

17. Property, plant and equipment and tangible assets under construction

PLN '000	Dec 31 2011	Dec 31 2010
Land	401,744	398,030
Buildings and structures	3,583,780	2,851,534
Plant and equipment	4,441,854	2,535,512
Vehicles and other	538,102	388,722
Total property, plant and equipment	8,965,480	6,173,798
Tangible assets under construction	1,513,492	4,197,422
Prepayments for tangible assets under construction	44,578	16,262
Total tangible assets under construction	1,558,070	4,213,684
Total	10,523,550	10,387,482

As at December 31st 2011, financing costs capitalised in tangible assets under construction and prepayments for tangible assets under construction amounted to PLN 35,078 thousand (December 31st 2010: PLN 155,474 thousand).

Changes to property, plant and equipment and prepayments for tangible assets under construction

PLN '000	Land	Buildings and structures	Plant and equipment	Vehicles and other	Tangible assets under construction, including:	- exploration and appraisal assets ⁽¹⁾	Prepayments for tangible assets under construction	Total
Gross carrying amount as at Jan 1 2010 (restated)	406,693	2,519,765	1,548,136	661,866	6,160,361	70,839	153,536	11,450,357
Increase	4,271	1,070,713	1,908,398	146,625	(1,822,732)	31,860	(137,194)	1,170,081
- purchase	-	-	6,094	31,422	929,016	31,860	57,075	1,023,607
- transfer from investments	4,246	1,061,710	1,901,476	111,402	(3,091,898)	-	-	(13,064)
- transfer	-	-	(291)	239	-	-	-	(52)
- reclassification from investments - real property	25	88	-	-	-	-	-	113
- currency translation differences on foreign operations	-	-	116	2,943	23,603	-	-	26,662
- settled prepayments	-	-	-	-	194,269	-	(189,901)	4,368
- borrowing costs	-	-	-	-	116,210	-	(4,368)	111,842
- assets related to decommissioning of the Offshore Oil and Gas Facility	-	8,906	-	-	6,066	-	-	14,972
- other	-	9	1,003	619	2	-	-	1,633
Decrease	(1,144)	(16,292)	(28,573)	(14,769)	(3,592)	(188)	(80)	(64,450)
- sale	(628)	(2,814)	(6,006)	(10,078)	(708)	-	-	(20,234)

- liquidation	(28)	(2,875)	(10,882)	(4,162)	(614)	-	-	(18,561)
- reclassification into investments - real property	(41)	(1,578)	(515)	-	-	-	-	(2,134)
- reclassification into non-current assets held for sale	(443)	(8,987)	(11,164)	(529)	-	-	-	(21,123)
- other	(4)	(38)	(6)	-	(2,270)	(188)	(80)	(2,398)
Gross carrying amount as at Dec 31 2010	409,820	3,574,186	3,427,961	793,722	4,334,037	102,511	16,262	12,555,988
Gross carrying amount as at Jan 1 2011	409,820	3,574,186	3,427,961	793,722	4,334,037	102,511	16,262	12,555,988
Increase	6,539	949,542	2,172,328	279,796	(2,392,946)	35,743	28,336	1,043,595
- purchase	-	-	11,817	52,829	642,707	33,085	48,583	755,936
- transfer from investments	6,134	941,408	2,065,393	210,385	(3,271,129)	-	-	(47,809)
- acquisition of control over the AB LOTOS Geonafta Group	2	1,818	84,858	591	10,607	2,492	-	97,876
- transfer	(14)	(213)	(249)	290	147	-	-	(39)
- reclassification from investments - real property	417	3,116	615	35	-	-	-	4,183
- reclassification from non-current assets held for sale	-	293	-	-	-	-	-	293
- currency translation differences on foreign operations	-	121	7,361	15,666	146,728	166	2,516	172,392
- settled prepayments	-	-	-	-	24,115	-	(24,115)	-
- borrowing costs	-	-	-	-	34,839	-	1,352	36,191
- assets related to decommissioning of the Offshore Oil and Gas Facility	-	2,967	2,500	-	19,040	-	-	24,507
- other	-	32	33	-	-	-	-	65
Decrease	(1,751)	(20,947)	(39,558)	(41,076)	(79,293)	-	(20)	(182,645)
- sale	(346)	(187)	(5,368)	(3,641)	(528)	-	-	(10,070)
- liquidation	(452)	(615)	(9,010)	(4,465)	(469)	-	-	(15,011)
- reclassification into non-current assets held for sale	(953)	(20,145)	(19,219)	(2,081)	(191)	-	-	(42,589)
- other	-	-	(5,961)	(30,889)	(78,105) ⁽²⁾	-	(20)	(114,975)
Gross carrying amount as at Dec 31 2011	414,608	4,502,781	5,560,731	1,032,442	1,861,798	138,254	44,578	13,416,938
Accumulated depreciation as at Jan 1 2010 (restated)	10,309	581,690	771,428	321,612	-	-	-	1,685,039
Increase	1,339	144,351	141,111	94,701	-	-	-	381,502
- amortisation	1,339	144,286	140,409	91,934	-	-	-	377,968
- transfer	-	-	(259)	207	-	-	-	(52)
- reclassification from investments - real property	-	57	-	-	-	-	-	57
- currency translation differences on foreign operations	-	-	78	1,578	-	-	-	1,656
- other	-	8	883	982	-	-	-	1,873
Decrease	(266)	(7,406)	(20,453)	(11,335)	-	-	-	(39,460)

- sale	(6)	(327)	(3,212)	(8,237)	-	-	-	(11,782)
- liquidation	-	(908)	(10,349)	(2,572)	-	-	-	(13,829)
- reclassification into investments - real property	-	(894)	(505)	-	-	-	-	(1,399)
- reclassification into non-current assets held for sale	-	(5,266)	(6,385)	(526)	-	-	-	(12,177)
- other	(260)	(11)	(2)	-	-	-	-	(273)
Accumulated depreciation as at Dec 31 2010	11,382	718,635	892,086	404,978	-	-	-	2,027,081
Accumulated depreciation as at Jan 1 2011	11,382	718,635	892,086	404,978	-	-	-	2,027,081
Increase	1,398	189,213	252,023	128,041	-	-	-	570,675
- amortisation	1,398	187,300	250,040	117,003	-	-	-	555,741
- transfer	-	(53)	(192)	198	-	-	-	(47)
- reclassification from investments - real property	-	1,698	606	28	-	-	-	2,332
- reclassification from non-current assets held for sale	-	264	-	-	-	-	-	264
- currency translation differences on foreign operations	-	4	1,538	10,338	-	-	-	11,880
- other	-	-	31	474	-	-	-	505
Decrease	(324)	(5,232)	(31,586)	(39,716)	-	-	-	(76,858)
- sale	(22)	(49)	(5,034)	(3,264)	-	-	-	(8,369)
- liquidation	-	(204)	(7,972)	(4,485)	-	-	-	(12,661)
- reclassification into non-current assets held for sale	(302)	(4,979)	(12,619)	(1,592)	-	-	-	(19,492)
- other	-	-	(5,961)	(30,375)	-	-	-	(36,336)
Accumulated depreciation as at Dec 31 2011	12,456	902,616	1,112,523	493,303	-	-	-	2,520,898
Impairment losses as at Jan 1 2010 (restated)	515	6,885	4,980	412	73,581	15,454	-	86,373
Increase	-	3,254	299	142	63,047	47,692	-	66,742
Reclassification into non-current assets held for sale	-	(1,687)	(4,414)	(3)	-	-	-	(6,104)
Decrease	(107)	(4,435)	(502)	(529)	(13)	-	-	(5,586)
Impairment losses Dec 31 2010	408	4,017	363	22	136,615	63,146	-	141,425
Impairment losses as at Jan 1 2011	408	4,017	363	22	136,615	63,146	-	141,425
Increase	-	13,691	2,582	1,163	262,608	2,805	-	280,044
- acquisition of control over the AB LOTOS Geonafra Group	-	-	3,731	-	1,913	-	-	5,644
Exchange differences on translating foreign operations	-	-	249	-	16,619	135	-	16,868
Decrease	-	(1,323)	(571)	(148)	(69,449) ⁽²⁾	-	-	(71,491)

Impairment losses Dec 31 2011	408	16,385	6,354	1,037	348,306	66,086	-	372,490
Net carrying amount Jan 1 2010 (restated)	395,869	1,931,190	771,728	339,842	6,086,780	55,385	153,536	9,678,945
Net carrying amount Dec 31 2010	398,030	2,851,534	2,535,512	388,722	4,197,422	39,365	16,262	10,387,482
Net carrying amount Dec 31 2011	401,744	3,583,780	4,441,854	538,102	1,513,492	72,168	44,578	10,523,550

(1) The value of exploration and appraisal assets comprises the value of expenses capitalised until technical feasibility and commercial viability of extracting a mineral resource are demonstrable.

(2) Including PLN 69,243 thousand relating to discontinued investments (design documentation) in the Company with the use of impairment loss of PLN 69,239 thousand.

As at December 31st 2011, the net value of the items of property, plant and equipment serving as collateral for the Group's liabilities was PLN 7,860,999 thousand (December 31st 2010: PLN 5,970,414 thousand).

The cost of servicing the liabilities incurred to finance tangible assets under construction and prepayments for tangible assets under construction in the year ended December 31st 2011 amounted to PLN 36,191 thousand (December 31st 2010: PLN 111,842 thousand).

As at December 31st 2011, the net value of the oil and gas facilities decommissioning asset referred to in [Note 36.1 \(/en/financial-data/consolidated-financial-statements-2011/notes-to-the-financial-statements/36.-provisions#36-1\)](#) amounted to PLN 133,094 thousand (December 31st 2010: PLN 112,929 thousand).

In the year ended December 31st 2011, the cost of depreciation of property, plant and equipment in respect of which technical feasibility and commercial viability of extracting a mineral resource have been demonstrated amounted to PLN 5,436 thousand (December 31st 2010: PLN 6,146 thousand).

Costs of direct purchases of materials and investment services related to exploration and appraisal assets for the year ended December 31st 2011 amounted to PLN 12,765 thousand (2010: PLN 15,098 thousand), including direct cash flows from investing activities related to exploration and appraisal assets of PLN 10,843 thousand (2010: PLN 14,965 thousand). As at December 31st 2011, investment liabilities amounted to PLN 1,922 thousand (December 31st 2010: PLN 133 thousand).

In the year ended December 31st 2011, impairment losses on exploration and appraisal assets amounted to PLN 2,805 thousand (December 31st 2010: PLN 47,692 thousand). Furthermore, in 2010 the Group charged depreciation on exploration and appraisal assets of PLN 36 thousand.

In the year ended December 31st 2011, the Group recognised an impairment loss related to the IGCC project of PLN 19,352 thousand (December 31st 2010: PLN 14,230 thousand), including licences with a value of PLN 6,468 thousand received free of charge.

Prospects for development of the B-4 and B-6 gas fields

The item "Tangible assets under construction" includes expenditure of PLN 48,901 thousand incurred by LOTOS Petrobaltic S.A. on gas exploration at the B-4 and B-6 fields (of which PLN 48,308 was attributable to exploration and evaluation). In 2010, an impairment loss on these assets was recognised and charged to other operating expenses. According to the findings of the analyses which have been carried out, significant capital expenditure is required to obtain profitable commercial production of hydrocarbons. In the short term, LOTOS Petrobaltic S.A. does not plan to incur any material expenditure on development of the B-4 and B-6 gas fields, until a joint venture partner is found and the terms of cooperation are determined.

Information on interests in Norwegian production and exploration licences

The item "Tangible assets under construction" includes expenditure incurred by LOTOS Exploration and Production Norge AS on the purchase of interests in the Norwegian production licences (PL 316 and PL 316B) and on development of the YME field in the amount of NOK 2,596,958 (i.e. PLN 1,474,033 thousand, translated at the mid-exchange rate for NOK quoted by the National Bank of Poland for December 31st 2011), additionally adjusted by the tax effect of the YME field purchase transaction, of NOK 75,966 thousand, (i.e. PLN 43,118 thousand, translated at the mid-exchange rate for NOK quoted by the National Bank of Poland for December 31st 2011).

The Group tested these assets for impairment based on a discounted cash flow analysis of LOTOS Exploration and Production Norge AS's interests in the hydrocarbon reserves held under the acquired production licences covering the YME field development project. As at December 31st 2011, the carrying value of these interests amounted to NOK 2,146 million (i.e. PLN 1,218 million, translated at the mid-exchange rate for NOK quoted by the National Bank of Poland for December 31st 2011), taking into account the tax effect of the YME field purchase transaction.

The YME field impairment test as at December 31st 2011 was carried out assuming a change in crude oil prices by +/- 15%/bbl relative to Brent crude spot and forward prices as at December 31st 2011, a +/-15% change on the USD/NOK forward rate as at December 31st 2011, and a +/-15% change in the YME field reserves, analysing a weighted average cost of capital of 9.7 subject to a 78% marginal tax rate (applicable in Norway).

For the purposes of the test it has been assumed that production from the field will start in January 2013.

The Group determines the recoverable amount of the YME field based on the values in use, using the discounted cash flow method. Future cash flows were calculated by LOTOS Exploration and Production Norge AS based on 10-year production volume and cost forecasts prepared by Talisman Energy AS (the field operator).

Based on such assumptions, it was found that as at December 31st 2011 the carrying amount of the assets related to the YME field exceeded the upper limit of the recoverable amount ranges determined, hence an impairment loss was recognised on the tested asset, of NOK 451m (i.e. PLN 256m, translated at the mid-exchange rate for NOK quoted by the National Bank of Poland for December 31st 2011). The effect of the impairment loss recognised on the tested asset on the net profit from continuing operations, taking into account the deferred income tax, was NOK 159m (i.e. PLN 90m, translated at the mid-exchange rate for NOK quoted by the National Bank of Poland for December 31st 2011).

Sensitivity to changes in the adopted assumptions

Calculation of the YME field's recoverable amount is most sensitive to the following variables:

- Volatility in crude oil prices;
- Volume of recoverable crude oil reserves in the YME field;
- Date of commencement of production from the YME field;
- NOK/USD exchange rate fluctuations;
- Discount rates.

Due to high market volatility, in particular with respect to crude oil prices, the adopted assumptions might be subject to reasonable changes, as a result of which it may be necessary to further reduce the carrying amount of the YME field due to the fact that it will exceed its recoverable amount. Therefore, it is uncertain whether the assets recognised in connection with the YME field will be realised, as the projected cash flows depend on a number of future developments, in particular regarding crude price fluctuations.

Volume of the Crude Oil and Natural Gas Reserves Held by the LOTOS Group

The volume of crude oil and natural gas reserves held by the LOTOS Group is as follows:

	Dec 31 2011	Dec 31 2010
Crude oil (2P*)	6.9 million tonnes ⁽¹⁾	6.2 million tonnes
Crude oil (2C**)	1.4 million tonnes ⁽¹⁾	1.3 million tonnes
Natural gas (2P*)	0.5 billion cubic metres	0.5 billion cubic metres
Natural gas (2C**)	6.5 billion cubic metres	6.5 billion cubic metres

⁽¹⁾ reserves cover AB LOTOS Geonafta Group's area of operations in Lithuania. In 2011, LOTOS Petrobaltic S.A. executed a transaction to acquire control over Lithuanian assets. The interest of LOTOS Petrobaltic S.A. in AB LOTOS Geonafta increased from 40.59% to 100% (see [Note 2 \(http://raportroczny.lotost.pl/en/financial-data/consolidated-financial-statements-2011/notes-to-the-financial-statements/2.-composition-of-the-group/\)](http://raportroczny.lotost.pl/en/financial-data/consolidated-financial-statements-2011/notes-to-the-financial-statements/2.-composition-of-the-group/)).

*2P – proved and probable reserves

**2C – conditional reserves.

The 10+ Programme (Comprehensive Technical Upgrade Programme)

Implementation of the 10+ Programme was an element of the LOTOS Group's development strategy for the period 2006–2011. The Programme was designed to increase the throughput capacity of the Gdańsk Refinery by approximately 75%, that is to 10.5m tonnes of crude oil per annum, with deeper conversion of hydrocarbon feedstock.

As at December 31st 2010, the 10+ Programme reached a 100% completion status, meaning all the work connected with its engineering design, procurement and construction of all basic and auxiliary installations was completed as scheduled.

In June 2011, the Company carried out a week-long test to evaluate the +10 Programme in terms of achieving the Programme's objectives related to the refining productivity and the volume and range of products. The Company was required to run the test pursuant to the agreement with banks providing debt financing for the Programme. The aim of the test was to prove that the upgraded refinery meets the requirements specified in the credit facility agreement.

Bank Credit Agricole, acting as a representative of the bank syndicate, confirmed the positive outcome of the refinery's trial operation, and set July 25th 2011 as the date of successful completion of the +10 Programme. Following the completion of the 10+ Programme and fulfilment of the terms of the credit facility agreement, the bank margin on the facility was reduced pursuant to the provisions of the agreement.

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