

# Alternative Energy: Solid gold

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*Oil is often called liquid gold. Oil in rock, shale oil, is pretty solid. Whether or not it is solid gold depends how easily and economically it can be extracted.*

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## Oil supply

The Deepwater Horizon accident in the Gulf of Mexico has highlighted the difficulty now faced in extracting oil from the new larger finds. ExxonMobil must be secretly pleased. The company has often been criticised for not exploring enough in deep water. CNBC stock pundit, Jim Cramer, was a fervent supporter of Chevron above ExxonMobil. Given Chevron's exposure to deep water reserves, it does not look so attractive now.

## Peak oil

Whether or not you subscribe to the world being at peak oil, the point at which annual consumption surpasses annual finds, the facts bear out that the finds are harder and more expensive to develop. It would be an outspoken individual to claim that the days of classic liquid oil are not numbered.

## Alternatives

Alternative energy is struggling to fill the gap. BRAVE Partners is highly supportive of renewable energy. It is one of the firm's business focuses. However, as an investment bank, BRAVE Partners does analyse the economics and viability of alternative energy. In a nutshell, the firm has not seen any biofuel outside of Brazil that makes any sense. Other initiatives, such as offshore wind have an economic rationale to a point, but that point is well below the 20% renewable energy targeted by the UK Government. BRAVE Partners is very much aligned with Jeremy Nicholson of the Energy Intensive Users Group on these issues. Today alternatives do not seem like an alternative – but the classic fuel is running out.

## Oil shale

Whilst liquid oil is running out, there are about 3,000,000,000,000 barrels of oil trapped in rock – shale oil, according to a 2005 report from the U.S Geological Survey. The only problem is extracting this oil.

### Oil from shale

The Romans know how to extract oil from shale. The process is pretty straightforward – heat it up! The problem is what is the EROEI, or Energy Return on Energy Input. EROEI is perhaps the most effective measure of efficiency in an extraction process. Looking at break even oil price contaminates the numbers with inflation and other factors.

Oil in shale is in abundance. There is already a certain amount of speculative buying of rights to shale assets. A competitive technology for extracting oil from shale will cause the value of these assets to pop.

The EROEI on many processes for extracting oil from shale can be pretty low. These are blunt, brute force approaches which seem to involve “cooking” huge areas of shale in situ and then trying to tap the oil out.

### Continuous process

As in many endeavors a little subtlety can go a long way. Blue Ensign Technologies in Australia has developed an enclosed process for extracting oil from shale that works on a continuous flow basis. The enclosed process has many advantages, allowing the use of temperature and pressure to speed up the extraction of the oil and to reduce energy needs. Moreover, it prevents the toxic vapours from escaping and so it is considerably more environmentally sustainable. There is still some way to go to develop and test this technology, but there is a lot at stake, especially for the speculative owners of shale assets.

### BRAVE Partners’ services

BRAVE Partners will assess any reasonable business plan. The firm will take a skeptical view, but seeks to be persuaded of the viability and benefits of the business. BRAVE Partners will work tirelessly and persistently with any management team that it believes in to establish a viable, vibrant business.

### Interaction

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- Efficient extraction of oil from shale is a market moving technology.
- Known shale oil resources amount to around 3,000,000,000,000 barrels, but without an efficient means of extraction, this cannot be tapped.
- BRAVE Partners is working with a company that has developed what appears to be a superior technology for extracting oil from shale.
- BRAVE Partners seeks to work with management teams that can demonstrate the validity of the ideas and business plan.

[enquiries@bravepartners.com](mailto:enquiries@bravepartners.com)

[www.bravepartners.com](http://www.bravepartners.com)