

# Exploration-Production Activity and Market

*After falling 4% in 2002 to \$107.5 billion, world investment in E&P (not including China or the CIS) is expected to rise in 2003 (+5%) to a record-breaking \$113 billion. In 2004, expenditure (not including the CIS or China) should keep expanding and exceed \$115 billion, driven by three factors: in 2004, world oil demand should grow by more than 1 Mbbbl/day; major players on the North American market are showing optimism; and oil and gas prices are expected to remain high.*

## Capital Expenditure

Rising nearly 13% in 2001 to a record-breaking \$112 billion, E&P spending (not including the CIS or China) fell nearly 4% in 2002 to \$107.5 billion, a level that remains high. This decrease in world spending was due to unfavorable business conditions: the downturn that started in mid-2001 worsened following the terrorist attacks of September 11, 2001.

World E&P investment, including Russia and China, totaled \$118 billion in 2002. Russia and China spent an estimated \$10 billion (about 50% each), accounting for 8 to 9% of the total.

**For 2003, it is thought that world E&P spending (not including the CIS or China) will grow (+5%) to a record-breaking value of \$113 billion.** If one adds the spending for Russia and China, estimated at \$12 billion, one obtains a world total of \$125 billion. This global increase is due to:

- The high price of oil, which has averaged about \$29/bbl since the beginning of 2003 (25% higher than the average for the first half-year 2002)
- Sustained world oil demand in 2003 (+1.1Mbbbl/day), especially in OECD countries (+0.7 Mbbbl/day).

**In North America, spending should be up 4% in 2003:** There is a large difference between the growth anticipated for the United States (+0.8%) and the expectations for Canada (about +13%).

**In the North Sea, capital expenditure in E&P should continue to grow quickly (+7%),** driven by Norway (+16%). **In the rest of the world, growth is expected to be half the 2002 figure:** about 6% in 2003 versus 10% in 2002. This slowdown can be explained by the uncertainties in Venezuela and the tension in Nigeria.

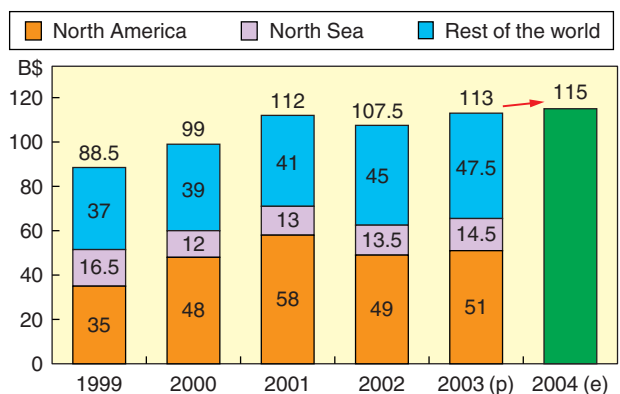
**It is thought that E&P investment (not including the CIS or China) will further expand in 2004 and exceed \$115 billion. There are several reasons for this:**

- World oil demand should grow by more than 1 Mbbbl/day in 2004, considering the acceleration of economic growth

in the United States and early indications of a rally in the European Union.

- Major players on the North American market are showing optimism and revising expenditure upwards.
- During the second half-year 2003, the oil price stayed high. First of all, it is taking longer than anticipated for Iraq to return to the world market. Secondly, OPEC announced a quota reduction of 900,000 bbl/day on November 1, 2003.
- The price of gas in the United States is high (low stock levels, limited import capacity, growing consumption).

Fig. 1 Capital expenditure worldwide, E&P (not including the CIS countries or China)



E&P spending in Russia & China totaled \$10 billion (about 50% each) in 2002 and should come to \$12 billion in 2003

(f) forecasts; (e) estimates

*NB:* Oil majors have other expenses besides E&P. One must add operating costs, especially those to facility maintenance and repairs (some of these expenses represent a large market for oil service and supply companies).

Source: IFP/Economics Department, 2003

## Seismic

### Worldwide Activity (not including China and the CIS)

**The number of seismic crews active worldwide began to regress in 1999 and the trend has continued (-7% in 2002)**

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over 2001; -13% in 2003). The largest decreases were posted in Europe (-33% in 2002, -50% in 2003) and Latin America (-21% in 2002, -45% in 2003). At the other end of the spectrum, South-East Asia (not including China) reported its biggest increases in 2002 and 2003: +47% and +10%, respectively.

**Offshore activity fell about 4% in 2002 and should be down 15% in 2003.** During the first half-year 2003, the largest number of crews was located in the Middle East and Africa, where seismic activity has been rising since late 2001. On the other hand, activity was down in Europe and Latin America.

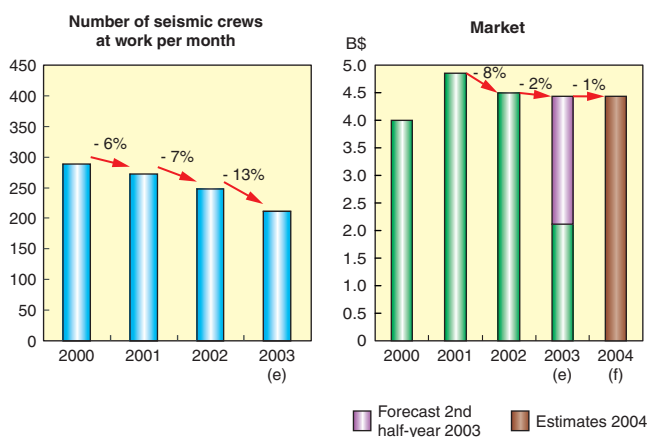
## The Seismic Market: Data Acquisition & Processing and Equipment

Since the late 1990s, this sector has experienced hard times. First, there was a persistent problem of overcapacity in marine acquisition, now the onshore segment is having difficulty.

- *The Market*

In 2002, key market players recorded a significant decline in sales. **The market for seismic services and equipment was worth \$4.5 billion, down 8%<sup>(1)</sup> over 2001,** primarily because of the equipment sector. In 2003, the decrease should be smaller, on the order of 2%, with **\$4.4 billion** in total sales. **The outlook is gloomy for 2004.**

Fig. 2 Seismic sector (not including the CIS or China)



Source: IFP/Economics Department/2003

(e) estimates; (f) forecasts

**The market for data acquisition and processing,** which accounts for about 90% of the total market, was down 4% in 2002 and will apparently stabilize at about \$4 billion in 2003. Competition is becoming increasingly fierce, especially in the

(1) This year's market estimates differ from last year's: the financial statements for Western-Geco are now available, whereas they were not previously

onshore sector, with the arrival of extremely competitive Chinese companies on the market. As a result, some large Western companies are changing their onshore acquisition strategy.

**Equipment sales** have regressed since 2002, because most seismic service suppliers are in difficulty and cutting capital investment. Equipment sales, which represented about 12% of the market in 2001, **fell 30% in 2002** and only represent 8 to 9% of the total seismic market today, with sales volume of about **\$400 million**. For 2003, the market expects a smaller decrease (-9%) and a sales volume of \$360 million.

- *The Market Players*

Given that competition is extreme and companies must control costs while developing technological innovations, many market players launched **major reorganization schemes** during the period 2002-2003.

The onshore acquisition activity of Western Geco and CGG has been dramatically reduced, particularly in the North America, due to the lack of profitability. In this context of increased competition, notably of Chinese companies, both companies have been running down.

The **offshore acquisition** sector has observed a return to contracted studies and lower spending on multi-client surveys. When it first appeared, the multi-client survey model was used to exploit overcapacity in the marine acquisition sector. It is reaching its limits because the overcapacity situation has persisted for so long. By immobilizing capital, this type of acquisition jeopardizes the financial status of contractors.

In the equipment sector, **Input/Output**, whose sales fell 44% in 2002, announced that it would completely reorganize its activity.

**In 2002-2003, PGS and CGG effected a merger. In September 2002, CGG announced that it had acquired a majority stake of 7.51% in the share capital of PGS.** The acknowledged purpose of this transaction was to eventually consolidate the sector: a merger between the seismic divisions of these two companies would create an entity on the same scale as Western Geco, market leader. Let us recall that a merger between PGS and Veritas was under serious consideration at year-end 2001, but it did not go through.

## Drilling

### Worldwide Activity

In terms of the number of wells drilled, world activity (not including China and the CIS) mainly depended on North

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Fig. 3 Variations in the number of wells drilled, by geographical area

	2000	2001	2002	2003	Var. 2002/2001	Var. 2003/2002
<b>North America</b>	<b>41 401</b>	<b>49 250</b>	<b>36 600</b>	<b>43 430</b>	<b>-26%</b>	<b>19%</b>
<b>Rest of world</b>	<b>7 198</b>	<b>7 401</b>	<b>7 209</b>	<b>7 473</b>	<b>-3%</b>	<b>4%</b>
<b>incl.: Latin America</b>	<b>2 358</b>	<b>2 658</b>	<b>2 128</b>	<b>2 330</b>	<b>-20%</b>	<b>9%</b>
<b>Western Europe</b>	645	624	615	560	-1%	-9%
<b>Africa</b>	682	725	768	780	6%	2%
<b>Middle East</b>	1 242	1 287	1 393	1 430	8%	3%
<b>Asia (excluding China)</b>	2 057	1 948	2 155	2 210	11%	3%
<b>World (excluding CIS and China)</b>	<b>48 599</b>	<b>56 651</b>	<b>43 809</b>	<b>50 903</b>	<b>-23%</b>	<b>16%</b>
<b>China</b>	<b>7 702</b>	<b>7 012</b>	<b>7 572</b>	<b>8 180</b>	<b>8%</b>	<b>8%</b>
<b>CIS</b>	<b>5 186</b>	<b>5 883</b>	<b>5 005</b>	<b>5 436</b>	<b>-15%</b>	<b>9%</b>
<b>World (including CIS and China)</b>	<b>61 487</b>	<b>69 546</b>	<b>56 386</b>	<b>64 519</b>	<b>-19%</b>	<b>14%</b>

Source : IHS Energy, Spears

IFP/DEE, 2003

America, where nearly 85% of the wells drilled in 2002 are located. Onshore wells represented over 90% of the world total, and 85% of them are in North America. Offshore drilling was more geographically diverse: 32% on the North American continent, 23% in Asia (not including China), 20% in the North Sea and 10% in Latin America.

**All in all, nearly 44,000 wells were drilled worldwide in 2002 (not including the CIS or China), down nearly 23% year on year.**

**In 2003, the number of wells drilled worldwide should increase by 16% to over 50,000.** North America registered an increase of more than 19% owing to the price of natural gas (the Henry Hub exceeded \$7/Mbtu in March 2003). In the United States, the number of drilling rigs earmarked for gas fields is 5 to 6 times larger than for oil. For the rest of the world, it is thought that the increase will not exceed 4%. An upswing of 2-3% is expected in Asia, Africa and the Middle East, whereas the figure for Latin America should be up by about 9% after dropping sharply in 2002. **If one includes the CIS countries and China, over 56,000 wells were drilled worldwide in 2002; the number should reach 65,000 in 2003.**

The rate of utilization of **offshore** drilling rigs worldwide retreated from 86% in 2001 to 81% in 2002. **In 2003, the global rate should remain stable at about 81%:** while the North Sea retreated 5 points, the Gulf of Mexico advanced by an equivalent percentage. The falloff in North Sea activity that began in 2002 should bring day rates down by 10% for jack-ups and by 40% for semi-submersible rigs.

## The Drilling Market

- *2002, a Difficult Year!*

After a record-breaking year in 2001, with sales standing at \$22 billion (up 33%), the drilling market fell below \$20 billion in 2002 (down 11%). Various factors are responsible, such as a fairly gloomy economic outlook, the uncertainties surrounding Iraq and the crisis in Venezuela. Furthermore, market players doubted that oil and gas prices would stay high, which gave them little incentive to invest. The onshore and offshore sectors saw contrasting trends in 2002: the former fell substantially (-27%) with \$6 billion in sales, the latter dipped only slightly (-1%) to about \$13.6 billion.

- *Slight Global Upturn in 2003*

**In 2003, the global drilling market should reach \$20.2 billion, up 3% over 2002.**

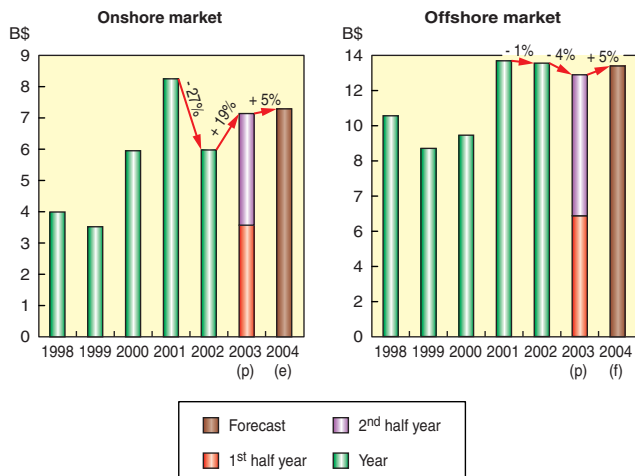
After experiencing a severe downturn in 2002 and returning to its 2000 level, the onshore drilling market should make a comeback and rise 19% to **\$7.2 billion in 2003**. This reflects the trend observed for the number of onshore wells drilled.

After a record year in 2002 for offshore drilling, the market should decline 4.2% to **\$13 billion in 2003**. This parallels the drop in day rates for offshore drilling platforms.

**In 2004, the outlook looks good for offshore and onshore drilling activity: the world market should grow by 5%.**

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Fig. 4 The drilling market



Source: IFP/Economics Department, 2003

(e): estimates; (f) forecasts

## Construction of Offshore Production Infrastructure

### Offshore Construction

Offshore construction hit a record low in 2001, rallied in 2001 and continued to progress in 2002 and 2003. In 2004, activity should be equal to or greater than in 2003, judging by the projects in the works.

The number of **fixed platforms** has risen steadily since 2000. The cumulative increase for 2000-2003 is nearly 30%, and that for 2002-2003 is 15%. The Gulf of Mexico and South-East Asia are the top two regions for the number of platforms under construction. Next come Western Europe and Western Africa, where the number of fixed platforms under construction has more than doubled between 2000 and 2003.

**Floating platforms** fell to a low point in 2000, then construction took off again at a sustained pace, almost tripling between 2000 and 2003. For 2002-2003, an increase of 24% is reported. The largest number of floating platforms was built in West Africa and the Gulf of Mexico, with growth rates that have increased by a multiple of three since 2000. This strong showing can be attributed to the many deep offshore discoveries made in the late 1990s. In addition, in early 2002, the Mineral Management Services in the United States authorized the use of floating production systems in the Gulf of Mexico. One can expect them to come into more intensive use, to the detriment of fixed systems.

Finally, **subsea installations** rose by 30% between 2000 and 2003, and by only 4% between 2002 and 2003. Western Africa saw the greatest increase. The Gulf of Mexico and

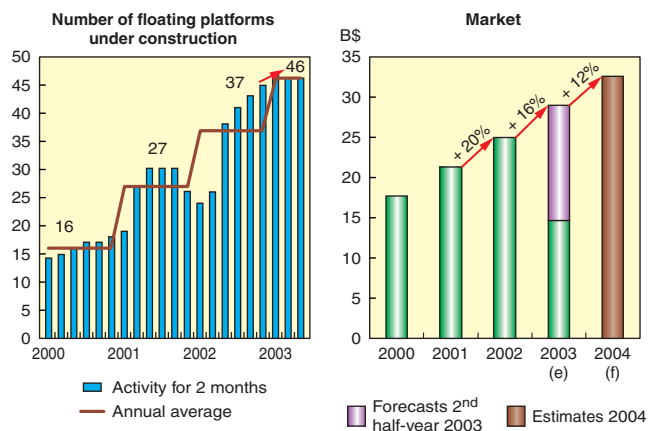
Western Europe contain the largest number of subsea installations under construction.

### The Market for Offshore Production Engineering, Construction and Infrastructure

The particularity of this market is that it is not significantly affected by short-term oil price fluctuations, since project profitability is calculated on a long-term basis. In **2002**, as in previous years, floating platform construction drove the market. Posting an increase of 37%, **it pushed the market up 20%** over 2001 to a record **\$25 billion**. Coming after 2000, a black year for this sector, 2002 was the second straight year in which the market registered such an increase.

This trend should continue **in 2003**: judging by the results of the first half-year, sales should reach **\$29 billion**, up 16%.

Fig. 5 Offshore construction sector



Source: IFP/Economics Department, 2003

(e) estimates; (f) forecasts

The outlook for **2004** looks good for the offshore sector. The number of construction projects remains high and the new orders situation indicates that market should grow by about 12%.

In the offshore sector, the EPIC type of contract (engineering, procurement, installation & commissioning) is being used more and more. This is a turn-key contract obliging the contractor to bear most of the risks. Some companies are hard put to execute EPIC contracts. One is Halliburton KBR, which has decided that it will no longer bid on them; another is Stolt Offshore, currently in financial difficulty.

### Conclusions

In 2003, world E&P capital expenditure (not including the CIS or China) should rally (+5%) to a record-breaking

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\$113 billion. Including Russia and China, spending should be in the vicinity of \$125 billion. On the strength of this upturn, the drilling market should progress by 3% to \$20 billion and the offshore construction sector by 16% to \$29 billion, each benefiting from the recovery of its respective activity. On the other hand, the sector of seismic services and equipment is still in difficulty: after falling 8% in 2002, it is expected to fall again in 2003 (down 2% to \$4.4 billion).

**In 2004, E&P investment (not including the CIS or China) should keep increasing to over \$115 billion,** fueled by

sustained growth in world oil demand, an oil price that is still high in the second half-year 2003 and a high gas price in the United States.

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