may delegate its members to individually perform certain tasks or functions.

Mr Oskar Pawłowski – delegated by way of Supervisory Board Resolution No. 98/VIII/2013 of May 23rd 2013 to independently supervise the restructuring of the Norwegian assets of the LOTOS Group's Exploration and Production segment. The Supervisory Board of the 9th joint term of office, by way of its decision of July 28th 2014 (Resolution No. 6/IX/2014), maintained Mr Pawłowski's powers of delegation to supervise the restructuring of the Norwegian assets. Mr Oskar Pawłowski's delegation expired on January 27th 2016 upon his removal from the Grupa LOTOS Supervisory Board.

Ms Katarzyna Witkowska – delegated by way of Supervisory Board Resolution No. 66/IX/2015 of December 18th 2015 to independently exercise detailed and ongoing supervision of the EFRA Project. On April 20th 2016, the Supervisory Board passed Resolution No. 79/IX/2016 to revoke Ms Katarzyna Witkowska's delegation to exercise detailed and ongoing supervision of the EFRA Project, and to entrust the ongoing supervision of the project to the Strategy and Development Committee of the Supervisory Board.

9.2.3. Management Board of Grupa LOTOS S.A. and powers of individual members

The Management Board of Grupa LOTOS S.A. operates pursuant to the following documents available on the Company's website in the Corporate Governance section: [the Company's Articles of Association](#), and [the Rules of Procedure for the Management Board](#).

The Management Board represents Grupa LOTOS S.A. before third parties and manages its corporate affairs. Individual members of the Management Board perform duties in line with the division of powers and responsibilities resulting from their operational functions within the Company. Each member of the Management Board is also authorised to represent the Company in all judicial and non-judicial business relating to the Company's operations, excluding matters reserved for the General Meeting or Supervisory Board under the Commercial Companies Code or the Company's Articles of Association, as well as matters falling outside the scope of ordinary management of the business where they require the Management Board's prior resolution and matters within the powers of another member of the Management Board.

The composition of Grupa LOTOS Management Board in 2016 was as follows:

From January 1st to April 13th 2016, the Management Board was composed of:

- Paweł Olechnowicz – President of the Management Board, Chief Executive Officer
- Mariusz Machajewski – Vice President of the Management Board, Chief Financial Officer
- Zbigniew Paszkowicz – Vice President of the Management Board, Chief Exploration and Production Officer
- Marek Sokołowski – Vice President of the Management Board, Chief Strategy and Development Officer
- Maciej Szozda – Vice President of the Management Board, Chief Refining and Marketing Officer

On April 13th 2016, the Supervisory Board removed the following persons from the Grupa LOTOS Management Board: Paweł Olechnowicz, then President of the Management Board, Marek Sokołowski – Vice President of the Management Board, Chief Strategy and Development Officer and Zbigniew Paszkowicz – Vice President of the Management Board, Chief Exploration and Production Officer. Then the Supervisory Board resolved to carry out a recruitment procedure for the positions of President of the Management Board, Vice President of the Management Board – Chief Operating Officer, Vice President of the Management Board – Chief Strategy and Development Officer, and Vice President of the Management Board – Corporate Affairs for the remaining time of the 9th joint term which began on June 29th 2015.

The Supervisory Board also resolved to delegate as of April 13th 2016 Mr Robert Pietryszyn, Chairman of the Supervisory Board of Grupa LOTOS S.A., to temporarily perform the duties of President of the Management Board until appointment of new President of the Management Board.

On May 13th 2016, following completion of the recruitment procedure, the Supervisory Board appointed four Management Board members and resolved that as of that date the Management Board of the 9th joint term of office would be composed of six members. Further, the Supervisory Board determined a new division of powers and responsibilities among the Management Board members.

The Supervisory Board appointed the following persons to the Management Board of Grupa LOTOS S.A. for the remaining time of the 9th joint term: Mr Robert Pietryszyn as President of the Management Board as of May 13th 2016, Mr Marcin Jastrzębski as Vice President of the Management Board – Chief Operating Officer as of May 13th 2016, Mr Przemysław Marchlewicz as Vice President of the Management Board – Corporate Affairs as of May 17th 2016, and Mr Mateusz Aleksander Bonca as Vice President of the Management Board – Chief Strategy and Development Officer as of June 1st 2016.

As a result, from June 1st 2016 to July 21st 2016 the composition of the Grupa LOTOS Management Board was as follows:

- Robert Pietryszyn – President
- Mateusz Aleksander Bonca – Vice President, Chief Strategy and Development Officer
- Marcin Jastrzębski – Vice President, Chief Operating Officer
- Mariusz Machajewski – Vice President, Chief Financial Officer
- Przemysław Marchlewicz – Vice President, Corporate Affairs
- Maciej Szozda – Vice President, Chief Refining and Marketing Officer.

On July 21st 2016, the Supervisory Board removed Mr Maciej Szozda, Vice President of the Management Board, from the Grupa LOTOS Management Board.

On November 9th 2016, the Supervisory Board resolved to remove Mr Robert Pietryszyn, President of the Management Board, from the Grupa LOTOS Management Board and appointed Mr Marcin Jastrzębski, Vice President of the Management Board, as acting President of the Management Board of Grupa LOTOS S.A.

On December 14th 2016, the Supervisory Board removed Mr Przemysław Marchlewicz, Vice President of the Management Board, from the Grupa LOTOS Management Board.

As a result, from December 14th to December 31st 2016 the composition of the Grupa LOTOS Management Board was as follows:

Marcin Jastrzębski – Vice President, Chief Operating Officer, acting President of the Board

Mateusz Aleksander Bonca – Vice President, Chief Strategy and Development Officer

Mariusz Machajewski – Vice President, Chief Financial Officer.

Given the need to fill the vacancies on the Management Board, on December 20th 2016, the Supervisory Board decided to initiate the recruitment procedure for the positions of President of the Management Board and Vice President of the Management Board – Chief Refining Officer.

On January 12th 2017, following conclusion of the recruitment procedure, the Supervisory Board appointed Mr Marcin Jastrzębski as President of the Management Board and Mr Jarosław Kawula as Vice President, Chief Refining Officer for the remaining time of the 9th joint term of office of the Grupa LOTOS Management Board. Following his appointment, Mr Marcin Jastrzębski resigned from his position as Vice President of the Management Board, Chief Operating Officer.

The Supervisory Board resolved that the Management Board of the 9th joint term of office would be composed of four persons and set a new division of powers and responsibilities among the Management Board members.

As a result, since January 12th 2017, the composition of the Grupa LOTOS Management Board has been as follows:



President of the Management Board

12.01.2017 -

Marcin Jastrzęski



Vice President of the Management Board,
Chief Strategy and Development Officer

01.06.2016 -

Mateusz Aleksander Bonca



Vice President of the Management Board,
Chief Refining Officer

12.01.2017 -

Jarosław Kawula



Vice President of the Management Board,
Chief Financial Officer

29.06.2015 -

Mariusz Machajewski

For more information on the professional experience of the Management Board members, see the Company's [website](#).

The following matters require resolutions by the Management Board:

- 1) adoption or amendment of the Rules of Procedure for the Management Board,
- 2) adoption or amendment of the Organisational Rules for the Company, including the Company's organisational structure,
- 3) adoption of any rules or regulations required by operation of law,
- 4) granting of powers of proxy (requires unanimous vote by all Management Board members),
- 5) adoption of the Company's annual budget,
- 6) adoption of the LOTOS Group strategy,
- 7) approval of the Company's financial statements for the previous financial year, prepared in accordance with International Financial Reporting Standards, and the Directors' Report (not later than within three months of the reporting date),
- 8) adoption of the consolidated financial statements for the previous financial year, prepared in accordance with International Financial Reporting Standards, and the Directors' Report (not later than within three months of the reporting date),
- 9) convening of annual and extraordinary General Meetings on the Management Board's own initiative or at the request of a shareholder or shareholders representing at least one-twentieth of the share capital, as well as in other cases provided for in the Commercial Companies Code, and within prescribed deadlines,
- 10) setting the agenda of a General Meeting,
- 11) any equity investments or projects involving capital expenditure by the Company, including incurring any related liabilities and divestments, if such investments, projects or divestments entail expenses, charges or disposals in excess of PLN 500,000 (VAT exclusive),
- 12) exercise of the Company's voting rights at General Meetings of its subsidiaries with regard to:
 - a) share capital increase or reduction,
 - b) business combinations or transformations,
 - c) sale or lease of a company's business and/or its encumbrance with usufruct rights,
- 13) formation of companies under commercial law and of foreign companies,
- 14) acquisition and disposal of shares and interests in companies,
- 15) acquisition and disposal of shares, except where the shares are acquired or disposed of in public trading in securities, unless such acquisition or disposal results in gaining or losing the status of the parent,
- 16) acquisition or disposal of property, perpetual usufruct rights or an interest in property,
- 17) establishing and joining partnerships, organisations or ventures which involve unlimited liability enforceable against the Company's assets,
- 18) any matters which require a resolution to be passed by the Supervisory Board or the General Meeting,
- 19) matters falling outside the scope of day-to-day management of the business,
- 20) matters which have been objected to by at least one of the members of the Management Board,
- 21) any matters to be decided by way of a Management Board resolution at the request of President of the Management Board.

Ordinary matters of the Company where no resolution is required to be passed by the Management Board are conducted by the President acting individually, and by Management Board members in line with the division of powers and responsibilities, pursuant to which:

- President of the Management Board directs and supervises the Company's management; hydrocarbon exploration, development and production; and the marketing area,
- Vice President, Chief Financial Officer, directs and supervises the Company's financial matters,
- Vice President, Chief Strategy and Development Officer, directs and supervises preparation and execution of the Company's strategy and development projects,
- Vice President, Chief Refining Officer, directs and supervises the Company's refining operations.

The President of the Management Board may delegate a matter to a Management Board member or may decide to handle the matter personally, contrary to the division of powers and responsibilities defined in the Organisational Rules of Grupa LOTOS S.A.

Moreover, as part of the division of responsibilities, the President of the Management Board manages the operations of the Board and conducts and supervises the following corporate matters:

- convening and presiding over meetings of the Management Board,
- maintaining the Management Board's documentation, files and meeting minutes,
- performing obligations under commercial law and matters relating to the register of entrepreneurs,
- ensuring that necessary services are rendered to the Company's governing bodies and that minutes of proceedings are prepared,
- representing the Management Board before the Company's other governing bodies, subject to the provisions of the Commercial Companies Code and the Company's Articles of Association.

The President of the Management Board is also authorised to act individually in matters related to labour law, pursuant to Art. 3¹ of the Labour Code.

Rules of procedure for the Management Board, including procedures for convening meetings, passing and archiving resolutions, as well as the powers and duties of individual Board members are set forth in

[Rules of Procedure for the Management Board of Grupa LOTOS S.A.](#)

In 2016, the Grupa LOTOS Management Board held 43 meetings and passed 136 resolutions, including five resolutions passed in accordance with the procedure set out in Section 21.7 of the Rules of Procedure for the Management Board.

Rules governing appointment and removal of management staff

Pursuant to the provisions of the Articles of Association of Grupa LOTOS S.A., the Board may consist of three to seven members. The Supervisory Board appoints and determines the number of members of the Management Board. Members of the Management Board are appointed by the Supervisory Board following a recruitment and selection procedure carried out pursuant to the Regulation of the Polish Council of Ministers of March 18th 2003 on qualification procedures for members of management boards of certain commercial-law companies (Dz. U. No. 55, item 476), taking into consideration 'The Best Practices to be Followed in the Selection of Candidates to Governing Bodies of Companies of Key Importance to the State Treasury', defined by the Minister of State Treasury.

Management Board members are appointed for a joint term of three years. The President, Vice Presidents and members of the Management Board, as well as the entire Management Board, may at any time be removed from office or suspended from duties by the Supervisory Board if there is a good reason for doing so. Each member's mandate expires no later than on the date of the General Meeting

which approves the financial statements for the previous full financial year. Supervisory Board resolutions to appoint or remove any or all members of the Management Board require that at least two thirds of Supervisory Board members are present and participate in the vote. A Management Board member's mandate also expires upon their resignation from office.

The current, 9th joint term of office commenced on June 29th 2015 and will expire in 2018.

9.2.4. Rules for amending the Articles of Association of Grupa LOTOS S.A.

An amendment to the Articles of Association requires that a relevant resolution be passed by the General Meeting by an absolute majority of votes, save for amendments to Article 10.1 of the Articles of Association, which require that four fifths of votes be cast in favour of the amending resolution and at least half of the Company's share capital be represented at the General Meeting.

After the General Meeting passes a resolution on amending the Company's Articles of Association, the Management Board of Grupa LOTOS S.A. notifies the registry court of the amendments. The amendments come into force upon their registration by the court.

A consolidated text of the Articles of Association incorporating the amendments is then produced by the Supervisory Board, provided that the Supervisory Board receives relevant authorisation from the General Meeting.

In 2016, the Extraordinary General Meeting of Grupa LOTOS S.A. held on September 14th 2016 was convened at the request of the Minister of Energy acting on behalf of the State Treasury, which included placing an amendment to the Company's Articles of Association on the meeting's agenda.

As stated in the grounds for the request, the amendment was necessary to adjust the Articles of Association of Grupa LOTOS S.A. to the amended provisions of Art. 12b.2 of the Energy Law of April 10th 1997 (Dz.U. of 2012, item 1059, as amended), effective as of July 1st 2016, whereby the authority to exercise rights attached to the shares held by the State Treasury was transferred to the Minister of Energy. The provisions were amended by Art. 3.2 of the Act Amending the Act on Public Administration Sectors and Certain Other Acts, dated February 11th 2016 (Dz.U. of 2016, item 266).

On September 14th 2016, the Extraordinary General Meeting passed Resolution No. 2 to amend the Company's Articles of Association and Resolution No. 3 to authorise the Supervisory Board of LOTOS S.A. to adopt the consolidated text of the Articles of Association, reflecting the amendments introduced by way of Resolution No. 2. The Supervisory Board adopted the consolidated text on September 20th 2016. The amendments were registered with the National Court Register on October 13th 2016.

9.3. Corporate governance principles applied by Grupa LOTOS S.A. in 2016

Best Practices are principles designed to establish high standards of corporate governance, which thus help bring corporate supervision in line with EU standards. Grupa LOTOS S.A. cares for its investor relations and makes every effort to ensure they are based on partnership and developed in a manner satisfactory to both sides.

The key objectives of corporate governance at the LOTOS Group are as follows:

- Transparency of operations,
- Trust in relations with Stakeholders,
- Building of shareholder value.

Since its stock market debut in June 2005, Grupa LOTOS has complied with most of the recommendations set out in the document 'Best Practices for Public Companies', and since the beginning of 2008 it has followed the 'Code of Best Practice for WSE Listed Companies', as amended by the WSE Supervisory Board's Resolution of October 19th 2011 and Resolution of November 21st

2012. As of January 1st 2016, the Company complies with the revised [Code of Best Practice for WSE Listed Companies 2016](#).

In line with disclosure requirements, the Company reports on instances of incidental or permanent non-compliance with corporate governance rules. The reports are published through the Electronic Information Base (EBI), similarly to current reports, and released in two languages on the Company's [investor relations website](#).

Obligatory corporate governance principles observed by Grupa LOTOS S.A. in 2016

On January 4th 2016, in the Investor Relations section of its website, Grupa LOTOS S.A. published a [list of Best Practices it applies](#), with information on three exceptions and grounds for non-compliance:

The Company publishes:

I.Z.1.16. Information about the planned transmission of a general meeting not later than seven days before the date of the general meeting: **not applied**.

Commentary: The Company has never broadcast any of its General Meetings, but it may do so in the future.

I.Z.1.20. An audio or video recording of a general meeting: **not applied**.

Commentary: The Company has never made an audio or video recording of its General Meeting. In the Company's opinion, the form of documentation of its General Meetings has ensured transparency and protection of shareholder rights. Moreover, the information on resolutions passed by the Company is disclosed in current reports and published on the [www.lotos.pl](#) website. The Company does not rule out documenting proceedings of its General Meetings in the form of audio or video recordings in the future.

IV.Z.2. If justified by the structure of shareholders, companies should ensure publicly available real-time broadcasts of general meetings: **Not applied**.

Commentary: The Company believes there is no threat attributable to the Company's not ensuring publicly available real-time broadcasts of its General Meetings given that its Shareholders have the right to attend General Meetings in person or by proxy. Additionally, General Meetings are held at the Company's registered office in Gdańsk, which facilitates attendance by Shareholders or their proxies. The Company complies with the disclosure requirements imposed by legal regulations and promptly, within 24 hours of the close of a General Meeting, issues current reports with information on resolutions passed, ballot results and objections raised, and also publishes such information on its corporate website. Furthermore, the Company publishes questions posed by, and answers given to, Shareholders during General Meetings. This appears sufficient to ensure Shareholders' participation in General Meetings.

Recommendations set out in the Code of Best Practice for WSE Listed Companies 2016 applied by the Company in 2016

The LOTOS Group understands that corporate governance is a means to enhancing its credibility as an entity listed on the WSE's regulated market, and thus its competitive position on the market. Therefore, the Group has a significant interest in implementing and complying with best practices. The Group takes steps to provide unambiguous and reliable communication to capital market participants. In 2015 and in prior years, Grupa LOTOS S.A. and its subsidiaries made every effort to ensure that their information policy is effective and supports the objectives of [corporate governance principles](#), i.e. transparency of

the Company's operations as a listed company, trust in stakeholder relations, and consistent work on creating shareholder value.

Disclosure policy, investor communications

(Code of Best Practice for WSE Listed Companies, Chapter I Recommendations)

The LOTOS Group is keen to ensure that its relations with investors and stakeholders are forged and fostered based on equality and dialogue, in a manner satisfactory to both parties. The Group analyses and gradually introduces new communication tools, and continually improves the content and form of its reporting.

Grupa LOTOS S.A.'s [Investor Relations \(IR\) Team](#) makes every effort to present to investors a precise, reliable and transparent picture of the Company's operations and financial standing, taking into account the principles of engagement, availability and equal treatment of all investors.

The Company uses a broad range of IR tools to communicate with investors, including mailing, newsletters, webcasts, participation in conferences for institutional and individual shareholders and brokers, conference calls, one-on-one meetings, open-house days for analysts and investors, and participation in the RESPECT index.

In 2016, the Investor Relations team supported the Company's Management Board in organising meetings with investors and maintaining regular contact with capital market participants.

As part of its relations with individual shareholders, the Company collaborates with the Polish Association of Retail Investors.

In 2016, Grupa LOTOS S.A. attended the 20th Wall Street Conference of retail investors, organised by the Polish Association of Retail Investors in Karpacz.

[The Grupa LOTOS investor relations website](#) is dedicated to market participants and Company stakeholders. This bilingual (Polish-English) service is updated on an ongoing basis to provide foreign investors and analysts with equal access to information. The website contains information and tools grouped in four thematic blocks:

1. [LOTOS Group](#) – this section of the LOTOS website presents the Group, its strategy, share capital structure and CSR activities.
2. [Reports and Key Data](#) – this section contains financial and non-financial information (includes an easily downloadable excel file [databook](#)), as well as the Group's current and periodic reports filed with the Warsaw Stock Exchange.
3. [Investors](#) – this section contains information on the methodology of calculating the [model refining margin](#) at Grupa LOTOS S.A. and its monthly updated values; [macroeconomic data](#) including prices of petroleum commodities and products in the global markets; as well as information on the Company's dividend policy and dividend payments, investor tools (calculator, historical LOTOS stock prices). It also contains downloadable files, i.e. periodic reports, strategy and efficiency improvement presentations, and the issue prospectus. This section also lists equity analysts covering the Company and their most recent recommendations for the LOTOS securities traded on the WSE. The corporate events calendar (quarterly reports, dates of General Meetings, open-house days, and other events which, in shareholders' opinion, might impact the price of the Company shares) is published in the '[Investor's Calendar](#)' tab.
4. [Corporate Governance](#) – this section contains information on the Company's compliance with the requirements of the Best Practice for WSE Listed Companies. It also provides information on the composition, powers and rules of procedure of the Management Board, Supervisory Board and General Meeting of Grupa LOTOS S.A., and contains the Company's constitutional documents.

Supporting various forms of artistic and cultural expression, sporting activities and education as an element of Company strategy

Ethical values and corporate social responsibility strategy

The LOTOS Group's strategy incorporates social, environmental, ethical and human rights concerns into the Group's core operations and business strategy.

The strategic objectives identified by the Company were as follows:

In the area of investment in human resources – to ensure the availability of highly qualified staff required to successfully implement the business strategy and enhance the corporate culture based on adopted values.

As regards health and safety improvement – to increase the awareness and involvement in work safety improvement among the management staff, employees and contractors.

With respect to integration with local communities – to ensure favourable attitudes among local communities and strengthen the Company's image as a socially committed business, by undertaking initiatives designed to provide lasting solutions to social and environmental issues.

In the area of management of natural resources in the production process – to reduce environmental risk and seek to continually minimise the environmental impact of the Group's operations.

In terms of ethics and the prevention of misconduct – to improve management by ensuring ethical conduct and the transparency of business processes, as well as by protecting the organisation against misconduct.

With respect to partnership relations with the market environment – to build lasting customer relationships by focusing on understanding customers' needs and ensuring the expected product quality and safety.

As regards energy sector security – to support initiatives designed to enhance energy sector security in a socially and environmentally responsible manner.

As regards communication – to ensure that communication with employees is timely and appropriate to their various needs and to build organisational culture based on multi-directional, open communication, including through the development of a system of public consultations within the Group.

Information governance

Grupa LOTOS S.A.'s Communications Team, assisted by the Investor Relations Team, is responsible for maintaining a consistent and transparent communication policy at the LOTOS Group by cultivating continued relations with the media. The manner of operation and responsibilities of the office are defined in Grupa LOTOS's procedures and are subject to periodic assessment.

Sponsorship policy

In accordance with the adopted sponsorship rules, Grupa LOTOS S.A. and its subsidiaries act as sponsors mainly in Poland, in those administrative districts and provinces where their offices are located and where LOTOS Group companies conduct their business, which includes service stations and local business alliances. Sponsorship may be also carried out abroad, in locations where the LOTOS Group or its key social and business partners are particularly active.

In 2016, Grupa LOTOS S.A. focused its sponsorship initiatives on sports, culture and social causes. The sport-oriented initiatives included support for projects of nationwide reach, such as sponsoring of Poland's national football team, the Polish Skiing Association and motor sports. Grupa LOTOS S.A. continued to sponsor professional and amateur sports, as well as periodic sports events during which the LOTOS brand is promoted. A range of social and sports initiatives addressed to children and youth were also supported.

As part of cultural sponsorship activities, Grupa LOTOS primarily engaged in the organisation of events demonstrating a significant potential for promoting and building the image of the LOTOS brand. Social

importance and artistic value were additional selection criteria for cultural projects. A number of key projects implemented in previous years were continued.

In 2016, Grupa LOTOS S.A.'s expenditure on sponsoring and corporate social responsibility amounted to approximately PLN 35m and included:

Sports sponsorship

- nationwide projects, including sponsorship of Poland's national football team, the Polish Skiing Association and Tour de Pologne (bicycle race),
- motor sports projects, including support of Mr Kajetan Kajetanowicz in the European Rally Championship and General Sponsorship of the 73rd Polish Rally organised by the Polish Automobile and Motorcycle Association,
- training for children and the youth, including under the National Ski Jumping Development Programme and the 'Piłkarska przyszłość z LOTOSem' (*Football Future with LOTOS*) programme,
- sponsoring of golf tours: PGA Polska and LOTOS Polish Open,
- sponsoring of the LOTOS Trefl Gdańsk men's volleyball team.

Culture sponsorship

The key cultural projects implemented in 2016 included:

- Collaboration with the Baltic Sea Cultural Centre in Gdańsk as a Strategic Partner,
- Freedom Jazz Festival,
- LOTOS Jazz Festival – Bielska Zadymka Jazzowa,
- Dwa Teatry (Two Theatres) festival organised by the Polish Radio Theatre and Polish Television Theatre,
- Siesta Festival,
- Ladies Jazz Festival.

In 2016, the CSR activities focused on three key areas:

- environmental protection and ecology, with special focus on conservation of the environment and natural values of the Baltic Sea, and nature protection of areas directly adjacent to the plants operated by the LOTOS Group,
- road traffic safety,
- redressing social inequalities and supporting educational projects, in particular those addressed to children and youth.

As part of environmental protection programmes, a range of initiatives were undertaken to raise environmental awareness and promote pro-environmental behaviour. These included the 'Protect the Wildlife of the Sobieszewo Island' programme, the 'Headed for the Baltic' programme, the Maritime Education Programme, and educational communication on the 'Headed for the Baltic' website.

The Company continued its 'LOTOS Safety Belt Champions' initiative as part of its activities aimed at improving road traffic safety. The project is designed to promote the awareness of car passenger safety rules, correct fastening of seat belts, and proper ways of transporting children to reduce the number of passenger injuries in road accidents.

In 2016, the 'Talent with LOTOS' programme and the E(x)plory Festival were continued; the projects are designed to support development of science and education of talented pupils. Also social initiatives and activities focused on Company's immediate environment were continued to build a positive image and good relations with local communities.

On its website, the Company reports in detail on its engagement in supporting various forms of artistic and cultural expression, sporting activities and education through [initiatives aimed at bridging social gaps, as well as social and environmental programmes](#).

Management Board, Supervisory Board

(Code of Best Practice for WSE Listed Companies, Chapter II Recommendations, item 5)

Grupa LOTOS S.A.'s operations are managed by the Management Board, whose members act in the Company's interest and are responsible for its activity. The Company is supervised by an effective and competent Supervisory Board, which issues opinions on the Company's strategy, verifies the work of the Management Board in pursuit of the objectives laid down in the LOTOS Group Strategy 2017–2022.

To the Company's knowledge, members of the Management Board and the Supervisory Board adhere to the recommendations set out in the Code of Best Practice in relation to their engagement in performance of duties and acting in the interest of the Company.

Internal control systems

(Code of Best Practice for WSE Listed Companies, Chapter III Recommendations)

In line with the Minister of Finance's Regulation on current and periodic information to be published by issuers of securities, dated February 19th 2009, the Management Board of Grupa LOTOS S.A. is responsible for the internal audit function and its effective application in the financial reporting process.

Financial statements are prepared, approved and released to the public in line with an internal procedure, whereunder oversight of the financial reporting process lies within the remit of the Head of the Finance and Accounting Centre's Office and the person responsible for keeping Grupa LOTOS's accounting books (Chief Accountant). Responsibility for preparing the consolidated and separate financial statements lies with the Financial Reporting Office of Grupa LOTOS S.A.

Consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS), based on the financial statements of Grupa LOTOS S.A. and the entities controlled by Grupa LOTOS S.A.

Grupa LOTOS S.A., LOTOS Petrobaltic S.A., Norway-based LOTOS Exploration and Production Norge AS, LOTOS Asphalt Sp. z o.o., LOTOS Oil Sp. z o.o., LOTOS Paliwa Sp. z o.o., LOTOS Kolej Sp. z o.o., LOTOS Serwis Sp. z o.o., Lithuania-based AB LOTOS Geonafta and its subsidiaries, APHRODITE Offshore Services N.V., MILIANA Shipholding Company Ltd. and its subsidiaries, with the exception of Technical Ship Management Sp. z o.o. as well as B8 Sp. z o.o. and B8 Spółka z ograniczoną odpowiedzialnością BALTIC S.K.A. maintain their accounts in accordance with the accounting policies prescribed by the IFRS. The other Group companies maintain their accounting books in accordance with the accounting standards defined in the Polish Accountancy Act of September 29th 1994 and the accounting policies and standards applicable at their foreign locations. Consolidated financial statements include adjustments which are absent from the accounting books of the Group's entities applying accounting standards other than IFRS, and which have been introduced to ensure consistency of the entities' financial information with the IFRS.

In order to ensure accounting uniformity, the accounting policies effective at the Company were implemented across the LOTOS Group companies for application in preparing their consolidation packages.

General Meeting, shareholder relations

(Code of Best Practice for WSE Listed Companies, Chapter IV Recommendations)

Grupa LOTOS S.A. seeks to ensure equal relations with and fair treatment of its shareholders with regard to transactions and agreements made by the Company with the shareholders and their related entities.

The Company ensures that women and men have equal access to management and supervisory functions, and therefore has no policy that would favour or discriminate against either of the sexes.

(Code of Best Practice for WSE Listed Companies, Chapter I Recommendations, item 9)

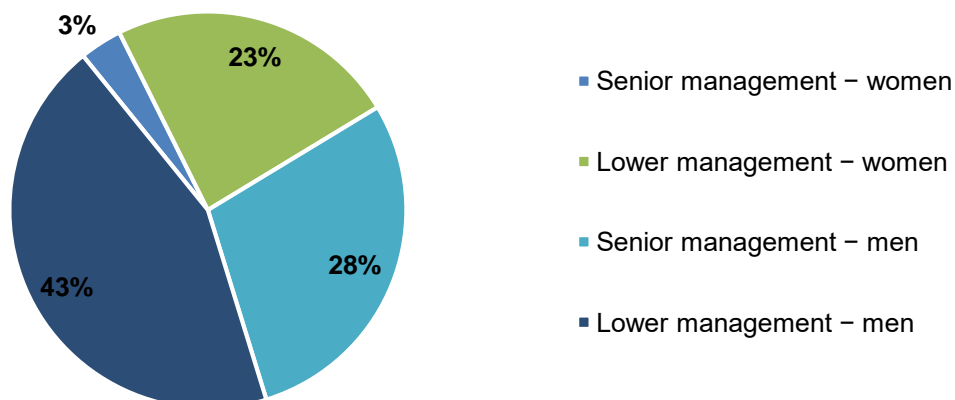
Table 50. Number of women and men on the Supervisory Board

	Women	Men
01.01.2012 - 27.01.2012	1	5
27.01.2012 - 29.02.2012	1	4
29.02.2012 - 31.12.2012	2	4
01.01.2013 - 31.12.2013	2	4
01.01.2014 – 30.06.2014	2	4
30.06.2014 - 31.12.2014	3	3
01.01.2015 – 30.06.2015	3	3
30.06.2015 – 23.12.2015	3	3
23.12.2015 – 31.12.2015	3	4
31.12.2015 – 26.01.2016	3	4
26.01.2016 – 27.01.2016	3	3
27.01.2016 – 12.04.2016	3	3

Table 51. Number of women and men on the Management Board and in other management positions at Grupa LOTOS S.A. as at December 31st 2016

	Women	Men
Management Board	0	3
Senior management	6	35
Lower management	41	78
Total	47	118

Figure 50. Management personnel by sex (as at December 31st 2016)



Conflict of interest, related-party transactions

(Code of Best Practice for WSE Listed Companies, Chapter V Recommendations)

The Company has in place transparent procedures for preventing conflicts of interest and related-party transactions where a conflict of interest may occur.

On January 1st 2013, the [LOTOS Group Code of Ethics](#) was introduced and superseded the existing documents which had governed the conduct of the Group's employees and managers since mid-2000s. The document is intended to govern behaviour within the organisation, as well as external relations with capital market participants, customers and trading partners, local communities and competitors. It is the key element of a larger project to implement a comprehensive Ethical Conduct Programme.

A crucial element of the standards applicable at the Group is the [Misconduct Prevention Policy](#), which was adopted in 2012. The two documents were adopted in line with the objectives of the LOTOS Group Corporate Social Responsibility Strategy for 2012-2015. The LOTOS Group's stakeholders may report any suspected or actual breaches of the Code of Ethics to the persons responsible for their prevention using dedicated channels of communication with the LOTOS Group's Ethics Officer.

Conflict of interest, related-party transactions

(Code of Best Practice for WSE Listed Companies, Chapter VI Remuneration)

Remuneration of the Management Board and Supervisory Board members is subject to limitations and conditions prescribed under the Act on Remunerating Persons Who Manage Certain Legal Entities of March 3rd 2000 (Compensation Cap Act) (Dz.U. of 2000 No 26, item 306, as amended).

On November 13th 2009, the Supervisory Board – acting within the powers vested in it by the Company's Articles of Association and the Act of March 3rd 2000 – decided that Vice Presidents of the Company's Management Board would receive remuneration equal to six-fold the average monthly salary in the non-financial corporate sector (net of bonuses paid from profit) in the fourth quarter of the preceding year, as announced by the President of the Central Statistics Office (GUS). Concurring with the proposal of the Supervisory Board, contained in Resolution No. 63/VII/2009 of November 13th 2009, on December 17th 2009 the Extraordinary General Meeting determined the same remuneration policy for President of the Management Board, while repealing the General Meeting's resolution of August 18th 2000, which had until then defined the rules of remuneration for members of the Management Board.

In 2000, the Extraordinary General Meeting determined the remuneration policy for the members of the Supervisory Board. Pursuant to the policy, Supervisory Board members receive monthly remuneration

equal to the average monthly salary in the non-financial corporate sector (net of bonuses paid from profit) in the fourth quarter of the preceding year, as announced by the President of GUS.

In line with the amended Compensation Cap Act, in 2016 members of the Supervisory and Management Boards were entitled to receive monthly remuneration in amounts determined on the basis of the average monthly remuneration in the non-financial business sector (net of bonuses paid from profit) in the fourth quarter of 2015.

INDEPENDENT AUDITOR'S REPORT

To the General Shareholders Meeting and Supervisory Board of Grupa LOTOS S.A.

Report on the Audit of the Consolidated Financial Statements

We have audited the accompanying consolidated financial statements for the year ended 31 December 2016 of LOTOS Capital Group ('the Group'), with parent's company Grupa LOTOS S.A. ('the Company') registered office located in Gdańsk at 135 Elbląska Street which comprise the consolidated statement of financial position as at 31 December 2016, the consolidated statement of comprehensive income, the consolidated statement of cash flow, the consolidated statement of changes in equity for the period from 1 January 2016 to 31 December 2016 and other explanatory notes ('the accompanying consolidated financial statements').

Responsibilities of the Management Board and members of the Supervisory Board for the consolidated financial statements

The Management Board is responsible in accordance with the Accounting Act dated 29 September 1994 ('the Accounting Act'), regulations issued on the basis of the Accounting Act for the preparation of the consolidated financial statements and fair presentation in accordance with International Accounting Standards, International Financial Reporting Standards and related Interpretations announced in the form of European Commission regulations ('International Financial Reporting Standards as adopted by European Union') and other applicable laws. The Management Board is also responsible for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. According to the Accounting Act the Management Board and members of the Supervisory Board are required to ensure that the consolidated financial statements meet the requirements of the Accounting Act.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our responsibility is to express an opinion on accompanying consolidated financial statements based on our audit.

We conducted our audit in accordance with chapter 7 of the Accounting Act and National Auditing Standards in the version of International Standards on Auditing as adopted by Resolution no 2783/52/2015 of the National Council of Statutory Auditors dated 10 February 2015 with subsequent amendments ('National Auditing Standards'). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control

relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

In accordance with National Auditing Standard 320 point 5 the concept of materiality is applied by the auditor both in planning and performing the audit, and in evaluating the effect of identified misstatements on the audit and of uncorrected misstatements, if any, on the consolidated financial statements and in forming the opinion in the auditor's report. Hence all auditor's assertions and statements contained in the auditor's report, including those on other information or regulatory requirements, are made with the contemplation of the qualitative and quantitative materiality levels established in accordance with auditing standards and auditor's professional judgement.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the accompanying consolidated financial statements:

- give a true and fair view of the financial position of a Group as at 31 December 2016 and its financial performance and its cash flows for the period from 1 January 2016 to 31 December 2016 in accordance with International Financial Reporting Standards as adopted by European Union and accounting policies;
- are in respect of the form and content, in accordance with legal regulations governing the preparation of consolidated financial statements and the Company's Articles of Association.

Report on Other Legal and Regulatory Requirements

Report on the Directors' Report of the Group

Our opinion on the consolidated financial statements does not include the Directors' Report of the Group.

The Company's Management Board is responsible for preparation of the Directors' Report of the Group in accordance with the Accounting Act and other applicable laws. In addition the Company's Management Board and members of the Supervisory Board are obliged to state that the Directors' Report of the Group meet the requirements of the Accounting Act.

In connection with the audit of the consolidated financial statements, our responsibility was to read the content of the Directors' Report of the Group and consider whether the information contained in it take into account the provisions of art. 49 of the Accounting Act and the Decree of the Minister of Finance dated 19 February 2009 on current and periodic information published by issuers of securities and conditions for recognition as equivalent the information required by laws of non-EU member states ('the Decree on current and periodic information') and whether they are consistent with the information contained in the accompanying consolidated financial statements. Our responsibility was also to report,

based on our knowledge of the Group and its environment obtained during the audit of the consolidated financial statements, whether the Directors' Report does not include material misstatements.

We have concluded that the information included in the Directors' Report of the Group corresponds with the relevant regulations of art. 49 of the Accounting Act and the Decree on current and periodic information and that the information derived from the accompanying consolidated financial statements reconciles with the Directors' Report of the Group. Based on our knowledge of the Group and its environment obtained during the audit of the consolidated financial statements, we have not identified material misstatements in the Directors' Report of the Group.

In connection with the conducted audit of the consolidated financial statements, our responsibility was also to read the Company's representation on application of corporate governance which constitutes a separate part of the Directors' Report of the Group. We concluded that in the representation the Company included information required by implementing rules issued under art. 60 para. 2 of the Act of 29 July 2005 on public offering and on the terms of introducing financial instruments into an organised trading system and on public companies. This information is, in all material respects, in accordance with applicable regulations and with the information included in the accompanying consolidated financial statements.

Warsaw, 2 March 2017

Key Certified Auditor

Jarosław Dac
certified auditor
No. 10138

on behalf of
Ernst & Young Audyt Polska spółka
z ograniczoną odpowiedzialnością sp. k.
Rondo ONZ 1, 00-124 Warsaw
Reg. No 130

LOTOS CAPITAL GROUP

**LONG-FORM AUDITORS' REPORT
ON THE CONSOLIDATED FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2016**

I. GENERAL NOTES

1. Background

The holding company of the LOTOS Capital Group (hereinafter 'the Group' or 'the Capital Group') is Grupa LOTOS S.A. ('the holding company', 'the Company').

The holding company was incorporated on the basis of a Notarial Deed dated 18 September 1991. The Company's registered office is located in Gdańsk at 135 Elbląska Street.

The holding company is an issuer of securities as referred to in art. 4 of the Regulation (EC) No 1606/2002 of the European Parliament and of the Council of the European Union of 19 July 2002 on the application of international accounting standards and, based on the article 55.5 of the Accounting Act dated 29 September 1994 ('the Accounting Act'), prepares consolidated financial statements of the Group in accordance with International Financial Reporting Standards as adopted by the EU. This requirement relates to the consolidated financial statements for the financial year beginning in 2005 and later.

The holding company was entered in the Register of Entrepreneurs of the National Court Register under no. KRS 0000106150 on 10 April 2002.

The Company was issued with tax identification number (NIP) 5830000960 on 9 June 1993 and statistical number (REGON) 190541636 on 25 February 1998.

The principal activities of the holding company are as follows:

- manufacturing and processing of coke and crude oil refined products (PKD 19.20.Z);
- production of other basic organic chemicals (PKD 20.14);
- wholesale of fuels and derivatives products (PKD 46.71);
- wholesale of chemical products (PKD 46.75);
- pipeline transport (PKD 49.5);
- warehousing and storage of goods (PKD 52.1);
- activities of head office and holding companies; management consultancy activities (PKD 70).

The scope of activities of the Group's subsidiaries and joint ventures are similar to this of the holding company.

As at 31 December 2016, the Company's issued share capital amounted to 184.873 thousand zlotys. Equity as at that date amounted to 8.610.894 thousand zlotys.

In accordance with article 69 Act on the public offer and conditions for introduction of financial instruments to the organized trading system and public companies dated 29 July 2005 (Journal of Law No. 184 from 2005, item 1539, with amendments) and in accordance with current report no 49/2016 dated 22 December 2016, the ownership structure of the Company's issued share capital was as follows:

LOTOS CAPITAL GROUP
Long-form auditors' report
for the year ended 31 December 2016
(in thousand zlotys)

	Number of shares	Number of votes	Par value of shares	% of issued share capital
Skarb Państwa	98.329.515	98.329.515	98.329.515	53,19%
NN OFE	9.000.000	9.000.000	9.000.000	4,87%
OFE PZU „Złota Jesień”	9.285.132	9.285.132	9.285.132	5,02%
Other shareholders	68.258.715	68.258.715	68.258.715	36,92%
	-----	-----	-----	-----
Total	184.873.362	184.873.362	184.873.362	100,00%
	=====	=====	=====	=====

There were no changes in the ownership structure of the holding company during the reporting period as well as during the period from the balance sheet date to the date of the opinion.

There were no movements in the share capital in the reporting period.

As at 2 March 2017, the holding company's Management Board was composed of:

Marcin Jastrzębski	- President
Mariusz Machajewski	- Vice-President
Mateusz Aleksander Bonca	- Vice-President
Jarosław Kawula	- Vice-President

There were following changes in the holding company's Management Board during the reporting period as well as from the balance sheet date to the date of the opinion:

- on 13 April 2016 Mr Paweł Olechnowicz – the President of the Management Board, Mr Marek Sokołowski and Mr Zbigniew Paszkowicz – the Vice-Presidents of the Management Board were dismissed by the Supervisory Board,
- on 13 May 2016 Mr Robert Pietryszyn was appointed by the Supervisory Board to the position of the President of the Management Board and Mr Marcin Jastrzębski to the position of the Vice President of the Management Board; on 17 May 2016 and 1 June 2016 Mr Przemysław Marchlewicz and Mr Mateusz Aleksander Bonca were appointed to the position of the Vice-Presidents of the Management Board, respectively.
- on 21 July 2016 Mr Maciej Szozda was dismissed from the Management Board by the Supervisory Board;
- on 9 November 2016 Mr Robert Pietryszyn was dismissed from the Management Board by the Supervisory Board, the Supervisory Board decided to entrust duties of the President of Management Board to Mr Marcin Jastrzębski,
- on 14 December 2016 Mr Przemysław Marchlewicz was dismissed from the Management Board by the Supervisory Board;
- on 12 January 2017 Mr Marcin Jastrzębski was appointed to the position of President of the Management Board by the Supervisory Board and Mr Jarosław Kawula was appointed to the position of Vice-President of the Management Board; at the same time Mr Marcin Jastrzębski resigned from the position of Vice-President of the Management Board.

2. Group Structure

As at 31 December 2016, the LOTOS Capital Group consisted of the following subsidiaries (direct or indirect):

LOTOS CAPITAL GROUP
Long-form auditors' report
for the year ended 31 December 2016
(in thousand zlotys)

Entity name	Consolidation method	Type of opinion	Name of authorised entity that audited financial statements	Balance sheet date
LOTOS Paliwa Sp. z o.o.	Purchase accounting	Unqualified opinion	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
LOTOS Oil Sp. z o.o.	Purchase accounting	Unqualified opinion	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
LOTOS Asfalt Sp. z o.o.	Purchase accounting	Unqualified opinion	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
LOTOS Kolej Sp. z o.o.	Purchase accounting	Unqualified opinion	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
LOTOS Petrobaltic S.A. (the holding company has its own capital group)	Purchase accounting	Unqualified opinion	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
Energobaltic Sp. z o.o.	Purchase accounting	Unqualified opinion	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
B8 Spółka z ograniczoną odpowiedzialnością BALTIC S.K.A.	Purchase accounting	Unqualified opinion	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
SPV Baltic Sp. z o.o.	Purchase accounting	Unqualified opinion with an emphasis of matter	Ernst & Young Audyt Polska sp. z o.o. sp. k.	31.12.2016
B8 Sp. z o.o.	Purchase accounting	No audit obligation	No audit obligation	31.12.2016
LOTOS Exploration and Production Norge AS	Purchase accounting	Unqualified opinion	Ernst & Young Audit AS, Norway	31.12.2016
AB LOTOS Geonafta (the holding company has its own capital group)	Purchase accounting	Audit procedures for consolidation purpose completed, statutory audit in progress	Ernst & Young Baltic UAB, Lithuania	31.12.2016
UAB Genciu Nafta	Purchase accounting	Audit procedures for consolidation purpose completed, statutory audit in progress	Ernst & Young Baltic UAB, Lithuania	31.12.2016
UAB Manifaldas	Purchase accounting	Audit procedures for consolidation purpose completed, statutory audit in progress	Ernst & Young Baltic UAB, Lithuania	31.12.2016
LOTOS Serwis Sp. z o.o.	Purchase accounting	Unqualified opinion	Audytorium, Biegli rewidenci Sp. p.	31.12.2016

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LOTOS Lab Sp. z o.o.	Purchase accounting	Unqualified opinion	Stowarzyszenie Ekspertów Księgowych i Podatkowych Sp. z o.o.	31.12.2016
LOTOS Terminale S.A. (the holding company has its own capital group)	Purchase accounting	Unqualified opinion with an emphasis of matter	REWIT Południe Sp. z o.o.	31.12.2016
LOTOS Biopaliwa Sp. z o.o.	Purchase accounting	Unqualified opinion	REWIT Południe Sp. z o.o.	31.12.2016
LOTOS Infrastruktura S.A. (the holding company has its own capital group)	Purchase accounting	Unqualified opinion	POLINVEST-AUDIT Sp. z o.o.	31.12.2016
RCEkonergia Sp. z o.o.	Purchase accounting	Unqualified opinion	POLINVEST-AUDIT Sp. z o.o.	31.12.2016
LOTOS Straż Sp. z o.o.	Purchase accounting	Unqualified opinion	Stowarzyszenie Ekspertów Księgowych i Podatkowych Sp. z o.o.	31.12.2016
LOTOS Ochrona Sp. z o.o.	Purchase accounting	No audit obligation	No audit obligation	31.12.2016
Miliana Shipholding Company Ltd. Group (The Group has subsidiaries)	Purchase accounting	Unqualified opinion	Savvides Audit Limited - Cyprus	31.12.2016
Aphrodite Offshore Services N.V.	Purchase accounting	No audit obligation	No audit obligation	31.12.2016
LOTOS Gaz S.A. w likwidacji	Purchase accounting	No audit obligation	No audit obligation	31.12.2016

As at 31 December 2016 shares in the following joint ventures were recognised in the Group's consolidated financial statements using the equity method:

Name and registered office	Type of activity
UAB Minijos Nafta	Oil exploration, prospecting and production
LOTOS-Air BP Polska Sp. z o.o.	Sale of aviation fuel and logistics services
Baltic Gas Sp. z o.o.	Oil and gas production (support activities for oil and gas production)
Baltic Gas sp. z o.o. i wspólnicy sp.k.	Crude oil and gas production

Details of the type and impact of changes in entities included in the consolidation as compared to the prior year may be found in Note 2 of the notes to the consolidated financial statements of the Group for the year ended 31 December 2016.

3. Consolidated Financial Statements

3.1 Auditors' opinion and audit of consolidated financial statements

Ernst & Young Audyt Polska spółka z ograniczoną odpowiedzialnością sp. k. with its registered office in Warsaw, at Rondo ONZ 1, is registered on the list of entities authorised to audit financial statements under no. 130.

Ernst & Young Audyt Polska spółka z ograniczoną odpowiedzialnością sp. k. was appointed by Supervisory Board of Grupa LOTOS S.A. on 31 July 2015 to audit the Group's financial statements.

Ernst & Young Audyt Polska spółka z ograniczoną odpowiedzialnością sp. k. and the key certified auditor in charge of the audit meet the conditions required to express an impartial and independent opinion on the financial statements, as defined in Art. 56.3 and 56.4 of the Act on statutory auditors and their self-governance, audit firms authorized to audit financial statements and public oversight, dated 7 May 2009.

Under the contract executed on 30 July 2013, including annex dated 14 January 2016, with the holding company's Management Board, we have audited the consolidated financial statements for the year ended 31 December 2016.

Our responsibility was to express an opinion on the consolidated financial statements based on our audit. The auditing procedures applied to the consolidated financial statements were designed to enable us to express an opinion on the consolidated financial statements taken as a whole. Our procedures did not extend to supplementary information that does not have an impact on the consolidated financial statements taken as a whole.

Based on our audit, we issued an unqualified auditors' opinion dated 2 March 2017, stating the following:

“To the General Shareholders Meeting and Supervisory Board of Grupa LOTOS S.A.

Report on the Audit of the Consolidated Financial Statements

We have audited the accompanying consolidated financial statements for the year ended 31 December 2016 of LOTOS Capital Group ('the Group'), with parent's company Grupa LOTOS S.A. ('the Company') registered office located in Gdańsk at 135 Elbląska Street which comprise the consolidated statement of financial position as at 31 December 2016, the consolidated statement of comprehensive income, the consolidated statement of cash flow, the consolidated statement of changes in equity for the period from 1 January 2016 to 31 December 2016 and other explanatory notes ('the accompanying consolidated financial statements').

Responsibilities of the Management Board and members of the Supervisory Board for the consolidated financial statements

The Management Board is responsible in accordance with the Accounting Act dated 29 September 1994 ('the Accounting Act'), regulations issued on the basis of the Accounting Act for the preparation

of the consolidated financial statements and fair presentation in accordance with International Accounting Standards, International Financial Reporting Standards and related Interpretations announced in the form of European Commission regulations ('International Financial Reporting Standards as adopted by European Union') and other applicable laws. The Management Board is also responsible for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. According to the Accounting Act the Management Board and members of the Supervisory Board are required to ensure that the consolidated financial statements meet the requirements of the Accounting Act.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our responsibility is to express an opinion on accompanying consolidated financial statements based on our audit.

We conducted our audit in accordance with chapter 7 of the Accounting Act and National Auditing Standards in the version of International Standards on Auditing as adopted by Resolution no 2783/52/2015 of the National Council of Statutory Auditors dated 10 February 2015 with subsequent amendments ('National Auditing Standards'). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

In accordance with National Auditing Standard 320 point 5 the concept of materiality is applied by the auditor both in planning and performing the audit, and in evaluating the effect of identified misstatements on the audit and of uncorrected misstatements, if any, on the consolidated financial statements and in forming the opinion in the auditor's report. Hence all auditor's assertions and statements contained in the auditor's report, including those on other information or regulatory requirements, are made with the contemplation of the qualitative and quantitative materiality levels established in accordance with auditing standards and auditor's professional judgement.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the accompanying consolidated financial statements:

- give a true and fair view of the financial position of a Group as at 31 December 2016 and its financial performance and its cash flows for the period from 1 January 2016 to 31 December 2016 in accordance with International Financial Reporting Standards as adopted by European Union and accounting policies;

- are in respect of the form and content, in accordance with legal regulations governing the preparation of consolidated financial statements and the Company's Articles of Association.

Report on Other Legal and Regulatory Requirements

Report on the Directors' Report of the Group

Our opinion on the consolidated financial statements does not include the Directors' Report of the Group.

The Company's Management Board is responsible for preparation of the Directors' Report of the Group in accordance with the Accounting Act and other applicable laws. In addition the Company's Management Board and members of the Supervisory Board are obliged to state that the Directors' Report of the Group meet the requirements of the Accounting Act.

In connection with the audit of the consolidated financial statements, our responsibility was to read the content of the Directors' Report of the Group and consider whether the information contained in it take into account the provisions of art. 49 of the Accounting Act and the Decree of the Minister of Finance dated 19 February 2009 on current and periodic information published by issuers of securities and conditions for recognition as equivalent the information required by laws of non-EU member states ('the Decree on current and periodic information') and whether they are consistent with the information contained in the accompanying consolidated financial statements. Our responsibility was also to report, based on our knowledge of the Group and its environment obtained during the audit of the consolidated financial statements, whether the Directors' Report does not include material misstatements.

We have concluded that the information included in the Directors' Report of the Group corresponds with the relevant regulations of art. 49 of the Accounting Act and the Decree on current and periodic information and that the information derived from the accompanying consolidated financial statements reconciles with the Directors' Report of the Group. Based on our knowledge of the Group and its environment obtained during the audit of the consolidated financial statements, we have not identified material misstatements in the Directors' Report of the Group.

In connection with the conducted audit of the consolidated financial statements, our responsibility was also to read the Company's representation on application of corporate governance which constitutes a separate part of the Directors' Report of the Group. We concluded that in the representation the Company included information required by implementing rules issued under art. 60 para. 2 of the Act of 29 July 2005 on public offering and on the terms of introducing financial instruments into an organised trading system and on public companies. This information is, in all material respects, in accordance with applicable regulations and with the information included in the accompanying consolidated financial statements."

We conducted the audit of the consolidated financial statements during the period from 11 April 2016 to 2 March 2017. We were present at the holding company's head office from 11 April 2016 to 22 April 2016, from 18 July 2016 to 29 July 2016, from 10 October 2016 to 21 October 2016, from 14 November 2016 to 25 November 2016 and from 30 January 2017 to 24 February 2017.

3.2 Representations provided and data availability

The Management Board of the holding company confirmed its responsibility for the truth and fairness¹ of the consolidated financial statements and the preparation of the financial statements in accordance with the required applicable accounting policies, and the correctness of consolidation documentation. The Board stated that it provided us with all financial statements of the Group companies included in the consolidated financial statements, consolidation documentation and other required documents as well as all necessary explanations. We also obtained a written representation dated 2 March 2017, from the Management Board of the holding company confirming that:

- the information included in the consolidation documentation was complete;
- all contingent liabilities had been disclosed in the consolidated financial statements, and
- all material events from the balance sheet date to the date of the representation letter had been disclosed in the consolidated financial statements;

and confirmed that the information provided to us was true and fair to the best of the holding company Management Board's knowledge and belief, and included all events that could have had an effect on the consolidated financial statements.

At the same time declare that during the audit of the financial statements, there were no limitations of scope.

3.3 Consolidated financial statements for prior financial year

The consolidated financial statements of the Group for the year ended 31 December 2015 were audited by Jarosław Dac, key certified auditor no. 10138, acting on behalf of Ernst & Young Audyt Polska spółka z ograniczoną odpowiedzialnością sp. k., the company entered on the list of entities authorized to audit financial statements conducted by the National Council of Statutory Auditors with the number 130. The key certified auditor issued an unqualified opinion on the consolidated financial statements for the year ended 31 December 2015. The consolidated financial statements for the year ended 31 December 2015 were approved by the General Shareholders' Meeting on 28 June 2016.

The consolidated financial statements of the Group for the financial year ended 31 December 2015, together with the auditors' opinion, a copy of the resolution approving the consolidated financial statements and the Directors' Report, were filed on 6 July 2016 with the National Court Register.

4. Analytical Review

4.1 Basic data and financial ratios

Presented below are selected financial ratios indicating the economic or financial performance of the Company for the years 2014 – 2016. The ratios were calculated on the basis of financial information included in the financial statements for the years ended 31 December 2016 and 31 December 2015.

	2016	2015	2014
Total assets	19 326 309	19 169 332	18 947 157
Shareholders' equity	8 610 894	7 712 198	8 258 463
Net profit/ loss	1 015 217	(263 300)	(1 466 372)

¹ Translation of the following expression in Polish: "rzetelność i jasność"

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	2016	2015	2014
Return on assets (%)	5,3%	(1,4)%	(7,7)%
<hr/> Net profit x 100% <hr/> Total assets			
Return on equity (%)	13,2%	(3,2)%	(16,0)%
<hr/> Net profit x 100% <hr/> Shareholders' equity at the beginning of the period			
Profit margin (%)	4,9%	(1,2)%	(5,1)%
<hr/> Net profit x 100% <hr/> Sales of finished goods, goods for resale and raw materials			
Liquidity I	1,33	1,24	1,37
<hr/> Current assets <hr/> Short-term creditors			
Liquidity III	0,14	0,16	0,07
<hr/> Cash and cash equivalents <hr/> Short-term creditors			
Debtors days	39 days	25 days	18 days
<hr/> Trade debtors x 365 <hr/> Sales of finished goods, goods for resale and raw materials			
Creditors days	33 days	20 days	21 days
<hr/> Trade creditors x 365 <hr/> Costs of finished goods, goods for resale and raw materials sold			
Inventory days	64 days	54 days	49 days
<hr/> Inventory x 365 <hr/> Costs of finished goods, goods for resale and raw materials sold			
Stability of financing (%)	72,7%	71,7%	72,4%
<hr/> (Equity + long-term provisions and liabilities) x 100% <hr/> Total liabilities, provisions and equity			
Debt ratio (%)	55,4%	59,8%	56,4%
<hr/> (Total liabilities and provisions) x 100% <hr/>			

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	2016	2015	2014
Total assets			
Rate of inflation:			
Yearly average	(0,60)%	(0,90)%	0,00%
December to December	0,80%	(0,50)%	(1,00)%

4.2 Comments

The following trends may be observed based on the above financial ratios:

All profitability ratios were positive in 2016 and increased in comparison to year 2015 and 2014 due to the net profit incurred in 2016 in comparison to the net loss generated in 2015 and 2014.

Return on assets ratio in 2016 amounted to 5,3% and increased in comparison to 2015 and 2014, when it amounted to -1,4% and -7,7%.

Return on equity ratio increased to 13,2% in 2016 from -3,2% in 2015 also increased in comparison to 2014 year when amounted to -16,0%.

Profit margin amounted to 4,9% in 2016 and increased in comparison to -1,2% in 2015 and also to -5,1% in 2014.

Liquidity I ratio (current liquidity) increased to 1,33 as at 31 December 2016 in comparison to 1,24 as at 31 December 2015 and decreased in comparison to 1,37 as at 31 December 2014. The increase was caused by increase in current assets in 2016.

Liquidity III ratio (cash liquidity) decreased at the end of 2016 to 0,14 in comparison to 2015 year end, when it amounted to 0,16 and increased in comparison to 2014 year end, when it amounted to 0,07.

Debtors days ratio in 2016 increased from the level of 25 days in 2015 and 18 days in 2014 to the level of 39 days. The change of debtors days ratio in 2016 was caused by lower level of revenues and increase of short term receivables.

Creditors days ratio amounted to 33 days and increased in comparison to 20 days in 2015 and 21 days in 2014. The increase of creditors days ratio in 2016 in comparison to prior years was caused mainly by increase of trade payables at 2016 year end.

The inventory days ratio increased in 2016 to 64 days in comparison to 2015 and 2014, when it amounted to 54 days and to 49 days. The inventory days ratio increase in 2016 in comparison to prior year was caused mainly by decrease of operating costs.

The Company's stability of financing ratio amounted to 72,7% as at 31 December 2016 and increased in comparison to 71,7% as at 31 December 2015 and in comparison to 72,4% in 2014 year end. Increase of the ratio at the end of 2016 in comparison to the end of 2015 was caused by relatively lower increase of total assets in 2016 in comparison to decrease of long term liabilities and increase of equity.

4.2 Comments (continued)

Debt ratio in 2016 decreased to 55,4% in comparison to 2015 and 2014 year end, when it amounted to 59,8% and 56,4%. Decrease of the ratio at the end of 2016 in comparison to the end of 2015 was caused by increase of equity in comparison to previous years.

4.3 Going concern

Nothing came to our attention during the audit that caused us to believe that the holding company is unable to continue as a going concern for at least twelve months subsequent to 31 December 2016 as a result of an intended or compulsory withdrawal from or a substantial limitation in its current operations.

The Management Board of the holding company has stated that the financial statements of the relevant Group entities included in the consolidated financial statements were prepared on the assumption that these entities will continue as a going concern for a period of at least twelve months subsequent to 31 December 2016 and that there are no circumstances that would indicate a threat to its continued activity.

II. DETAILED REPORT

1. Completeness and accuracy of consolidation documentation

During the audit no material irregularities were noted in the consolidation documentation which could have a material effect on the audited consolidated financial statements, and which were not subsequently adjusted. These would include matters related to the requirements applicable to the consolidation documentation (and in particular eliminations relating to consolidation adjustments).

2. Accounting policies for the valuation of assets and liabilities

The Group's accounting policies and rules for the presentation of data are detailed in note 7 of the notes to the Group's consolidated financial statements for the year ended 31 December 2016.

3. Structure of assets, liabilities and equity

The structure of the Group's assets and equity and liabilities is presented in the audited consolidated financial statements for the year ended 31 December 2016.

The data disclosed in the consolidated financial statements reconcile with the consolidation documentation.

3.1 Goodwill on consolidation and amortisation

The method of determining goodwill on consolidation, the method of determining impairment of goodwill, the impairment charged in the financial year and up to the balance sheet date were presented in note 7.9.2 and 13.1.2 of the notes to the consolidated financial statements.

3.2 Shareholders' funds including non-controlling interest

The amount of shareholders' funds is consistent with the amount stated in the consolidation documentation and appropriate legal documentation. Non-controlling interest amounted to 108 thousand zlotys as at 31 December 2016. It was correctly calculated and is consistent with the consolidation documentation.

Information on shareholders' funds has been presented in notes 19-22 of the notes to the consolidated financial statements.

3.3 Financial year

3.3 Financial year

The financial statements of all Group companies forming the basis for the preparation of the consolidated financial statements were prepared as at 31 December 2016 and include the financial data for the period from 1 January 2016 to 31 December 2016.

4. Consolidation adjustments

4.1 Elimination of inter-company balances (receivables and liabilities) and inter-company transactions (revenues and expenses) of consolidated entities.

All eliminations of inter-company balances (receivables and liabilities) and inter-company transactions (revenues and expenses) of the consolidated companies reconcile with the consolidation documentation.

4.2 Elimination of unrealised gains/losses of the consolidated companies, included in the value of assets, as well as relating to dividends

All eliminations of unrealised gains/losses of the consolidated companies, included in the value of assets, as well as relating to dividends reconcile with the consolidation documentation.

5. Disposal of all or part of shares in a subordinated entity

During the financial year the Group did not sell any shares in subordinated entities.

6. Items which have an impact on the Group's result for the year

Details of the items which have an impact on the Group's result for the year have been included in the audited consolidated financial statements for the year ended 31 December 2016.

7. The appropriateness of the departures from the consolidation methods and application of the equity accounting as defined in International Financial Reporting Standards as adopted by the EU

During the process of preparation of the consolidated financial statements there were no departures from the consolidation methods or application of the equity accounting.

8. Additional Notes and Explanations to the Consolidated Financial Statements

The additional notes and explanations to the consolidated financial statements for the year ended 31 December 2016 were prepared, in all material respects, in accordance with International Financial Reporting Standards as adopted by the EU.

9. Directors' Report

We have read the Directors' Report for the period from 1 January 2016 to 31 December 2016 and the rules of preparation of annual statements' ('Directors' Report') and concluded that the information contained in it take into account the provisions of 49 para 2 of the Accounting Act and the Decree of the Minister of Finance dated 19 February 2009 on current and periodic information published by issuers of securities and conditions for recognition as equivalent the information required by laws of non-EU member states and they are consistent with the information contained in the accompanying financial statements. We have also concluded, based on our knowledge of the Company and its environment obtained during the audit of the financial statements, that the Directors' Report does not include material misstatements. We have read also the Company's representation on application of corporate governance which constitutes a separate part of the Directors' Report of the Company's and its capital group. We concluded that in the representation the Company included information required by implementing rules issued under art. 60 para. 2 of the Act of 29 July 2005 on public offering and on the terms of introducing financial instruments into an organised trading system and on public companies. This information is, in all material respects, in accordance with applicable regulations and with the information included in the consolidated financial statements.

10. Conformity with Law and Regulations

We have obtained a letter of representations from the Management Board of the holding company confirming that no laws, regulations or provisions of the Group entities' Articles of Association were breached during the financial year.

11. Work of Experts

During our audit we have taken into account the results of the work of the following independent experts:

- the independent actuary, who was responsible for the calculation of the present value of future obligations (other than wages) to employees,
- specialists in the oil reserves' estimates for production licenses held.

on behalf of
Ernst & Young Audyt Polska spółka
z ograniczoną odpowiedzialnością sp. k.
Rondo ONZ 1, 00-124 Warsaw
Reg. No 130

Key Certified Auditor

Jarosław Dac
certified auditor
No. 10138

Warsaw, 2 March 2017