# Total S.A. Shell Acquirer? 

| Symbol | TOT | Ebitda Next Twelve Months ending 6/30/05 (USSmm) | 23,400 |
| :--- | ---: | :--- | ---: |
| Rating | Buy | North American Natural Gas/Ebitda (\%) | 1 |
| Price (US\$/sh) | 95.52 | Natural Gas and Oil Production/Ebitda (\%) | 76 |
| Pricing Date | $8 / 25 / 04$ | Adjusted Reserves/Production NTM | 9.1 |
| Shares (mm) | 1237 | EV/Ebitda | 6.2 |
| Market Capitalization (USSmm) | 118,200 | PV/Ebitda | 7.1 |
| Debt (US\$mm) | 26,200 | Undeveloped Reserves (\%) | 48 |
| Enterprise Value (EV) (US\$mm) | 144,400 | Natural Gas and Oil Ebitda (US\$/boe) | 19.30 |
| Present Value (PV) (US\$mm) | 166,100 | Present Value Proven Reserves(US\$/boe) | 10.52 |
| Net Present Value (US\$/share) | 113 | Present Value Proven Reserves(US\$/mcfe) | 1.75 |
| Debt/Present Value | 0.16 | Earnings Next Twelve Months (US\$/sh) | 8.78 |
| McDep Ratio - EV/PV | 0.87 | Price/Earnings Next Twelve Months | 11 |
| Dividend Yield (\%/year) | 3.0 | Indicated Annual Dividend (US\$/sh) | 2.84 |

Note: Estimated cash flow and earnings tied to one-year futures prices for oil, natural gas and refinery crack. Reported results may vary widely from estimates. Estimated present value per share revised only infrequently.

## Summary and Recommendation

We continue a Buy rating on the common shares of Total (TOT), the leading Euro Oil that offers international diversification, size, low financial risk and inflation protection. There are at least two reasons to ponder Total acquiring all or parts of Royal Dutch/Shell. First the target is vulnerable considering recent unfavorable publicity. Second, Total Chairman, Mr. Thierry Desmarest, has a remarkable record combining Total with Fina and Elf as well as contributing to the August 20 formation of drug giant, Sanofi-Aventis, owned some $10 \%$ by Total.
Combinations of large entities headed by Mr. Desmarest and his associates can be rewarding for investors and if it does not happen, Total continues to have favorable prospects in its current form.

## Moderate Oil Price Scenario

The value of the company depends in large part on the future price of crude oil. Publicly traded in the commodity markets, futures contracts for delivery over the next six years continue in a steep uptrend. Whether the trend will slow for awhile we cannot know. Our scenario is that a move that began in the low $\$ 20$ and is now in the upper $\$ 30$ could reach $\$ 50$ (see chart Light Sweet Crude Oil Forward/Futures Gap).

To construct the scenario we assumed oil would peak in 2010 at $\$ 50$ in 2003 dollars. That is more moderate than the peak in early 1981 at more than $\$ 80$ in 2003 dollars. Then we applied $3 \%$ per year inflation and calculated six-year averages to build a forward curve.

Economics support the price trends. Oil demand is strong with world economic growth paced by developing countries, especially China. Supply growth is limited as spare capacity has virtually disappeared. The largest producing fields in the Middle East are now mature. It will take time, large amounts of capital and a secure political climate to boost producing rates.

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Monetary factors favor oil investment as interest rates below inflation drive investors to real assets for protection against the dollar losing value. If similar past periods are any guide, the authorities may not raise interest rates above inflation for the rest of the decade.

Environmental factors favor higher oil and gas price. Coal is still a quarter of world primary energy supply. Cleaner oil and gas are undervalued as long as we tolerate environmentally disadvantageous coal.

Political factors favor higher oil price in consuming countries and producing countries. Consuming governments often resort to artificial forces to hold down oil price that can appear to work temporarily.

In producing countries we have seen time and again that oil production goes down when international oil companies are not welcome. After Iran, Iraq and Venezuela, now Saudi Arabia appears vulnerable to political change that may bring about production decline.

Too much of a gain in oil price might cause problems of economic adjustment though we think much of the concern expressed is exaggerated. Nonetheless we have a threshold of $60 \%$ gain in monthly price compared to a year earlier when we start to become concerned about weak demand for oil. October futures currently near $\$ 45$ a barrel would have to remain above $\$ 52$ for the $60 \%$ threshold to be breached.

## Refining Crack on 40-Week Average

About a quarter of projected cash flow for Total would be generated by downstream businesses, primarily refining/marketing of petroleum products. The unusually strong trend in expected future margin, the one-year refining crack, has softened in recent days (see chart One-Year Refining Crack Meter). The indicator may be less relevant for Total because the French company

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sells little in New York Harbor where the futures are priced and it is less dependent on gasoline which has a high weighting in the crack calculation. The winter fuel oil market will be more important for Total.


## One-Year Futures Point to Higher Cash Flow and Profits

As our next twelve months (NTM) cash flow model moves ahead to the period ending June 30, 2005 expectations also advance mainly because of advancing one-year futures. We relate natural gas and oil price to the quotes for commodities traded on the New York Mercantile Exchange (see table Next Twelve Months Operating and Financial Estimates). We relate European refining margins to the New York crack futures.

One of the coarser elements of our model for Total compared to peers is wellhead price. Apparently Total does not disclose wellhead price information explicitly. It looks to us that wellhead price may be lower than peers. Yet apparent cash flow per unit of production is nearly the same as for peers.

Investors who want calendar year estimates can find 2004 in the table. For 2005 we suggest using the next twelve months as a rough estimate. Estimates can change frequently along with oil markets.

## Present Value at Real Price and Real Return

NTM estimates determine to a large extent the first year of projected cash flow that we discount to present value (see table Present Value of Oil and Gas Reserves). The calculation is set up on the basis of a barrel of proven reserves, 0.48 developed and 0.52 undeveloped.

While there are many assumptions that could be discussed, discount rate and oil price are especially important. Price escalation and discount rate interact. In this case we make the
simplification of dealing in constant dollars. That assumes price escalation, cost escalation and discount rate are all net of inflation.

Total S.A
Next Twelve Months Operating and Financial Estimates

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{r} \text { Q1 } \\ 3 / 31 / 04 \end{array}$ | $\begin{array}{r} Q 2 \\ 6 / 30 / 04 \end{array}$ | $\begin{array}{r} Q 3 E \\ 9 / 30 / 04 \end{array}$ | $\begin{array}{r} Q 4 E \\ 12 / 31 / 04 \end{array}$ | $\begin{array}{r} \text { Year } \\ 2004 E \end{array}$ | $\begin{array}{r} Q 1 E \\ 3 / 31 / 05 \end{array}$ | $\begin{array}{r} Q 2 E \\ 6 / 30 / 05 \end{array}$ | Next Twelve Months 6/30/05 |
| Volume |  |  |  |  |  |  |  |  |
| Natural Gas (mmcfd) | 4,951 | 4,915 | 4,915 | 4,915 | 4,924 | 4,915 | 4,915 | 4,915 |
| Oil (mbd) | 1,723 | 1,698 | 1,698 | 1,698 | 1,704 | 1,698 | 1,698 | 1,698 |
| Total gas \& oil (mmb) | 229 | 229 | 232 | 232 | 922 | 227 | 229 | 919 |
| Price |  |  |  |  |  |  |  |  |
| Dollar (euro/\$) | 1.25 | 1.20 | 1.21 | 1.21 | 1.22 | 1.21 | 1.21 | 1.21 |
| Oil (\$/bbl) |  |  |  |  |  |  |  |  |
| WTI Cushing | 35.23 | 38.34 | 44.45 | 43.25 | 40.32 | 41.98 | 40.60 | 42.57 |
| Brent | 32.00 | 35.40 | 41.04 | 39.94 | 37.10 | 38.76 | 37.49 | 33.72 |
| Company (euro/bbl) | 17.92 | 20.65 | 23.74 | 23.10 | 21.36 | 22.42 | 21.69 | 22.74 |
| Refining Margin |  |  |  |  |  |  |  |  |
| NY Harbor 3-2-1 (\$/bbl) | 6.98 | 11.71 | 7.20 | 5.95 | 7.96 | 6.83 | 6.91 | 6.72 |
| Europe (\$/t) | 21.60 | 34.40 | 20.97 | 17.32 | 23.57 | 19.91 | 20.12 | 19.58 |
| Revenue (mmeuro) |  |  |  |  |  |  |  |  |
| Production | 4,110 | 4,730 | 5,499 | 5,350 | 19,689 | 5,080 | 4,968 | 20,897 |
| Other | 23,750 | 24,167 | 24,167 | 24,167 | 96,251 | 24,167 | 24,167 | 96,667 |
| Total | 27,860 | 28,897 | 29,666 | 29,517 | 115,940 | 29,246 | 29,135 | 117,564 |
| Expense |  |  |  |  |  |  |  |  |
| Production | 847 | 1,305 | 1,690 | 1,615 | 5,457 | 1,480 | 1,424 | 6,209 |
| Other | 22,583 | 22,880 | 22,981 | 23,022 | 91,466 | 22,988 | 22,985 | 91,976 |
| Ebitda (mmeuro) |  |  |  |  |  |  |  |  |
| Production | 3,263 | 3,425 | 3,809 | 3,735 | 14,232 | 3,600 | 3,544 | 14,688 |
| Other | 1,168 | 1,286 | 1,186 | 1,145 | 4,785 | 1,179 | 1,181 | 4,691 |
| Total Ebitda | 4,430 | 4,711 | 4,995 | 4,880 | 19,017 | 4,779 | 4,725 | 19,379 |
| Exploration | 73 | 109 | 109 | 109 | 400 | 109 | 109 | 436 |
| Deprec., Deplet., \& Amort. Excess tax and other | $\begin{gathered} 1,268 \\ (475) \end{gathered}$ | $\begin{gathered} 1,237 \\ (644) \end{gathered}$ | 1,237 | 1,237 | $\begin{gathered} 4,980 \\ 1,119 \end{gathered}$ | 1,237 | 1,237 | 4,950 |
| Operating Income |  |  |  |  |  |  |  |  |
| Upstream | 2,819 | 3,135 |  |  |  |  |  |  |
| Downstream | 546 | 727 |  |  |  |  |  |  |
| Chemicals | 199 | 147 |  |  |  |  |  |  |
| Total operating income | 3,564 | 4,009 |  |  |  |  |  |  |
| Excess tax and other | 475 | 644 |  |  |  |  |  |  |
| Ebit | 3,089 | 3,365 | 3,649 | 3,533 | 13,637 | 3,432 | 3,379 | 13,993 |
| Interest | 42 | 43 | 43 | 43 | 171 | 43 | 43 | 172 |
| Ebt | 3,047 | 3,322 | 3,606 | 3,490 | 13,466 | 3,389 | 3,336 | 13,821 |
| Income Tax | 1,067 | 1,163 | 1,262 | 1,222 | 4,713 | 1,186 | 1,168 | 4,837 |
| Net Income (mmeuro) | 1,981 | 2,159 | 2,344 | 2,269 | 8,753 | 2,203 | 2,168 | 8,984 |
| Shares (millions) | 1,246 | 1,237 | 1,237 | 1,237 | 1,239 | 1,237 | 1,237 | 1,237 |
| Per share (euro) | 1.59 | 1.75 | 1.89 | 1.83 | 7.06 | 1.78 | 1.75 | 7.26 |
| Ebitda Margin (E\&P) | 79\% | 72\% | 69\% | 70\% | 72\% | 71\% | 71\% | 70\% |
| Tax Rate | 35\% | 35\% | 35\% | 35\% | 35\% | 35\% | 35\% | 35\% |

For discount rate we use a $7 \%$ real return per year on an unlevered basis. That means a buyer who pays present value would earn $7 \%$ per year above inflation if all the projections were to materialize as stated.

First year oil price is from the futures market. We hold it constant at an arbitrary level thereafter. The assumed price listed in the upper right hand corner is the commonly quoted benchmark

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August 26, 2004
Light, Sweet Crude. A price of $\$ 35$ a barrel leads to present value of future cash flow from a barrel of reserves equal to $\$ 10.50$ (see box in right hand column).

Total S.A.
Present Value of Oil and Gas Reserves
(U.S. dollars)

| Volume Decline (\%/yr): | 15 |
| :--- | :--- |
| Volume Enhancement (\%/yr): | 16 |
| Variable Cost (\%): | 20 |
| Capex/Cash Flow (\%): | 15 |


| Nymex Oil Price Post $2005(\$ / \mathrm{bbl})$ | 35 |
| :--- | ---: |
| Price/Nymex Post $2005(\%)$ : | 77 |
| Development Cost $(\$ / \mathrm{bbl}):$ | 3.00 |
| Real Discount Rate $(\% / \mathrm{yr})$ : | 7.0 |


|  | Volume |  |  |  |  | Fixed | Var. | Cash | Cap | Free |  | Present |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | Basic | Enhanced | Total | Price | Revenue | Cost | Cost | Flow | Ex | CF | Disc | Value |
| Year | $(\mathrm{bbl})$ | $(\mathrm{bbl})$ | $(\mathrm{bbl})$ | $(\$ / \mathrm{bbl})$ | $(\$)$ | $(\$)$ | $(\$)$ | $(\$)$ | $(\$)$ | $(\$)$ | Factor | $(\$)$ |


| Total 2005 through 2024; years ending on $6 / 30$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | 0.480 | 0.520 | 1.000 | 26.83 | 26.83 | 4.10 | 5.37 | 17.36 | 1.54 | 15.82 | 0.66 | 10.50 |
| 2005 | 0.077 | 0.000 | 0.077 | 27.52 | 2.11 | 0.20 | 0.42 | 1.48 | 0.22 | 1.26 | 0.97 | 1.22 |
| 2006 | 0.065 | 0.012 | 0.077 | 26.78 | 2.06 | 0.20 | 0.41 | 1.44 | 0.22 | 1.23 | 0.90 | 1.11 |
| 2007 | 0.055 | 0.023 | 0.077 | 26.78 | 2.07 | 0.20 | 0.41 | 1.45 | 0.22 | 1.23 | 0.84 | 1.04 |
| 2008 | 0.046 | 0.031 | 0.078 | 26.78 | 2.08 | 0.20 | 0.42 | 1.46 | 0.22 | 1.24 | 0.79 | 0.98 |
| 2009 | 0.039 | 0.039 | 0.078 | 26.78 | 2.09 | 0.20 | 0.42 | 1.47 | 0.22 | 1.25 | 0.74 | 0.92 |
| 2010 | 0.033 | 0.045 | 0.078 | 26.78 | 2.10 | 0.20 | 0.42 | 1.48 | 0.22 | 1.25 | 0.69 | 0.86 |
| 2011 | 0.028 | 0.051 | 0.079 | 26.78 | 2.11 | 0.20 | 0.42 | 1.48 | 0.22 | 1.26 | 0.64 | 0.81 |
| 2012 | 0.024 | 0.055 | 0.079 | 26.78 | 2.12 | 0.20 | 0.42 | 1.49 | 0.00 | 1.49 | 0.60 | 0.90 |
| 2013 | 0.020 | 0.047 | 0.067 | 26.78 | 1.79 | 0.20 | 0.36 | 1.23 | 0.00 | 1.23 | 0.56 | 0.69 |
| 2014 | 0.017 | 0.040 | 0.057 | 26.78 | 1.52 | 0.20 | 0.30 | 1.01 | 0.00 | 1.01 | 0.53 | 0.53 |
| 2015 | 0.014 | 0.034 | 0.048 | 26.78 | 1.28 | 0.20 | 0.26 | 0.82 | 0.00 | 0.82 | 0.49 | 0.40 |
| 2016 | 0.012 | 0.028 | 0.041 | 26.78 | 1.09 | 0.20 | 0.22 | 0.66 | 0.00 | 0.66 | 0.46 | 0.30 |
| 2017 | 0.010 | 0.024 | 0.034 | 26.78 | 0.92 | 0.20 | 0.18 | 0.53 | 0.00 | 0.53 | 0.43 | 0.23 |
| 2018 | 0.009 | 0.020 | 0.029 | 26.78 | 0.78 | 0.20 | 0.16 | 0.42 | 0.00 | 0.42 | 0.40 | 0.17 |
| 2019 | 0.007 | 0.017 | 0.025 | 26.78 | 0.66 | 0.20 | 0.13 | 0.32 | 0.00 | 0.32 | 0.37 | 0.12 |
| 2020 | 0.006 | 0.015 | 0.021 | 26.78 | 0.56 | 0.20 | 0.11 | 0.24 | 0.00 | 0.24 | 0.35 | 0.08 |
| 2021 | 0.005 | 0.012 | 0.018 | 26.78 | 0.47 | 0.20 | 0.09 | 0.17 | 0.00 | 0.17 | 0.33 | 0.06 |
| 2022 | 0.004 | 0.010 | 0.015 | 26.78 | 0.40 | 0.20 | 0.08 | 0.11 | 0.00 | 0.11 | 0.31 | 0.03 |
| 2023 | 0.004 | 0.009 | 0.013 | 26.78 | 0.34 | 0.20 | 0.07 | 0.06 | 0.00 | 0.06 | 0.29 | 0.02 |
| 2024 | 0.003 | 0.007 | 0.011 | 26.78 | 0.28 | 0.20 | 0.06 | 0.02 | 0.00 | 0.02 | 0.27 | 0.01 |

## Present Value per Barrel Leads to Present Value per Share

We illustrate the calculation of Net Present Value (NPV) in a sensitivity table where each column is headed by a different oil price (see table Net Present Value Calculation). Oil price corresponds to present value per barrel which then leads step by step to the final result. The price of $\$ 35$ a barrel corresponds to our standardized present value of $\$ 113$ a share. In reverse fashion, for a present value of $\$ 95$, near the current stock price, the corresponding constant real oil price would be $\$ 29$.

## Kurt H. Wulff, CFA

## Total S.A.

## Net Present Value Calculation

(U.S. dollars)

| Constant Oil Price (\$/bbl): | 29 | 35 | 40 | 50 |
| :--- | ---: | ---: | ---: | ---: |
| Present Value per Barrel (\$): | 8.50 | 10.50 | 12.10 | 15.30 |
| Oil and Gas Reserves (million barrels equivalent): | 11,034 | 11,034 | 11,034 | 11,034 |
| Present Value of Oil and Gas Reserves (\$mm): | 93,800 | 115,900 | 133,500 | 168,800 |
| Present Value of Other Businesses (\$mm): | 50,000 | 50,000 | 50,000 | 50,000 |
| $\quad$ Total Present Value (\$mm): | 143,800 | 165,900 | 183,500 | 218,800 |
| Debt (\$mm): | 26,200 | 26,200 | 26,200 | 26,200 |
| Present Value of Equity (\$mm): | 117,600 | 139,700 | 157,300 | 192,600 |
| Shares (mm): | 1,237 | 1,237 | 1,237 | 1,237 |
| Net Present Value (\$/sh): | 95 | 113 | 127 | 156 |

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