

WHITE PAPER NO. 37

INVESTING IN OIL & GAS

GREYCOURT

White Paper No. 37 – *Investing in Oil & Gas*

Introduction

Virtually every investor already has a position in oil and gas, and usually a complex one, because almost every portfolio will hold stocks with an obvious connection to the oil and gas business:

- ◆ The “major” integrated oil companies that produce, transport, refine and distribute petroleum
- ◆ “Independent” producers
- ◆ Pipeline companies
- ◆ Oilfield service companies
- ◆ Manufacturers of the capital goods used in production, transportation, distribution and refining

Just as important, most portfolios include a large number of companies that consume energy¹ and would be hurt by a sharp rise in oil prices. (Even the major integrated oil companies buy crude.) Thus, a focused investment in energy, as opposed to a the generalized exposure most investors already hold, could serve as a source of increased return to the portfolio, as a hedge against the impact on the portfolio of rising oil prices, or both.

We will discuss a number of practical ways to invest in energy, but at every stage it is important to consider whether a particular strategy is likely to produce a return that is partly independent of oil prices, to provide a hedge against rising prices, or both. For example, an independent exploration and production company is certainly affected by changes in the oil price, but it creates value primarily by finding and lifting petroleum. At the other extreme, a futures contract on oil will have little intrinsic return, and its performance will be dominated by changes in the oil price.

¹ For convenience, this paper will use the terms “oil and gas” and “energy” interchangeably. Coal and alternatives such as wind, hydro, geothermal and solar present interesting investment issues in their own right, and in the long run oil and gas prices influence their development. Nevertheless, they involve very different investment considerations and are beyond the scope of this paper.

What this White Paper *Won't* Do...

...is predict oil prices. Instead, it will examine a range of investments strategies which combine these themes of enhanced return and hedge and examine how they function in the face of high commodity prices. All strategies use vehicles that are available in the marketplace. They are arranged very roughly in order of risk. First, however, let us examine some basic mechanisms by which oil and gas companies create value.

Value Creation Mechanisms

When investing in a high energy price environment, it is imperative to identify valuation mechanisms beyond wishing for still-higher energy prices.

Across the entire energy industry, there are common mechanisms by which companies create value, and the investment strategies described below employ these mechanisms in various combinations. The following is a brief description of those mechanisms and some of their advantages and risks. Understanding how value is created in the oil patch makes it much easier to understand the investment strategies.

- ◆ **Buying reserves “smart.”** Every company on the planet that buys petroleum reserves claims to buy cheaper than anyone else. They all have “proprietary deal flow,” all “get the first phone call” from sellers and none ever, ever buys production at auction. Cynicism aside, some firms have repeatedly demonstrated an ability to buy “smart.” This is a value-add in a normal environment and critical in a high-price environment. There are also promoters who want to get big in a hurry and are more likely to buy “dumb.”
- ◆ **Effecting production improvements.** Every reserve purchaser/aggregator claims that it will cut operating costs, increase the rate of production and perhaps enhance the ultimately recoverable reserves. Again, some firms have repeatedly accomplished this. Other promoters of these deals make improbable claims for improvements. For this strategy to succeed, three things must be true:
 - The seller actually has under-managed or mismanaged its property;
 - The buyer actually has skills greater than the seller; and
 - None of the other bidders have factored the same opportunities into their bids.
- ◆ **Creating an aggregation premium.** An operator may gain some mark-up in the value of assets simply by aggregating small properties into a package that would be more attractive – more economically efficient – to a group of larger companies.

- ◆ ***Engaging in development drilling.*** Many companies in this category plan some infill or step-out drilling. This can be a conservative value-add, but sellers and competing bidders usually take into account the potential for such drilling. “Infill drilling” means drilling new wells between existing producing wells. “Step-out drilling” means drilling new wells outside of, but very close to, a cluster of existing producing wells.
- ◆ ***Exploration.*** This is the romance of the oil and gas business, and the ultimate in value creation: discovering previously unknown reserves and putting them into production. Exploration is an inherently risky activity, and it can be very hard for an investor to evaluate exploration skill. Organizations with a good track record in one locale may not prove as skilled when working in an unfamiliar province, with different geological formations or with new exploration technologies. Exploration can be a buffer against the investment risks of a high-commodity-price environment, just as value-added and opportunistic strategies provide an advantage in real estate when core properties are overvalued. Nevertheless, high prices do affect exploration. Drilling leases, drilling rigs and experienced hands are more expensive. On the other hand, what you find will sell for more. Most investors have little access to true exploration deals, and that is probably a good thing.

Hedging to Protect Value

Buying or creating petroleum reserves in a high price environment has obvious risks, and many operators are unwilling to commit to projects that depend on a \$75 oil price. Indeed, many operators claim that when they evaluate deals, they use a much lower long-term price, as low as \$40/barrel. It is hard to tell how many adhere to the price discipline that they claim, but there is a “producer price curve” that is different from, and lower than, the forward market prices for oil and gas. (This curve is not published, but with some work can be derived from industry deal prices.)

Operators will sometimes buy petroleum reserves and hedge the price of some future production, for example, enough to assure at least a return of capital. This is more common in the current high-price environment. We recently spoke to one firm that had not yet closed on its fund, but had calculated to a tenth of a percent the amount of future production it would hedge. This is a perfectly logical and prudent approach, but it has important implications for investors, who will realize less benefit from future commodity price increases. We have also spoken to firms that planned to hedge over 70% of future production. Another major buyer of production has for many years hedged about 80% of its price risk. Investors should also remember that the hedging does not guarantee a return of capital. A sharp price drop combined with production problems might overwhelm any reasonable hedge. Nevertheless, this hedging is reasonable in the current environment. Investors need to be aware that (i) they are buying in at historically high prices, and (ii)

they have hedged away a substantial amount of any future price appreciation. There is no free lunch, and bologna is pretty expensive right now.

Investing Strategies

The strategies described below are the basic building blocks of the currently available investment strategies.

Drilling programs

Many investors have been offered participations in drilling programs. These are usually partnerships organized by a drilling organization in order to raise capital to drill in a limited geographical area. This activity once was tax driven, but that is less so now. The terms are often “retail,” i.e., unfavorable to investors, and the limited geographical focus concentrates risk.

Returns depend on the exploration and operating skills of the operator, and few investors have the ability to evaluate these skills. Investment decisions are often based on casual character judgments and recommendations from friends. The risks are mitigated somewhat by the fact that many of these programs are very conservative from a geological point of view, commonly drilling in-fills or cautious step-outs from existing producing fields.

If the drilling is successful, the operator usually has practical if not total legal control over the decision to sell or hold the production. There is often a major mis-alignment of interests here, since many operators make more money managing operations than they do from their equity interest in the producing reserves. For investors it is the reverse.

Value Creation: Exploration.

Energy Price Impact: Higher prices for production, but higher costs to drill.

Exploration and production buildups

Private equity is raised not just to buy petroleum reserves but also to build a company in the process. Value is created through the reserve aggregation process described below, but also through creation of a business enterprise capable of repeating that process. There is usually a sponsoring organization assisting in the process. Some of these have gone on to become publicly traded companies.

Value Creation: Buying smart, production improvements, development drilling, aggregation premium, current yield and creation of an ongoing business enterprise.

Energy Price Impact: Higher prices for reserve purchases, higher drilling costs.

Production aggregators

These firms buy, aggregate and operate oil and gas production on behalf of clients, most often large institutions. They come to market periodically to raise capital through discrete funds. They do development drilling, but they are intended to be low risk. They act as a portfolio hedge by creating a long-term ownership position in the commodity. They also provide current return from operations. They are usually well diversified.

Value Creation: Buying smart, production improvements, aggregation premium, current yield and development drilling.

Energy Price Impact: Higher prices for reserve purchases.

Royalty pools

Royalties are the right to receive a share of the selling price of oil and gas, usually at the wellhead. The royalty owner does not contribute to the costs of drilling and has almost no control over operations, including the decision to drill wells.

Royalty pools purchase royalty rights from mineral owners. This is done through funds offered to investors. The pool will attempt to diversify its investments across multiple regions and geological ideas. Success will depend on the pool operator's judgment about the quality and longevity of production from developed properties, the prospects for future drilling on undeveloped properties and the skills of the operators of the properties.

In the U.S., royalties are typically granted by the mineral owner under the terms of an oil and gas lease and represent a partial ownership interest in the minerals. International royalty pools can differ, as royalties are often created and sold by the producer, who leases rather than owns the minerals. This subjects the royalty rights to the credit risk of the producer. This is usually not the case in the U.S.

Royalty payments are usually expressed as a percentage of the wellhead selling price, and thus have the risk and benefit of price swings. Royalty on minerals which have not yet been drilled present a kind of exploration play. Again, the royalty owner pays no drilling costs, but likewise has no way of insuring that a well will be drilled.

Because this is passive investment, it is sometimes viewed as a commodity price play. It does have a current yield, however, and additional drilling can drive returns. In addition, success depends on the exploration and operating skill of the operators who hold leases on the properties.

Value Creation: Buying smart, aggregation premium, current yield, rising commodity prices and the indirect effect of someone else's exploration activity.

Energy Price Impact: Higher prices for royalty purchases.

Private equity funds: production aggregation "plus"

There are a number of funds that invest in or alongside of operators who employ one or more of the four basic value-creation mechanisms. Across a fund's portfolio all of the mechanisms would be employed to some degree, with the least emphasis on exploration. The fund managers often bring a lot of experience and sophistication to these investments, significantly supplementing the operators' own skills. They can assist with everything from financing to exit strategies.

These funds are not limited to oil and gas production. Their portfolios may include pipelines and intermediate processors or even investments in oilfield service companies. Some will make investments in private or small publicly-traded oil and gas companies. These funds are inherently less risky than drilling programs or single-company E&P buildups because they are exposed to multiple regions, operating teams, geological ideas and business models.

Value Creation: Buying smart, production improvements, development drilling, creation of an ongoing successful enterprise.

Energy Price Impact: Higher prices for deals, reserve purchases, higher drilling costs as well as increased competition for the most desirable operating teams.

Private equity funds of funds

It is possible to invest in a fund of funds that will aggregate some of the best private equity funds working in energy and natural resources. These operate much like other private equity FOFs. Typically they would invest in many of the firms identified above. Most of these FOFs include non-energy resources, particularly timber. A 30% exposure to timber would not be unusual.

Value Creation: All of the mechanisms described. The FOF itself adds value through manager selection and access to elite funds.

Energy Price Impact: Same as the effect on underlying investments.

Commodity funds

Some investors seek a pure exposure to oil and gas commodity prices, less for any inherent return (there is little) than for inflation protection and for the effect that commodities have on a portfolio that is rebalanced periodically. It would be possible to buy the physical commodity, but that is expensive and inefficient. Asset managers have organized funds which use derivatives to gain inexpensive commodity price exposure. It is important to understand the energy exposure, tactics and tax treatment of each commodity fund. One popular fund is organized to track the Dow Jones AIG Commodity Index and has had an energy exposure of 33% - 39%. Another tracks the Goldman Sachs Commodity Index and has a much higher energy exposure, 67% - 75%. (The relative share of energy in each fund has risen with the recent run-up in prices.) One major fund has collateralized its derivative positions with Treasury Inflation Protected Securities, which provided additional inflation protection but could also create phantom income. That fund is currently revising its strategies in response to a recent regulatory ruling, which may eliminate its use of TIPS. The point is, details are important.

Value Creation: Commodity price inflation (or deflation), portfolio effect, some premium based on forward commodity price curve .

Energy Price Impact: New investors buy in at current high prices.

Commodity trading: energy hedge funds and funds of funds

These are skill-based activities in which traders attempt to profit from trading in commodities and related derivatives. The managers usually operate as hedge funds or in similar formats. If successful, these strategies can make money – or lose it – whether petroleum prices are rising or falling. Strategies could include trend following, relative value or arbitrage. Strategies may not be limited to oil and gas, and could include electric power, weather derivatives and non-energy commodities.

A key issue here is that the returns on many of these funds, particularly those employing arbitrage and relative-value strategies, are entirely uncorrelated to energy prices. This raises the question of whether these represent “energy” investments. Energy is involved, but the source of the returns is entirely unrelated to any of the valuation creation mechanisms we have discussed so far. Energy supplies the context in which the returns are generated, but it could just as easily be kumquats or shea butter.

Value Creation: Trading skill.

Energy Price Impact: Minimal.

Sector funds: long only or long/short

There is a plethora of energy sector mutual funds and managers who provide separately managed accounts. There are also long/short hedge funds focused on stocks in the energy sector. Portfolios will include major integrated companies, independent exploration companies, oilfield service companies and other energy and non-energy resource companies. There are also index funds for the energy sector.

Value Creation: Stock selection and, at the portfolio company level, all of the value creation mechanisms described above. Hedge funds add leverage.

Energy Price Impact: Higher commodity prices drive up company valuations. Long/short managers can use shorts on companies or commodities to take advantage of this.

Energy master limited partnerships

MLPs, publicly-traded limited partnerships, consist primarily of energy infrastructure companies, such as pipelines and intermediate processors of oil and gas. (A few hold timber or other assets.) MLPs were originally created as a way for integrated companies to spin-out and “monetize” assets that provided steady cash flow but which were unappreciated and undervalued by securities analysts. The partnership structure allowed this to be done tax efficiently. (Qualified MLPs do not pay tax at the partnership level.)

MLPs were originally viewed as repositories for depreciating assets, but have proven to be normal industrial companies. Their managements have also proven to be surprisingly entrepreneurial, growing their businesses through acquisitions and even new construction.

Oddly, MLP prices have displayed zero correlation to oil and gas prices and instead behave like yield instruments correlated with interest rates. In this and in their tax structure, they resemble real estate investment trusts. They are like some of the trading or absolute-return-oriented hedge funds in that they are clearly involved in the energy business but provide returns independent of energy prices. For this reason they can provide some portfolio protection against sharp increases in energy prices.

Value Creation: Stock selection and normal industrial activity. Portfolio benefit of low/no correlation to energy prices.

Energy Price Impact: Higher commodity prices will not directly affect prices, but an expanding energy industry provides MLPs with opportunities for growth.

Conclusions and Recommendations

An investor's choice of an energy investment strategy depends first on the role the investment will play in that investor's portfolio. For example, if the investor has a strong conviction that already high oil prices are headed higher yet, then a commodity fund heavy in oil and gas futures would be a good choice. Another investor might choose the same strategy for a more conservative reason, *e.g.*, to offset the impact that increasing oil prices would have on a concentrated ownership in a particular privately owned or publicly traded company.

Core strategies

Most investors will be looking for a way to participate in the oil and gas business with a reasonable balance between participation in rising prices and some downside protection. The private equity funds of funds serve best in this role. While they will benefit from continued price increases, they also have available the widest array of techniques to create value independent of prices. The price hedging many funds employ provide reasonably good downside protection but leave some price upside for the investor.

Satellite strategies

A larger investor can supplement this core exposure with direct investments in some seasoned individual funds engaged in value-added production aggregation or royalty pooling.

Hedging strategies

An investor seeking to minimize the negative portfolio impact of rising energy prices can do so using the commodity funds, private equity investments in unhedged (or minimally hedged) production aggregators, or through derivatives.

Absolute return strategies

Strategies such as energy hedge funds and MLPs can play a useful role in a portfolio independent of oil and gas prices. The energy hedge funds, for example, may represent a fresh source of returns in the somewhat overdone hedge arena. The point is to understand the investment need, then meet it with an appropriate strategy.

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