



2011

Supplementary information on oil and gas  
exploration and production activities

## Supplementary information on oil and gas exploration and production activities

(Unaudited information)

Below is presented the information on Repsol YPF Group's oil and gas exploration and production activities which includes the following disclosures:

- Capitalised cost, in relation with capitalized historical costs;
- Cost incurred: which represent the amounts capitalized or charged to profit during the year;
- Results of oil and gas exploration and production activities, including revenue and expenses associated directly to this activity;
- Estimated proved net developed and undeveloped oil and gas reserves;
- Standardized measure of discounted future net cash flows relating to proved oil and gas reserves, which represent the estimate of future net cash flows from proven reserves on the basis of a standardized measure criteria.
- Changes in Standardized measure of discounted future net cash flows relating to proved oil and gas reserves with respect to those presented for the previous year.

This information, which the Group performs and publishes annually, is prepared in accordance with the general accepted principles applied in the oil and gas industry, specifically those principles laid down by the U.S. Financial Accounting Standards Board (FASB) and the guidelines and framework established for the industry by the U.S. Securities and Exchange Commission (SEC), which govern financial information practices in the U.S.A. Proved reserves are also estimated in accordance with the criteria established by the Petroleum Reserves Management System of the Society of Petroleum Engineers (PRMS-SPE).

### Capitalised costs

Capitalised costs represent the historical costs capitalised related to oil and gas exploration and production activities, including auxiliary equipment and facilities, and the related accumulated depreciation and accumulated impairment losses.

	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa	Asia
Million of euros								
<b>At 31 December 2009</b>								
Capitalised costs of proved oil and gas properties	26,789	338	20,532	1,218	2,516	1,324	807	54
Capitalised costs of unproved oil and gas properties	2,588	103	81	222	532	1,267	376	7
	<b>29,377</b>	<b>441</b>	<b>20,613</b>	<b>1,440</b>	<b>3,048</b>	<b>2,591</b>	<b>1,183</b>	<b>61</b>
Auxiliary equipment and facilities	1,759	48	368	598	245	282	217	1
<b>Total capitalised costs</b>	<b>31,136</b>	<b>489</b>	<b>20,981</b>	<b>2,038</b>	<b>3,293</b>	<b>2,873</b>	<b>1,400</b>	<b>62</b>
Accumulated depreciation and impairment losses	(19,401)	(352)	(15,692)	(876)	(1,575)	(355)	(550)	(1)
<b>Net amounts <sup>(1)</sup></b>	<b>11,735</b>	<b>137</b>	<b>5,289</b>	<b>1,162</b>	<b>1,718</b>	<b>2,518</b>	<b>850</b>	<b>61</b>
Million of euros								
<b>At 31 December 2010</b>								
Capitalised costs of proved oil and gas properties	30,847	488	23,164	1,342	2,981	1,886	933	53
Capitalised costs of unproved oil and gas properties	2,297	5	116	243	531	1,017	377	8
	<b>33,144</b>	<b>493</b>	<b>23,280</b>	<b>1,585</b>	<b>3,512</b>	<b>2,903</b>	<b>1,310</b>	<b>61</b>
Auxiliary equipment and facilities	2,093	52	521	697	265	316	242	–
<b>Total capitalised costs</b>	<b>35,237</b>	<b>545</b>	<b>23,801</b>	<b>2,282</b>	<b>3,777</b>	<b>3,219</b>	<b>1,552</b>	<b>61</b>
Accumulated depreciation and impairment losses	(22,830)	(367)	(18,171)	(1,094)	(1,670)	(732)	(743)	(53)
<b>Net amounts <sup>(1)</sup></b>	<b>12,407</b>	<b>178</b>	<b>5,630</b>	<b>1,188</b>	<b>2,107</b>	<b>2,487</b>	<b>809</b>	<b>8</b>
Million of euros								
<b>At 31 December 2011</b>								
Capitalised costs of proved oil and gas properties	34,481	504	25,492	1,581	3,599	2,116	1,189	–
Capitalised costs of unproved oil and gas properties	2,624	13	158	263	720	1,312	103	55
	<b>37,105</b>	<b>517</b>	<b>25,650</b>	<b>1,844</b>	<b>4,319</b>	<b>3,428</b>	<b>1,292</b>	<b>55</b>
Auxiliary equipment and facilities	2,401	52	595	818	350	331	255	–
<b>Total capitalised costs</b>	<b>39,506</b>	<b>569</b>	<b>26,245</b>	<b>2,662</b>	<b>4,669</b>	<b>3,759</b>	<b>1,547</b>	<b>55</b>
Accumulated depreciation and impairment losses	(25,264)	(359)	(19,986)	(1,268)	(1,867)	(1,062)	(722)	–
<b>Net amounts <sup>(1)</sup></b>	<b>14,242</b>	<b>210</b>	<b>6,259</b>	<b>1,394</b>	<b>2,802</b>	<b>2,697</b>	<b>825</b>	<b>55</b>

<sup>(1)</sup> It does not include capitalised costs regarding to non current assets held for sale (e.g. Eurotek).

As of 31 December 2011 and 2010, Repsol YPF Group's share in oil and gas exploration and production activities from equity method investees amounted to €130 and €68 million, respectively.

## Costs incurred

The costs incurred represent amounts capitalised or charged to profit during the year relating to acquisitions of properties and for exploration and development activities.

	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa	Asia	Australia
Million of euros									
<b>At 31 DECEMBER 2009</b>									
Acquisitions of proved properties	6	–	–	–	6	–	–	–	–
Acquisitions of unproved properties	61	–	–	–	57	4	–	–	–
Exploration costs	875	119	104	4	283	130	208	27	–
Development costs	1,240	23	715	112	108	212	64	6	–
<b>TOTAL <sup>(1)</sup></b>	<b>2,182</b>	<b>142</b>	<b>819</b>	<b>116</b>	<b>454</b>	<b>346</b>	<b>272</b>	<b>33</b>	<b>–</b>
Million of euros									
<b>At 31 DECEMBER 2010</b>									
Acquisitions of proved properties	266	–	–	–	266	–	–	–	–
Acquisitions of unproved properties	45	–	–	–	45	–	–	–	–
Exploration costs	818	28	85	9	478	113	80	25	–
Development costs	1,724	48	1,205	79	278	70	44	–	–
<b>TOTAL <sup>(1)</sup></b>	<b>2,853</b>	<b>76</b>	<b>1,290</b>	<b>88</b>	<b>1,067</b>	<b>183</b>	<b>124</b>	<b>25</b>	<b>–</b>
Million of euros									
<b>At 31 DECEMBER 2011</b>									
Acquisitions of proved properties	–	–	–	–	–	–	–	–	–
Acquisitions of unproved properties	–	–	–	–	–	–	–	–	–
Exploration costs	1,259	62	268	3	346	386	127	66	1
Development costs	2,332	44	1,389	276	446	159	18	–	–
<b>TOTAL <sup>(1)</sup></b>	<b>3,591</b>	<b>106</b>	<b>1,657</b>	<b>279</b>	<b>792</b>	<b>545</b>	<b>145</b>	<b>66</b>	<b>1</b>

<sup>(1)</sup> It does not include costs incurred regarding to Non current assets held for sale (e.g. Eurotek).

As of December 31, 2011 and 2010, Repsol YPF Group's share in investments made in oil and gas exploration and production activities from equity method investees amounted to €65 and €64 million, respectively.

## Results of oil and gas exploration and production activities

The following table shows the revenues and expenses associated directly with the Group's oil and gas exploration and production activities. It does not include any allocation of the finance costs or general expenses and, therefore, is not necessarily indicative of the contribution to consolidated net profit of the oil and gas activities.

	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa	Asia	Australia
Million of euros									
<b>2009</b>									
<b>INCOME</b>									
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	–	–
<b>TOTAL INCOME</b>	<b>6,295</b>	<b>34</b>	<b>3,494</b>	<b>724</b>	<b>910</b>	<b>447</b>	<b>686</b>	<b>–</b>	<b>–</b>
Production costs <sup>(1)</sup>	(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)	–	–
<b>Profit (Loss) before taxes and charges</b>	<b>1,339</b>	<b>(19)</b>	<b>501</b>	<b>271</b>	<b>202</b>	<b>38</b>	<b>375</b>	<b>(29)</b>	<b>–</b>
Taxes and charges	(643)	12	(232)	(148)	20	(20)	(284)	9	–
<b>Results of oil and gas production activities <sup>(2)</sup></b>	<b>696</b>	<b>(7)</b>	<b>269</b>	<b>123</b>	<b>222</b>	<b>18</b>	<b>91</b>	<b>(20)</b>	<b>–</b>
Million of euros									
<b>2010</b>									
<b>INCOME</b>									
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 <sup>(3)</sup>	644	–	–	–	33	–	611	–	–
<b>TOTAL INCOME</b>	<b>8,250</b>	<b>50</b>	<b>4,370</b>	<b>921</b>	<b>1,247</b>	<b>665</b>	<b>997</b>	<b>–</b>	<b>–</b>
Production costs <sup>(1)</sup>	(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)	–	–
<b>Profit (Loss) before taxes and charges</b>	<b>2,246</b>	<b>(11)</b>	<b>736</b>	<b>399</b>	<b>224</b>	<b>217</b>	<b>711</b>	<b>(30)</b>	<b>–</b>
Taxes and charges	(1,277)	10	(255)	(206)	(245)	(89)	(500)	8	–
<b>Results of oil and gas production activities <sup>(2)</sup></b>	<b>969</b>	<b>(1)</b>	<b>481</b>	<b>193</b>	<b>(21)</b>	<b>128</b>	<b>211</b>	<b>(22)</b>	<b>–</b>
Million of euros									
<b>2011</b>									
<b>INCOME</b>									
Sales to non-Group companies	2,031	–	643	404	911	42	31	–	–
Sales between business segments and to Group companies	5,433	51	3,614	552	380	746	90	–	–
Other income <sup>(3)</sup>	187	–	–	–	33	–	154	–	–
<b>TOTAL INCOME</b>	<b>7,651</b>	<b>51</b>	<b>4,257</b>	<b>956</b>	<b>1,324</b>	<b>788</b>	<b>275</b>	<b>–</b>	<b>–</b>
Production costs <sup>(1)</sup>	(3,107)	(25)	(2,224)	(334)	(397)	(42)	(85)	–	–
Exploration expenses	(494)	(64)	(82)	(3)	(67)	(130)	(124)	(23)	(1)
Other operating expenses	(352)	(6)	(317)	(3)	(24)	(1)	(1)	–	–
Depreciation and amortisation charge	(1,786)	(4)	(1,142)	(130)	(198)	(286)	(26)	–	–
<b>Profit (Loss) before taxes and charges</b>	<b>1,912</b>	<b>(48)</b>	<b>492</b>	<b>486</b>	<b>638</b>	<b>329</b>	<b>39</b>	<b>(23)</b>	<b>(1)</b>
Taxes and charges	(806)	29	(172)	(288)	(148)	(120)	(114)	7	–
<b>Results of oil and gas production activities <sup>(2)</sup></b>	<b>1,106</b>	<b>(19)</b>	<b>320</b>	<b>198</b>	<b>490</b>	<b>209</b>	<b>(75)</b>	<b>(16)</b>	<b>(1)</b>

<sup>(1)</sup> Production costs include local taxes, production taxes and other similar payments, as well as withholdings on exports of crude oil from Argentina amounting, €1,241, €1,191 and €995 million in 2011, 2010 and 2009 respectively. It also includes transport and other costs in 2011, 2010 and 2009 totalling €170, €426 and €189 million, respectively.

<sup>(2)</sup> The results do not show the income and expenses associated with the impairment provisions registered as a result of the comparison between market value (discounted cash flows) from oil and gas proved and non-proved reserves (the latter of which are subject to a risk factor) from each field owned by the Company at year-end and the carrying amount of the assets associated therewith, which represented a net income of €36 and €134 million in 2011 and 2009 respectively and a net expense of €163 million in 2010.

<sup>(3)</sup> The results do not include gains recognised as consequence of the agreement reached in relation the exploration and production assets in Brazil which amounted to €2,847 million (See note 31 to the consolidated Financial Statements for the year ended December 31, 2010).

### Estimated proved net developed and undeveloped oil and gas reserves

The tables below reflect the net developed and undeveloped proved reserves of crude oil, condensed oil and LPG and natural gas as of December 31, 2011, 2010 and 2009, and the variations therein. Proved reserves shown includes the reserves equivalent to the economic income obtained under certain production sharing contracts entered into as of December 31, 2011, 2010 and 2009.

In determining net reserves, we exclude from our reported reserves royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and is able to make lifting and sales arrangements independently. By contrast, to the extent that royalty payments required to be made to a third party, whether payable in cash or in kind, are a financial obligation, or are substantially equivalent to a production or severance tax, the related reserves are not excluded from our reported reserves despite the fact that such payments are referred to as "royalties" under local rules. We follow the same methodology in reporting our production amounts.

Proved reserves in each year were estimated in accordance with the disclosure requirements and framework established for the petroleum and gas industry by the SEC and on the basis of the criteria established by the Petroleum Reserves Management System of the Society of Petroleum Engineers (PRMS-SPE). In accordance with these rules, proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible – from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations – prior to the time at which contracts providing the right to operate expire, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonable certain that it will commence the project within a reasonable time.

All of Repsol YPF's oil and gas reserves have been estimated by the company's petroleum engineers.

To control the quality of reserves booked, Repsol YPF has established a process that is integrated into Repsol YPF's internal control system. The process to manage reserves booking is centrally controlled by the Reserve Control Direction which is independent from the upstream activities and it is overseen by the Audit and Control Committee. Furthermore, the volumes booked are submitted to third party engineers for a reserves audit on a periodic basis (100% of the reserves on a three years cycle).

For those areas submitted to third party audit, Repsol YPF's proved reserves figures have to be within 7% of the third party reserves audit figures for Repsol YPF to declare that the reserves information meets the third party reserves audit standards. In the event that the difference is greater than 7% tolerance, Repsol YPF reestimates its proved reserves to achieve this tolerance level or discloses the third party reserves audit figures.

In 2011, Gaffney, Cline & Associates Inc., (CGA) audited certain areas in Spain and South America; DeGolyer and MacNaughton (D&M) audited certain areas in Argentina and Africa; Netherland, Sewell & Associates, Inc., (NSAI) audited certain areas in South America, and Ryder Scott Company (RSC) audited certain areas in South America. The third party engineers' reports are available at [www.repsol.com](http://www.repsol.com)

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

Millions of barrels	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
<b>RESERVES AT DECEMBER 31, 2008</b> <sup>(1) (2)</sup>	<b>903</b>	<b>2</b>	<b>581</b>	<b>46</b>	<b>97</b>	<b>48</b>	<b>129</b>
Revisions of previous estimates	92	2	38	1	26	20	5
Improved recovery	15	–	15	–	–	–	–
Extensions and discoveries	30	4	15	–	–	7	4
Purchases of minerals in place	4	–	–	–	4	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production <sup>(1)</sup>	(160)	(1)	(110)	(6)	(19)	(9)	(15)
<b>RESERVES AT DECEMBER 31, 2009</b> <sup>(1) (2)</sup>	<b>883</b>	<b>7</b>	<b>539</b>	<b>40</b>	<b>108</b>	<b>66</b>	<b>123</b>
Revisions of previous estimates	92	1	45	1	32	2	11
Improved recovery	32	–	32	–	–	–	–
Extensions and discoveries	31	–	23	–	6	–	2
Purchases of minerals in place	38	–	–	–	38	–	–
Sales of minerals in place	(8)	–	–	–	(8)	–	–
Production <sup>(1)</sup>	(160)	(1)	(107)	(6)	(20)	(11)	(15)
<b>RESERVES AT DECEMBER 31, 2010</b> <sup>(1) (2)</sup>	<b>908</b>	<b>7</b>	<b>532</b>	<b>35</b>	<b>156</b>	<b>57</b>	<b>121</b>
Revisions of previous estimates	112	–	91	1	19	1	(1)
Improved recovery	19	–	19	–	–	–	–
Extensions and discoveries	80	–	43	–	37	–	–
Purchases of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	(1)	(1)	–	–	–	–	–
Production <sup>(1)</sup>	(140)	–	(100)	(5)	(21)	(10)	(4)
<b>RESERVES AT DECEMBER 31, 2011</b> <sup>(1) (2)</sup>	<b>978</b>	<b>6</b>	<b>584</b>	<b>32</b>	<b>192</b>	<b>49</b>	<b>115</b>
<b>Proved Developed Reserves of crude oil, condensate and GPL</b>							
AT DECEMBER 31, 2008	652	1	452	34	78	3	84
AT DECEMBER 31, 2009	656	2	429	33	86	29	77
AT DECEMBER 31, 2010	649	2	404	28	116	21	78
AT DECEMBER 31, 2011	671	2	438	24	115	21	71

Note: The aggregated changes in reserves and total reserves at December 31, may differ from the individual values shown because the calculations use more precise figures than those shown in the table.

<sup>(1)</sup>Total proved developed and undeveloped net reserves at December 31, 2011, 2010, 2009, and 2008 include an estimated approximately 109, 99, 94 and 94 millions of barrels of oil equivalent, respectively, in respect of royalty payments which, as described above, are a financial obligation, or are substantially equivalent to a production or similar tax. Net production in 2011, 2010 and 2009 includes an estimated approximately 15, 16, and 16 millions of barrels of oil equivalent, respectively, in respect of such types of payments.

<sup>(2)</sup>Includes 249, 107, 86 millions of barrels of oil equivalent relating to the participation in the minority interest of YPF, as of December 31, 2011, 2010 and 2009, respectively.

**Proved developed and undeveloped reserves of natural gas:**

	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
Thousand Millions of Standard Cubic Feet							
<b>RESERVES AT DECEMBER 31, 2008<sup>(1) (2)</sup></b>	<b>7,341</b>	<b>5</b>	<b>3,145</b>	<b>2,484</b>	<b>1,530</b>	<b>12</b>	<b>165</b>
Revisions of previous estimates	290	–	54	32	230	5	(31)
Improved recovery	1	–	1	–	–	–	–
Extensions and discoveries	70	–	68	–	–	2	–
Purchases of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production <sup>(1)</sup>	(958)	(2)	(549)	(277)	(104)	(3)	(23)
<b>RESERVES AT DECEMBER 31, 2009<sup>(1) (2)</sup></b>	<b>6,744</b>	<b>3</b>	<b>2,719</b>	<b>2,239</b>	<b>1,656</b>	<b>16</b>	<b>111</b>
Revisions of previous estimates	730	–	313	78	351	5	(17)
Improved recovery	1	–	1	–	–	–	–
Extensions and discoveries	230	–	50	–	180	–	–
Purchases of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	(149)	–	–	–	(149)	–	–
Production <sup>(1)</sup>	(913)	(2)	(505)	(281)	(108)	(4)	(13)
<b>RESERVES AT DECEMBER 31, 2010<sup>(1) (2)</sup></b>	<b>6,643</b>	<b>1</b>	<b>2,578</b>	<b>2,036</b>	<b>1,930</b>	<b>17</b>	<b>81</b>
Revisions of previous estimates	164	1	167	55	(50)	2	(11)
Improved recovery	1	–	–	–	1	–	–
Extensions and discoveries	778	–	104	–	568	–	106
Purchases of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production <sup>(1)</sup>	(839)	(1)	(452)	(250)	(120)	(4)	(12)
<b>RESERVES AT DECEMBER 31, 2011<sup>(1) (2)</sup></b>	<b>6,747</b>	<b>–</b>	<b>2,397</b>	<b>1,842</b>	<b>2,329</b>	<b>14</b>	<b>165</b>
<b>Proved developed reserves of natural gas</b>							
At DECEMBER 31, 2008	3,741	5	2,265	375	1,007	3	86
At DECEMBER 31, 2009	4,513	3	2,149	1,058	1,228	9	66
At DECEMBER 31, 2010	4,275	1	1,994	875	1,317	7	81
At DECEMBER 31, 2011	3,854	0	1,796	699	1,293	8	58

Note: The aggregated changes in reserves and total reserves at December 31, may differ from the individual values shown because the calculations use more precise figures than those shown in the table.

<sup>(1)</sup>Total proved developed and undeveloped net reserves at December 31, 2011, 2010, 2009 and 2008 include an estimated approximately 1,026, 959, 812, 700 thousand millions of standard cubic feet of gas, respectively, in respect of royalty payments which, as described above, are a financial obligation, or are substantially equivalent to a production or similar tax. Net production in 2011, 2010 and 2009 includes an estimated approximately 74, 73 y 80 thousands millions of standard cubic feet of gas, respectively, in respect of such types of payments.

<sup>(2)</sup>Includes 1,021, 521, 434 thousand millions of standard cubic feet of gas relating to the participation in the minority interest of YPF, as of December 31, 2011, 2010 and 2009, respectively.

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

	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
Millions of Barrels of Oil Equivalent							
<b>RESERVES AT DECEMBER 31, 2008<sup>(1) (2)</sup></b>	<b>2,209</b>	<b>2</b>	<b>1,141</b>	<b>488</b>	<b>370</b>	<b>50</b>	<b>158</b>
Revisions of previous estimates	144	2	48	6	67	21	–
Improved recovery	15	–	15	–	–	–	–
Extensions and discoveries	43	4	27	–	–	8	4
Purchases of minerals in place	4	–	–	–	4	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production <sup>(1)</sup>	(331)	(1)	(208)	(55)	(38)	(10)	(19)
<b>RESERVES AT DECEMBER 31, 2009<sup>(1) (2)</sup></b>	<b>2,084</b>	<b>7</b>	<b>1,023</b>	<b>439</b>	<b>403</b>	<b>69</b>	<b>143</b>
Revisions of previous estimates	222	1	101	15	94	3	8
Improved recovery	32	–	32	–	–	–	–
Extensions and discoveries	72	–	32	–	38	–	2
Purchases of minerals in place	38	–	–	–	38	–	–
Sales of minerals in place	(34)	–	–	–	(34)	–	–
Production <sup>(1)</sup>	(323)	(1)	(197)	(56)	(39)	(12)	(18)
<b>RESERVES AT DECEMBER 31, 2010<sup>(1) (2)</sup></b>	<b>2,091</b>	<b>7</b>	<b>991</b>	<b>398</b>	<b>500</b>	<b>60</b>	<b>135</b>
Revisions of previous estimates	141	–	121	11	10	1	(3)
Improved recovery	19	–	19	–	–	–	–
Extensions and discoveries	219	–	62	–	138	–	19
Purchases of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	(1)	(1)	–	–	–	–	–
Production <sup>(1)</sup>	(290)	(1)	(180)	(49)	(43)	(11)	(7)
<b>RESERVES AT DECEMBER 31, 2011<sup>(1) (2)</sup></b>	<b>2,179</b>	<b>6</b>	<b>1,011</b>	<b>360</b>	<b>607</b>	<b>51</b>	<b>145</b>
At DECEMBER 31, 2008	1,318	2	855	101	258	3	99
At DECEMBER 31, 2009	1,461	3	812	221	305	31	89
At DECEMBER 31, 2010	1,410	2	759	184	351	22	92
At DECEMBER 31, 2011	1,358	2	758	149	345	23	82

Note 1: The aggregated changes in reserves and total reserves at December 31, may differ from the individual values shown because the calculations use more precise figures than those shown in the table.

<sup>(1)</sup>Total proved developed and undeveloped net reserves at December 31, 2011, 2010, 2009 and 2008 include an estimated approximately 292, 270, 239 and 219 million of barrels of oil equivalent, respectively, in respect of royalty payments which, as described above, are a financial obligation, or are substantially equivalent to a production or similar tax. Net production in 2011, 2010 and 2009 includes an estimated approximately 28, 29 and 31 millions of barrels of oil equivalent, respectively, in respect of such types of payments.

<sup>(2)</sup>Includes 431, 200 and 163 millions of barrels of oil equivalent relating to the participation in the minority interest of YPF, as of December 31, 2011, 2010 and 2009, respectively.

### Standardized measure of discounted future net cash flows and changes therein relating to proved oil and gas reserves

The estimate of future net cash flows was performed in accordance with the guidelines and framework established for the oil and gas industry by the SEC and the principles laid down by the FASB. The method applied is the impartiality or fairness method and is the result of applying the average oil and gas prices in 2011 (considering price changes only by contractual agreement) to estimated future production of proved reserves of oil and gas as of the date of the last balance sheet, less the estimated future costs (based on current costs) to be incurred in the development and production of proved reserves, assuming the continuation of current economic conditions.

Future production costs were estimated on based on a costs structure at the end of the year. Future development costs were calculated on the basis of technical studies conducted by Repsol YPF and by the operators holding joint title with Repsol YPF. The taxes projected for each of the future years were determined under the contractual and tax regime prevailing at the end of the year. The rate used to discount the future net revenues was 10%.

The present value of the future net cash flows estimated on the basis of the aforementioned assumptions, applying the principle of impartiality, is not intended to be interpreted, and should not be interpreted, as the fair value of the Group's oil and gas reserves. An estimation of the fair value of these reserves should also include the future exploitation of reserves not yet classified as proved reserves, possible changes in future prices and costs and a discount rate which represents the time value of money at the calculation date and the uncertainties inherent to estimating the reserves.

The following table shows the present value of the future net revenues relating to proved oil and gas reserves, calculated on the basis of the aforementioned assumptions:

	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
Million of euros							
<b>At December 31, 2009</b>							
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)
<b>Future net cash flows after taxes</b>	<b>14,272</b>	<b>(26)</b>	<b>7,845</b>	<b>864</b>	<b>2,149</b>	<b>1,713</b>	<b>1,727</b>
10% annual discount for estimated timing of cash flows	(4,502)	40	(2,189)	(300)	(897)	(491)	(665)
<b>Standardized measure of discounted future net cash flows <sup>(1)</sup></b>	<b>9,770</b>	<b>14</b>	<b>5,656</b>	<b>564</b>	<b>1,252</b>	<b>1,222</b>	<b>1,062</b>
Million of euros							
<b>At December 31, 2010</b>							
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)
<b>Future net cash flows after taxes</b>	<b>20,913</b>	<b>59</b>	<b>11,435</b>	<b>1,141</b>	<b>3,785</b>	<b>2,156</b>	<b>2,337</b>
10% annual discount for estimated timing of cash flows	(6,499)	40	(3,130)	(425)	(1,541)	(578)	(865)
<b>Standardized measure of discounted future net cash flows <sup>(1)</sup></b>	<b>14,414</b>	<b>99</b>	<b>8,305</b>	<b>716</b>	<b>2,244</b>	<b>1,578</b>	<b>1,472</b>
Million of euros							
<b>At December 31, 2011</b>							
Future cash inflows	72,363	498	32,052	6,437	18,493	4,033	10,850
Future production costs	(25,993)	(145)	(14,144)	(2,610)	(7,507)	(361)	(1,226)
Future development and abandonment costs	(9,621)	(215)	(4,687)	(1,506)	(2,098)	(526)	(589)
Future income tax expenses	(13,162)	3	(3,344)	(902)	(2,585)	(621)	(5,713)
<b>Future net cash flows after taxes</b>	<b>23,587</b>	<b>141</b>	<b>9,877</b>	<b>1,419</b>	<b>6,303</b>	<b>2,525</b>	<b>3,322</b>
10% annual discount for estimated timing of cash flows	(8,887)	16	(3,440)	(573)	(2,756)	(792)	(1,342)
<b>Standardized measure of discounted future net cash flows <sup>(1)</sup></b>	<b>14,700</b>	<b>157</b>	<b>6,437</b>	<b>846</b>	<b>3,547</b>	<b>1,733</b>	<b>1,980</b>

<sup>(1)</sup> Includes €2,747, €1,681 and €905 million relating to the share of minority interest of YPF, as of December 31, 2011, 2010 and 2009.

### Changes in Standardized measure of discounted future net cash flows relating to proved oil and gas reserves

The detail of the changes in the standardized measure of discounted future net cash flows for 2011, 2010 and 2009 is as follows:

Million of euros	Total	Europe	Argentina	Trinidad & Tobago	Rest of South America	North America	Africa
<b>BALANCE AT 31 DECEMBER 2008 <sup>(1)</sup></b>	<b>7,746</b>	<b>(14)</b>	<b>4,632</b>	<b>627</b>	<b>1,061</b>	<b>556</b>	<b>884</b>
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)
<b>Net change</b>	<b>2,024</b>	<b>28</b>	<b>1,024</b>	<b>(63)</b>	<b>191</b>	<b>666</b>	<b>178</b>
<b>BALANCE AT 31 DECEMBER 2009 <sup>(1)</sup></b>	<b>9,770</b>	<b>14</b>	<b>5,656</b>	<b>564</b>	<b>1,252</b>	<b>1,222</b>	<b>1,062</b>
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)
<b>Net change</b>	<b>4,644</b>	<b>85</b>	<b>2,649</b>	<b>152</b>	<b>992</b>	<b>356</b>	<b>410</b>

<b>BALANCE AT 31 DECEMBER 2010 <sup>(1)</sup></b>	<b>14,414</b>	<b>99</b>	<b>8,305</b>	<b>716</b>	<b>2,244</b>	<b>1,578</b>	<b>1,472</b>
Changes due to sale or transfer prices or future production costs	(497)	90	(4,420)	508	915	930	1,480
Changes in future development costs	(2,222)	(44)	(1,566)	(134)	(313)	(147)	(18)
Oil and gas sales and transfers in the period	(4,958)	(43)	(2,407)	(472)	(697)	(476)	(863)
Net changes due to extensions, discoveries, and improvements in the recovery of reserves	2,704	–	1,525	–	1,152	–	27
Net changes due to purchases/sales of assets	–	–	–	–	–	–	–
Net changes due to revisions of reserves	2,153	10	1,934	59	10	(285)	425
Previously estimated development costs incurred in the year	1,499	33	627	173	390	203	73
Effect of discounting to a different date and exchange rate effect	1,763	12	1,011	84	291	191	174
Other non-specific changes	–	–	–	–	–	–	–
Changes in income tax	(156)	–	1,428	(88)	(445)	(261)	(790)
<b>Net change</b>	<b>286</b>	<b>58</b>	<b>(1,868)</b>	<b>130</b>	<b>1,303</b>	<b>155</b>	<b>508</b>
<b>BALANCE AT 31 DECEMBER 2011 <sup>(1)</sup></b>	<b>14,700</b>	<b>157</b>	<b>6,437</b>	<b>846</b>	<b>3,547</b>	<b>1,733</b>	<b>1,980</b>

<sup>(1)</sup> Includes €2,741, €1,681 and €905 million relating to the share of minority interest of YPF, as of December 31, 2011, 2010 and 2009.