

The black gold rush

Mark Munro discusses the potential of a vast untapped resource - oil sands.

“The challenge facing the oil industry is to maintain reserves in order to sustain and increase production levels.”

From its low point of \$10 in 1998/1999, the price of a barrel of crude oil has risen sharply to recent highs of around \$70. During the same period global oil demand has risen from around 75m barrels per day to in excess of 85m, driven to a large extent by growth in demand from China, India and the US. To put these figures into perspective BP produces around 4.2m boepd (barrels of oil equivalent per day).

The challenge facing the oil industry is to maintain reserves in order to sustain and increase production levels. Unfortunately many of the “easy” targets are in decline such as onshore USA and the North Sea and the other “easy” substantial reserves are in places such as Russia and the Middle East, areas not renowned for their political stability. Witness for example the recent drop in Nigerian output due to guerrilla attacks or attempts by Iran to use oil as a weapon in their dispute with the US/EU over their nuclear programme. We recently saw a dramatic jump in spot natural gas prices over the New Year holidays as supplies from Russia were disrupted following a dispute with Ukraine. To state the obvious what is needed is a plentiful supply of oil in a secure and convenient location.

Alaska could be an answer but this could prove controversial on environmental grounds. Closer to home (from a US perspective) is a vast untapped resource in the form of the Alberta Oil Sands, Canada, estimated to be one of the largest oil resources on the planet. In 2003 the US Department of Energy recognised these reserves as proven with an official estimate of 150 billion barrels (compared to Saudi Arabia with 250 bn barrels and Iraq with 100 bn). Unofficially however this resource is estimated to contain in excess of 1.5 trillion barrels, the amount recoverable will of course be substantially less and determined by both economics and technological advances.

What are oil sands? Basically a mixture of sand, water and bitumen, the latter making up between 6% and 10%. Therein lies the problem, separating the bitumen for further refining into something useful. This in itself is a hugely energy intensive process. There are two extraction processes, open-pit mining and in situ. The former utilises giant diggers and trucks to scoop the raw material up from the ground after which it is crushed and chemically treated to produce a slurry where the bitumen eventually floats to the surface and is then available for refining. Approximately two



tons of raw material has to be processed to produce one barrel of bitumen. The in situ method is used where the reserves are too deep to be open-pit mined, steam is pumped into the resource creating pressure and heating the bitumen, thereby bringing it to the surface. In addition the refining costs of bitumen are much higher than traditional crude oil. Production costs using the above methods are in the region of \$20 per barrel of oil compared with low single digits for Middle Eastern oil.

As such oil companies have until recently paid little attention to this resource; who was going to approve a \$5bn refinery project when oil prices were not expected to exceed \$30 per barrel for any sustained period of time? The economics simply didn't add up. However with crude oil now trading around \$70 per barrel and oil supply/demand looking tight going forward, Alberta is booming. Last year French oil company Total paid over \$1bn for Deer Creek, a loss-making oil company with virtually no production but an 84% interest in the potential 2bn barrel Joslyn Creek Project.

Depending on the movement in oil prices and hence the economics of building refining capacity, it has been estimated that the Alberta Oil Sands could see production increasing from current levels of around 1m boepd to over 3m boepd during the next ten years.

Investors who are bullish on the price of oil long-term and have a high risk/reward profile should take a look at this area.