

**E) SUPPLEMENTARY INFORMATION CONCERNING HYDROCARBONS
EXPLORATION AND PRODUCTION ACTIVITIES (UNAUDITED INFORMATION)**

INFORMATION CONCERNING HYDROCARBONS EXPLORATION AND PRODUCTION ACTIVITIES
(unaudited information)

Capitalised costs

These amounts represent historic costs capitalised in areas with proved and unproved hydrocarbons reserves, including ancillary plant and equipment, as well as accumulated depreciation and provisions.

	Million of euros							
	<u>Total</u>	<u>Europe</u>	<u>Argentina</u>	<u>Trinidad & Tobago</u>	<u>Rest of South America</u>	<u>North America</u>	<u>Africa</u>	<u>Asia</u>
<u>At 31 December 2008</u>								
Costs capitalised to assets with proved reserves	26.553	383	20.638	1.271	2.227	1.282	704	48
Costs capitalised to assets with non proved reserves.....	2.357	10	99	165	300	1.366	410	7
	<u>28.910</u>	<u>394</u>	<u>20.737</u>	<u>1.436</u>	<u>2.527</u>	<u>2.648</u>	<u>1.114</u>	<u>55</u>
Auxiliary equipment and facilities.....	1.941	426	397	544	273	83	217	1
Total capitalised costs	30.851	819	21.134	1.980	2.800	2.731	1.331	56
Accumulated depreciation and impairment losses.....	(18.509)	(688)	(15.294)	(762)	(1.210)	(45)	(509)	(1)
Net amounts	12.342	131	5.840	1.218	1.590	2.686	822	55

	Million of euros							
	<u>Total</u>	<u>Europe</u>	<u>Argentina</u>	<u>Trinidad & Tobago</u>	<u>Rest of South America</u>	<u>North America</u>	<u>Africa</u>	<u>Asia</u>
<u>At 31 December 2009</u>								
Costs capitalised to assets with proved reserves	26.789	338	20.532	1.218	2.516	1.324	807	54
Costs capitalised to assets with non proved reserves.....	2.588	103	81	222	532	1.267	376	7
	<u>29.377</u>	<u>441</u>	<u>20.613</u>	<u>1.440</u>	<u>3.048</u>	<u>2.591</u>	<u>1.183</u>	<u>61</u>
Auxiliary equipment and facilities.....	1.759	48	368	598	245	282	217	1
Total capitalised costs	31.136	489	20.981	2.038	3.293	2.873	1.400	62
Accumulated depreciation and impairment losses.....	(19.401)	(352)	(15.692)	(876)	(1.575)	(355)	(550)	(1)
Net amounts	11.735	137	5.289	1.162	1.718	2.518	850	61

	Million of euros							
	<u>Total</u>	<u>Europe</u>	<u>Argentina</u>	<u>Trinidad & Tobago</u>	<u>Rest of South America</u>	<u>North America</u>	<u>Africa</u>	<u>Asia</u>
<u>At 31 December 2010</u>								
Costs capitalised to assets with proved reserves	30.847	488	23.164	1.342	2.981	1.886	933	53
Costs capitalised to assets with non proved reserves.....	2.297	5	116	243	531	1.017	377	8
	<u>33.144</u>	<u>493</u>	<u>23.280</u>	<u>1.585</u>	<u>3.512</u>	<u>2.903</u>	<u>1.310</u>	<u>61</u>
Auxiliary equipment and facilities.....	2.093	52	521	697	265	316	242	-
Total capitalised costs	35.237	545	23.801	2.282	3.777	3.219	1.552	61
Accumulated depreciation and impairment losses.....	(22.830)	(367)	(18.171)	(1.094)	(1.670)	(732)	(743)	(53)
Net amounts	12.407	178	5.630	1.188	2.107	2.487	809	8

At December 31, 2009 and 2010 the Group had recognised investments consolidated using the equity method of EUR 7 and 68 million, respectively, in respect of hydrocarbons exploration and production activities.

Costs incurred

Costs incurred comprise amounts capitalised or expensed during the year in respect of acquisitions of areas with hydrocarbons reserves and exploration and development activities.

<u>At 31 December 2008</u>	Millions of euro							
	<u>Total</u>	<u>Europe</u>	<u>Argentina</u>	<u>Trinidad & Tobago</u>	<u>Rest of South America</u>	<u>North America</u>	<u>Africa</u>	<u>Asia</u>
Acquisitions of assets with proved reserves	103	-	-	-	1	-	102	-
Acquisitions of assets with non proved reserves	110	-	-	-	-	-	110	-
Exploration costs	871	47	128	7	148	205	307	29
Development costs	1.782	17	1.266	89	79	273	48	10
TOTAL	2.866	64	1.394	96	228	478	567	39

<u>At 31 December 2009</u>	Millions of euro							
	<u>Total</u>	<u>Europe</u>	<u>Argentina</u>	<u>Trinidad & Tobago</u>	<u>Rest of South America</u>	<u>North America</u>	<u>Africa</u>	<u>Asia</u>
Acquisitions of assets with proved reserves	6	-	-	-	6	-	-	-
Acquisitions of assets with non proved reserves	61	-	-	-	57	4	-	-
Exploration costs	875	119	104	4	283	130	208	27
Development costs	1.240	23	715	112	108	212	64	6
TOTAL	2.182	142	819	116	454	346	272	33

<u>At 31 December 2010</u>	Millions of euro							
	<u>Total</u>	<u>Europe</u>	<u>Argentina</u>	<u>Trinidad & Tobago</u>	<u>Rest of South America</u>	<u>North America</u>	<u>Africa</u>	<u>Asia</u>
Acquisitions of assets with proved reserves	266	-	-	-	266	-	-	-
Acquisitions of assets with non proved reserves	45	-	-	-	45	-	-	-
Exploration costs	818	28	85	9	478	113	80	25
Development costs	1.724	48	1.205	79	278	70	44	0
TOTAL	2.853	76	1.290	88	1.067	183	124	25

In 2009 and 2010 the Group recognised investments consolidated using the equity method of EUR 10 and 64 million, respectively, in respect of hydrocarbons exploration and production activities.

Results of hydrocarbons production activities

The following chart shows income and expenses directly related with the Group's hydrocarbons production activities. It does not include any allocations of financial costs or general expenses, and it therefore does not necessarily indicate the contribution of these activities to net consolidated earnings.

	Millions of euros							
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa	Asia
2008								
Income								
Sales to non-Group companies	2.648	-	871	800	901	42	34	-
Sales between business segments and to Group companies	4.378	47	2.745	491	384	37	674	-
Other income	1.225	-	-	-	55	-	1.170	-
Total Income	8.251	47	3.616	1.291	1.340	79	1.878	-
Production costs (1)	(2.941)	(18)	(1.771)	(387)	(582)	(13)	(170)	-
Exploration expenses	(571)	(33)	(132)	(3)	(116)	(55)	(194)	(38)
Other operating expenses	(539)	(6)	(199)	(5)	(46)	-	(283)	-
Depreciation and amortisation charge	(1.657)	(7)	(1.181)	(148)	(209)	(40)	(72)	-
Profit (Loss) before taxes and charges	2.543	(17)	333	748	387	(29)	1.159	(38)
Taxes and charges	(1.623)	5	(153)	(394)	(97)	15	(1.010)	11
Results of oil and gas production activities (2)	920	(12)	180	354	290	(14)	149	(27)

	Millions of euros							
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa	Asia
2009								
Income								
Sales to non-Group companies	1.560	-	622	323	545	35	35	-
Sales between business segments and to Group companies	4.289	34	2.872	401	332	412	238	-
Other income	446	-	-	-	33	-	413	-
Total Income	6.295	34	3.494	724	910	447	686	-
Production costs (1)	(2.365)	(17)	(1.563)	(295)	(365)	(35)	(90)	-
Exploration expenses	(466)	(26)	(100)	(4)	(103)	(50)	(154)	(29)
Other operating expenses	(230)	-	(187)	(3)	(38)	(1)	(1)	-
Depreciation and amortisation charge	(1.895)	(10)	(1.143)	(151)	(202)	(323)	(66)	-
Profit (Loss) before taxes and charges	1.339	(19)	501	271	202	38	375	(29)
Taxes and charges	(643)	12	(232)	(148)	20	(20)	(284)	9
Results of oil and gas production activities (2)	696	(7)	269	123	222	18	91	(20)

	Millions of euros							
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa	Asia
2010								
Income								
Sales to non-Group companies	2.022	-	906	222	830	37	27	-
Sales between business segments and to Group companies	5.584	50	3.464	699	384	628	359	-
Other income (3)	644	-	-	-	33	-	611	-
Total Income	8.250	50	4.370	921	1.247	665	997	-
Production costs (1)	(3.104)	(21)	(2.009)	(360)	(530)	(47)	(137)	-
Exploration expenses	(502)	(30)	(64)	(5)	(249)	(48)	(76)	(30)
Other operating expenses	(332)	(4)	(286)	(4)	(35)	(1)	(2)	-
Depreciation and amortisation charge	(2.066)	(6)	(1.275)	(153)	(209)	(352)	(71)	-
Profit (Loss) before taxes and charges	2.246	(11)	736	399	224	217	711	(30)
Taxes and charges	(1.277)	10	(255)	(206)	(245)	(89)	(500)	8
Results of oil and gas production activities (2)	969	(1)	481	193	(21)	128	211	(22)

- (1) Production costs include local taxes, production taxes and similar payments, as well as withholdings on crude oil exports in Argentina, totalling EUR 1,477, 995 and 1,191 million in 2008, 2009 and 2010, respectively. These amounts also include transport and other costs totalling EUR 223, 189 and 426 million in 2008, 2009 and 2010, respectively.

- (2) The result on activities does not include provisions for impairment or reversals of provisions arising from comparisons between market value (discounted cash flows) of proved and unproved hydrocarbon reserves (the latter being affected by a risk factor) in each field owned by the company at the close of the year and the net carrying value of the associated assets, resulting in net income of EUR 51 and 134 million in 2008 and 2009, respectively, and a net expense of EUR 163 million in 2010.
- (3) The result does not include a gain recognised as a consequence of the agreement reached with regard to the exploration and production assets in Brazil, which totals EUR 2,847 million (see Note 31 to the consolidated financial statements for 2010).

Estimated developed and undeveloped proved net reserves of hydrocarbons

The following charges reflect developed and undeveloped proved net reserves of oil, condensate, GLP and natural gas, which include the equivalent in volume terms of the economic profit obtained on certain production sharing contracts at December 31, 2008, 2009 and 2010, as well as variations in reserves.

Royalties payable in cash or in kind to third parties are excluded from estimates of the net volume of reserves when the owner of the royalty participates directly in the volumes produced and can dispose of and market such volumes on its own behalf. However, if royalty payments to third parties, whether in cash or in kind, constitute a financial obligation or are substantially equivalent to production or extraction taxes, the volumes of the relevant reserves are not deducted from our reserves figures, even where the relevant payments are termed “royalties” in accordance with the applicable legislation. Repsol YPF applies the same criteria to the calculation of production volumes.

Proved reserves in fields have been estimated for more than 10 years in accordance with the standards and rules established for the oil and gas industry by the US Securities and Exchange Commission (SEC), and on the basis of the criteria established by the Petroleum Reserves Management System of the Society of Petroleum Engineers (PRMS-SPE) and the accounting principles laid down by the Financial Accounting Standards Board. In accordance with the said standards, proved reserves of oil and gas comprise those amounts of crude oil, natural gas and liquid natural gas, production of which can be estimated with reasonable certainty based on an analysis of geological, geophysical and engineering data (as from a given date, for known fields and under existing financial situations, operational methods and government regulations) before the expiration of the contracts under which the relevant operating rights have been obtained, independently of the use of probabilistic or deterministic methods to perform the estimations. The hydrocarbons extraction project must have commenced, or the operator must be reasonably certain that such project will commence within a reasonable period of time.

All of Repsol YPF’s reserves have been estimated by the company’s petroleum engineers.

To control the quality of the reserves recognised, Repsol YPF has established a process that is integrated into the company’s internal control system. This control process is centrally managed by the Reserves Control Department, which is independent of the Upstream business. Its activity is supervised by the Audit and Control Committee. The volumes booked are also periodically audited by independent engineering firms (100% of reserves over a three-year cycle).

For those areas subject to audit by third-party engineering firms, the figures for proved reserves estimated by Repsol YPF must be within a tolerance of 7% of the figures audited by the third-party

engineers for Repsol YPF to declare that the reserves information meets the third-party audit standards. Where the difference is greater than 7%, Repsol YPF re-estimates its proved reserves to bring the difference into line with the tolerance level or recognises the figure estimated by the reserves auditors.

In 2010 Gaffney, Cline & Associates Inc. (GCA) audited certain areas in the US Gulf of Mexico and South America; DeGolyer and MacNaughton (D&M) audited certain areas in Argentina; Netherland, Sewell & Associates audited certain areas in South America; and Ryder Scott Company (RSC) audited certain areas in South America. The reports of the third-party engineers are available on our website, www.repsol.com, which does not form part of this Registration Document.

Proved developed and undeveloped reserves of crude oil, condensate GPL:

	Thousands of barrels						
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	
Reserves at December 31, 2007 (1)	951.577	2.872	618.838	47.451	103.613	53.173	125.631
Revisions of previous estimates	63.424	(701)	35.395	4.616	12.195	(3.993)	15.912
Improved recovery	21.398	-	21.398	-	-	-	-
Extensions and discoveries	29.153	-	19.772	-	2.007	-	7.374
Purchases of minerals in place	-	-	-	-	-	-	-
Sales of minerals in place	(1.125)	-	-	-	(1.125)	-	-
Production (1)	(162.092)	(653)	(114.577)	(6.470)	(19.153)	(1.109)	(20.130)
Reserves at December 31, 2008 (1) (2)	902.335	1.518	580.826	45.597	97.537	48.071	128.787
Revisions of previous estimates	91.775	1.578	38.428	569	25.562	20.478	5.160
Improved recovery	14.651	-	14.651	-	-	-	-
Extensions and discoveries	29.999	3.708	14.591	-	259	7.178	4.263
Purchases of minerals in place	4.324	-	-	-	4.324	-	-
Sales of minerals in place	-	-	-	-	-	-	-
Production (1)	(159.812)	(516)	(110.044)	(6.201)	(19.136)	(9.280)	(14.635)
Reserves at December 31, 2009 (1) (2)	883.272	6.288	538.452	39.965	108.546	66.447	123.575
Revisions of previous estimates	91.667	921	44.814	883	31.732	2.230	11.087
Improved recovery	31.570	-	31.570	-	-	-	-
Extensions and discoveries	31.405	-	22.985	-	6.246	41	2.133
Purchases of minerals in place	38.348	-	-	-	38.348	-	-
Sales of minerals in place	(7.800)	-	-	-	(7.800)	-	-
Production (1)	(160.425)	(636)	(106.681)	(5.698)	(20.474)	(11.145)	(15.791)
Reserves at December 31, 2010 (1) (2)	908.037	6.573	531.140	35.150	156.598	57.573	121.004
Proved Developed Reserves of crude oil, condensate and GPL							
At December 31, 2007	667.592	2.663	460.929	35.807	77.404	192	90.597
At December 31, 2008	651.906	1.308	451.586	33.889	78.401	2.785	83.937
At December 31, 2009	656.614	2.259	429.039	32.537	85.943	29.361	77.475
At December 31, 2010	648.726	2.300	404.204	27.769	116.272	20.652	77.530

Note: Changes in aggregate reserves and total reserves at December 31st may differ from the individual values shown, because the calculations are based on more accurate figures than those shown in the table.

(1) The volumes of developed and undeveloped net proved reserves at December 31, 2010, 2009, 2008 and 2007 include an estimated volume of approximately 98,810, 94,016, 94,432 and 94,753 thousand barrels of crude equivalent, respectively, in respect of royalties payable to third parties which, as explained above, constitute a financial obligation or are substantially equivalent to a production or similar tax. Net production in 2010, 2009 and 2008 includes an estimated volume of approximately 16,420, 16,398 and 16,995 thousand barrels of crude equivalent, respectively, in respect of such payments.

(2) This item includes 107,421, 86,091 and 92,871 thousand barrels of crude equivalent in respect of the participation of minority shareholders of YPF at December 31, 2010, 2009 and 2008, respectively.

Proved developed and undeveloped reserves of natural gas:

	Millions of Standard Cubic Feet						
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
Reserves at December 31, 2007 (1)	8.156.157	-	3.753.738	2.783.382	1.494.963	15.590	108.484
Revisions of previous estimates	98.944	5.506	(116.363)	(24.562)	159.219	(2.214)	77.358
Improved recovery	2.852	-	2.852	-	-	-	-
Extensions and discoveries	129.219	-	128.746	-	-	-	473
Purchases of minerals in place	-	-	-	-	-	-	-
Sales of minerals in place	-	-	-	-	-	-	-
Production (1)	(1.046.081)	(374)	(624.264)	(274.888)	(124.218)	(1.100)	(21.237)
Reserves at December 31, 2008 (1) (2)	7.341.091	5.132	3.144.709	2.483.932	1.529.964	12.276	165.078
Revisions of previous estimates	289.767	-	53.125	32.005	230.062	5.185	(30.610)
Improved recovery	1.298	-	1.298	-	-	-	-
Extensions and discoveries	70.387	-	68.346	-	-	2.041	-
Purchases of minerals in place	-	-	-	-	-	-	-
Sales of minerals in place	-	-	-	-	-	-	-
Production (1)	(958.278)	(2.263)	(548.510)	(276.600)	(103.528)	(3.683)	(23.694)
Reserves at December 31, 2009 (1) (2)	6.744.265	2.869	2.718.968	2.239.337	1.656.498	15.819	110.774
Revisions of previous estimates	730.078	(336)	313.750	78.589	350.692	4.817	(17.434)
Improved recovery	799	-	799	-	-	-	-
Extensions and discoveries	230.365	-	49.885	-	180.465	15	-
Purchases of minerals in place	-	-	-	-	-	-	-
Sales of minerals in place	(149.198)	-	-	-	(149.198)	-	-
Production (1)	(913.397)	(1.581)	(505.257)	(281.486)	(108.262)	(4.479)	(12.332)
Reserves at December 31, 2010 (1) (2)	6.642.912	952	2.578.145	2.036.440	1.930.194	16.172	81.008
Proved Developed Reserves of Natural Gas							
At December 31, 2007	4.112.160	-	2.468.611	649.601	923.574	2.620	67.754
At December 31, 2008	3.741.552	5.132	2.264.946	374.713	1.007.425	3.269	86.067
At December 31, 2009	4.512.529	2.869	2.149.002	1.057.943	1.228.058	9.101	65.556
At December 31, 2010	4.275.507	952	1.993.831	875.254	1.317.414	7.413	80.643

Note: Changes in aggregate reserves and total reserves at December 31st may differ from the individual values shown, because the calculations are based on more accurate figures than those shown in the table.

- (1) The volumes of developed and undeveloped net proved reserves at December 31, 2010, 2009, 2008 and 2007 include an estimated volume of approximately 959,117, 812,010, 699,671 and 731,916 million cubic feet of gas, respectively, in respect of royalties payable to third parties which, as explained above, constitute a financial obligation or are substantially equivalent to a production or similar tax. Net production in 2010, 2009 and 2008 includes an estimated volume of approximately 73,202, 79,794 and 85,152 million cubic feet of gas, respectively, in respect of such payments.
- (2) This item includes 520,978, 434,308 and 502,252 million cubic feet of gas in respect of the participation of minority shareholders of YPF at December 31, 2010, 2009 and 2008, respectively.

Proved developed and undeveloped reserves of crude oil, condensate, natural gas liquids and natural gas:

	Thousands of Barrels of Oil Equivalent						
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
Reserves at December 31, 2007 (1)	2.404.144	2.871	1.287.358	543.156	369.858	55.950	144.951
Revisions of previous estimates	81.045	279	14.671	242	40.551	(4.387)	29.689
Improved recovery	21.906	-	21.906	-	-	-	-
Extensions and discoveries	52.165	-	42.700	-	2.007	-	7.458
Purchases of minerals in place	-	-	-	-	-	-	-
Sales of minerals in place	(1.125)	-	-	-	(1.125)	-	-
Production (1)	(348.393)	(720)	(225.755)	(55.426)	(41.275)	(1.305)	(23.912)
Reserves at December 31, 2008 (1) (2)	2.209.742	2.430	1.140.880	487.972	370.016	50.258	158.186
Revisions of previous estimates	143.381	1.578	47.889	6.269	66.535	21.401	(291)
Improved recovery	14.882	-	14.882	-	-	-	-
Extensions and discoveries	42.534	3.708	26.763	-	259	7.541	4.263
Purchases of minerals in place	4.324	-	-	-	4.324	-	-
Sales of minerals in place	-	-	-	-	-	-	-
Production (1)	(330.476)	(919)	(207.731)	(55.462)	(37.574)	(9.935)	(18.855)
Reserves at December 31, 2009 (1) (2)	2.084.388	6.797	1.022.684	438.779	403.560	69.265	143.303
Revisions of previous estimates	221.689	861	100.691	14.879	94.188	3.087	7.983
Improved recovery	31.712	-	31.712	-	-	-	-
Extensions and discoveries	72.432	-	31.870	-	38.386	43	2.133
Purchases of minerals in place	38.348	-	-	-	38.348	-	-
Sales of minerals in place	(34.371)	-	-	-	(34.371)	-	-
Production (1)	(323.095)	(917)	(196.665)	(55.829)	(39.755)	(11.942)	(17.987)
Reserves at December 31, 2010 (1) (2)	2.091.103	6.740	990.292	397.829	500.356	60.454	135.431
At December 31, 2007	1.399.944	2.663	900.574	151.498	241.888	658	102.663
At December 31, 2008	1.318.255	2.222	854.960	100.623	257.818	3.367	99.265
At December 31, 2009	1.460.269	2.770	811.764	220.950	304.653	30.982	89.150
At December 31, 2010	1.410.169	2.470	759.294	183.646	350.896	21.972	91.892

Note: Changes in aggregate reserves and total reserves at December 31st may differ from the individual values shown, because the calculations are based on more accurate figures than those shown in the table.

- (1) The volumes of developed and undeveloped net proved reserves at December 31, 2010, 2009, 2008 and 2007 include an estimated volume of approximately 269,624, 238,630, 219,039 and 225,103 thousand equivalent barrels, respectively, in respect of royalties payable to third parties which, as explained above, constitute a financial obligation or are substantially equivalent to a production or similar tax. Net production in 2010, 2009 and 2008 includes an estimated volume of approximately 29,457, 30,609 and 32,160 thousand equivalent barrels, respectively, in respect of such payments.
- (2) This item includes 200,204, 163,439 and 182,319 thousand barrels of crude equivalent in respect of the participation of minority shareholders of YPF at December 31, 2010, 2009 and 2008, respectively.
- (3) The reserves replacement ratio calculated as the sum of changes in reserves over the year (due to Enlargements and Discoveries, Improved Recovery, Reviews and Purchases) divided by output for the year was 102%, 62% and 44% at December 31, 2010, 2009 and 2008, respectively. (See risk factor "Operational risks inherent in the exploration and production of hydrocarbons and dependence on the acquisition or discovery of reserves at a reasonable cost and subsequent development of new reserves of crude oil and gas).

Standardised measurement of discounted future net cash flows in respect of proved hydrocarbon reserves

Future net cash flows have been estimated based on the rules and regulations established for the oil and gas industry by the US Securities and Exchange Commission, and the accounting standards laid down by the Financial Accounting Standards Board, which govern financial reporting practices in the USA. The method applied is fair and impartial, and it consists of applying average hydrocarbons prices for 2010 (considering only changes in prices arising from contractual agreements) to estimated future production from proved reserves of oil and gas at the date of the last balance sheet presented, less estimated future costs (based on present costs) in respect of development and production of proved reserves, assuming the continuity of existing economic conditions.

Future production costs were estimated on the basis of the actual costs incurred in 2008, 2009 and 2010. Future development costs were calculated based on technical studies performed by Repsol YPF and the operators with which Repsol YPF shares ownership. The estimated taxes for each of the future years were calculated applying the applicable nominal tax rate, less the amount of any tax benefits available to the company in each of the years concerned. The discount rate applied to future net cash flows was 10%.

The present value of net future cash flows estimated based on the above assumptions and in accordance with the impartiality principle is not intended to represent the fair value of the Group's hydrocarbons reserves, nor should it be interpreted as such. An estimate of the fair value of the said reserves at market prices would have to include the future exploitation of reserves not yet classified as proved reserves, possible changes in future prices and costs and a discount rate representing the time value of money at the moment the calculation was performed, and it would have to take into consideration the uncertainties inherent in any estimate of reserves.

The following chart shows the present value of future net cash flows in respect of proved hydrocarbons reserves, as calculated estimated on the basis of the aforementioned assumptions.

	Millions of euros						
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
At December 31, 2008							
Future cash inflows	39.382	2.921	18.902	5.856	5.314	1.498	4.891
Future production costs	(15.920)	(652)	(8.516)	(2.683)	(2.672)	(366)	(1.031)
Future development and abandonment costs	(5.981)	(1.163)	(2.446)	(1.524)	(346)	(224)	(278)
Future income tax expenses	(5.207)	(342)	(1.651)	(419)	(645)	(10)	(2.140)
Future net cash flows after taxes	12.274	764	6.289	1.230	1.651	898	1.442
10% annual discount for estimated timing of cash flows	(4.528)	(778)	(1.657)	(603)	(590)	(342)	(558)
Standardized measure of discounted future net cash flows (1)	7.746	(14)	4.632	627	1.061	556	884

	Millions of euros						
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
At December 31, 2009							
Future cash inflows	40.714	260	20.832	4.759	6.168	2.706	5.989
Future production costs	(14.478)	(107)	(7.901)	(2.154)	(2.599)	(571)	(1.146)
Future development and abandonment costs	(5.369)	(179)	(2.525)	(1.268)	(703)	(413)	(281)
Future income tax expenses	(6.595)	-	(2.561)	(473)	(717)	(9)	(2.835)
Future net cash flows after taxes	14.272	(26)	7.845	864	2.149	1.713	1.727
10% annual discount for estimated timing of cash flows	(4.502)	40	(2.189)	(300)	(897)	(491)	(665)
Standardized measure of discounted future net cash flows (1)	9.770	14	5.656	564	1.252	1.222	1.062

	Millions of euros						
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
At December 31, 2010							
Future cash inflows	57.177	360	29.900	5.426	10.800	3.227	7.464
Future production costs	(18.593)	(120)	(10.839)	(2.250)	(4.174)	(362)	(848)
Future development and abandonment costs	(6.827)	(183)	(3.203)	(1.385)	(1.231)	(518)	(307)
Future income tax expenses	(10.844)	2	(4.423)	(650)	(1.610)	(191)	(3.972)
Future net cash flows after taxes	20.913	59	11.435	1.141	3.785	2.156	2.337
10% annual discount for estimated timing of cash flows	(6.499)	40	(3.130)	(425)	(1.541)	(578)	(865)
Standardized measure of discounted future net cash flows (1)	14.414	99	8.305	716	2.244	1.578	1.472

(1) This item includes 741,905 and 1,618 million euros in respect of the participation of minority shareholders of YPF at December 31, 2008, 2009 and 2010, respectively.

Changes in the standardised measurement of discounted future net cash flows in respect of proved hydrocarbon reserves

The following chart shows changes in the present value of future net cash flows in 2008, 2009 and 2010:

	Millions of euros						
	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
Balance at 31 December 2007	15.191	107	7.815	1.388	1.872	1.283	2.725
Changes due to sale or transfer prices or future production costs	(13.108)	288	(5.159)	(1.399)	(1.108)	(1.144)	(4.586)
Changes in future development costs	(1.515)	(434)	(522)	(294)	(30)	(139)	(96)
Oil and gas sales and transfers in the period	(5.592)	(40)	(2.340)	(700)	(618)	(79)	(1.815)
Net changes due to extensions, discoveries, and improvements in the recovery of reserves	650	-	468	-	62	-	120
Net changes due to purchases/sales of assets	3	-	-	-	3	-	-
Net changes due to revisions of reserves	264	81	340	(154)	32	(42)	7
Previously estimated development costs incurred in the year	1.159	-	508	144	120	317	70
Effect of discounting to a different date and exchange rate effect	2.262	14	1.156	201	271	234	386
Other non-specific changes	-	-	-	-	-	-	-
Changes in income tax	8.433	(30)	2.366	1.441	457	126	4.073
Net change	(7.444)	(121)	(3.183)	(761)	(811)	(727)	(1.841)
Balance at 31 December 2008 (1)	7.746	(14)	4.632	627	1.061	556	884
Changes due to sale or transfer prices or future production costs	3.327	5	2.091	(319)	529	267	754
Changes in future development costs	(476)	53	(445)	463	(330)	(182)	(35)
Oil and gas sales and transfers in the period	(3.063)	(23)	(1.776)	(367)	(315)	(111)	(471)
Net changes due to extensions, discoveries, and improvements in the recovery of reserves	782	39	502	-	7	134	100
Net changes due to purchases/sales of assets	19	(21)	-	-	40	-	-
Net changes due to revisions of reserves	1.302	(20)	643	28	169	372	110
Previously estimated development costs incurred in the year	900	3	384	221	78	147	67
Effect of discounting to a different date and exchange rate effect	343	(5)	190	29	48	39	42
Other non-specific changes	-	-	-	-	-	-	-
Changes in income tax	(1.110)	(3)	(565)	(118)	(35)	-	(389)
Net change	2.024	28	1.024	(63)	191	666	178
Balance at 31 December 2009 (1)	9.770	14	5.656	564	1.252	1.222	1.062
Changes due to sale or transfer prices or future production costs	5.074	56	2.679	370	596	501	872
Changes in future development costs	(1.218)	14	(747)	(55)	(212)	(194)	(24)
Oil and gas sales and transfers in the period	(3.887)	7	(2.021)	(373)	(423)	(417)	(660)
Net changes due to extensions, discoveries, and improvements in the recovery of reserves	1.718	-	1.388	-	258	-	72
Net changes due to purchases/sales of assets	193	-	-	-	193	-	-
Net changes due to revisions of reserves	2.215	1	1.104	64	447	222	377
Previously estimated development costs incurred in the year	993	3	389	130	233	167	71
Effect of discounting to a different date and exchange rate effect	1.623	3	935	92	212	203	178
Other non-specific changes	-	-	-	-	-	-	-
Changes in income tax	(2.067)	1	(1.078)	(76)	(312)	(126)	(476)
Net change	4.644	85	2.649	152	992	356	410
Balance at 31 December 2010 (1)	14.414	99	8.305	716	2.244	1.578	1.472

(1) This item includes 741, 905 and 1,618 million euros in respect of the participation of minority shareholders of YPF at December 31, 2008, 2009 and 2010, respectively.