



**Private Wealth Focus:
Energy Investing for Family Offices
Fall/Winter 2006**

“Let me give you a number that is pretty shocking when you hear it. The world uses 30 billion barrels of oil a year. There is no way we're replacing 30 billion barrels of oil. Just a million barrels a day is 1,000 wells producing 1,000 barrels. That's big.”

– T. Boone Pickens

Over the last few years, it seems a day doesn't go by without reading or hearing about an energy-related topic. High gasoline prices, energy supply disruptions, and the political aspects of the energy business dominate the news. Demand for oil and gas (hereinafter “energy”) in places like China and India are causing market imbalances and no decrease in demand is in sight. On the contrary, global energy use is poised to go even higher in the future. Even though valuations of energy assets have risen steadily over the past several years, many institutional investors are still taking new and significant positions in energy funds. Family offices and substantial individual investors can also gain access to these institutional-quality energy funds, and should consider investing in this important asset class if they have not already done so.

In this article, we will examine institutional energy investing strategies. The article begins with a brief introduction and an overview of the principal strategies. Next, we delve into more detail on the strategies and explain the vehicles for making direct energy investments. Finally, we discuss some of the tax benefits of energy investing.

Introduction

There are two primary reasons for family offices to consider energy investments, apart from tax benefits. The first is for enhanced return potential versus traditional investments, especially in view of our modest return expectations for publicly traded equity and fixed income investments over the next ten years. The second is for inflation protection. Generally, “real assets” or, as we like to call them, *Inflation Protection Assets*, such as natural resources and real estate, are included for their inflation hedging properties and might represent a 10% to 20% portfolio allocation.

There are three segments of the energy industry: the *up-stream*, the *mid-stream* and the *down-stream*. Companies involved in up-stream activities are exploring and extracting energy products from the ground and under the ocean. Mid-stream companies provide the tankers and pipelines that carry crude oil to refineries. The down-stream includes market participants involved in refining, marketing, and distributing energy products - including local gas stations who serve the end-user. An “integrated” oil company is involved in two or more of these activities. Most investment funds we recommend are focused on up-stream and mid-stream activities. These funds invest in domestic oil and gas wells, with an emphasis on owning what are called *proved reserves*. As the name implies, there is evidence that oil or gas is present and/or is being pumped from the ground. Some funds also do exploration activities. Others invest in mid-stream assets such as pipelines and energy-related technologies. While mid-stream companies benefit from increased demand for energy, we consider up-stream activities more attractive.

The overriding risk when investing in energy is a change in the underlying price of the commodity compared to the price assumed when the investment is made. Given the recent run-up in energy prices, some investors are concerned that energy prices are peaking, while others believe that prices may continue to climb. Anecdotally, I recently attended a family office conference in which two very well regarded CEO's of major U.S. money management firms presented very cogent, yet diametrically opposed, arguments on the future direction of oil prices. Another risk factor is production costs. Just two and a half

years ago, the cost to purchase reserves and pump oil from the ground was approximately \$17/barrel (\$9 in the ground and \$8 to pump it out.) In early 2005, the price was \$23/barrel. Today it's \$30-\$35. Still, we believe energy deserves a place in today's portfolios even if oil prices revert to the long-term industry expectation of \$45. Most energy investments we recommend to our clients hedge price exposure for some period of time, which offers protection, but can limit upside and the inflation sensitivity.

The spectrum of risk and return available in the energy markets is similar to real estate strategies. We will borrow some terms from real estate investing to give readers a sense of the risk/return opportunities available in energy. In real estate, "core" funds derive most of their return from income, but also benefit during inflationary periods or when real estate pricing is strong. In the energy world, comparable funds are known as **royalty funds**. These funds typically have low initial yields but are a steady, mostly passive way to participate in this market. Royalty funds' target returns are typically 8%-10% in a stable price environment but can increase in rising price environments.

The "core plus" real estate fund's energy equivalent is a **resource fund** whose primary strategy is to buy reserves and create value mainly by cutting costs and improving operations. Returns expectations are 12%-15%, net of fees. The "value added" energy strategy is a resource fund or a **private equity fund** that invests in proved reserves and will also pursue low-risk drilling and re-engineering activities to increase reserves. The target return on these funds is 15% net of fees. The last category is "opportunistic." Here, the primary activity is drilling wells. This is a higher risk, higher reward scenario. Many of these investments are made by private equity funds. Expected returns in these funds are above 15%, but with a higher degree of volatility than other funds. The following table summarizes these concepts:

Table 1: Energy Investment Strategies

Investment Strategy	Fund Structure	Risk/Return Level	Primary Risk	Return Target
Invest in wells and collect a % of revenue, No cost exposure	Royalty Funds	Low/Medium	Price declines or fund is too speculative	8%-10%
Buy proved reserves and cut costs Some new investment	Resource Funds	Medium	Price declines or Costs run too high	12%-15%
Buy proved reserves and cut costs Significant new investments	Resource Funds/ Private Equity Funds	Medium/High	Poor execution of business plan	15%
Pure exploration	Private Equity Funds	High	Dry holes and Price declines	15% plus

Investment Strategies

There are a limited number of institutional-quality investment managers available in the energy sector. Thus, there is usually high demand for good managers and gaining access can be difficult. Having a due diligence team that understands the energy business is crucial to investment success in this asset class. In this section we describe, in more detail, the investment strategies of royalty funds, resource funds, and private equity funds.

Royalty Funds

Property owners who retain the mineral rights to their land are entitled to receive a royalty, which is defined as a share of the commodity price that flows from a well. Royalty interests are bought, sold, and held by the fund's sponsors. In a royalty fund, the objective is to generate revenue from royalties from a diversified portfolio of producing reserves throughout a number of geographic territories. The royalty owner pays no operating or developmental costs associated with the actual production of the oil or gas. How well a royalty fund performs is driven by the skill of the managers making the investment decisions.

There is considerable exposure to price changes in the marketplace for the underlying commodity. If the price of energy exceeds the purchase assumptions, royalty funds will perform well. If the price of energy drops, the investment will under-perform. Because these funds are yield-driven, the level of interest rates can affect valuations. Royalty funds typically don't hedge, but they are not subject to increases in production costs. Royalty funds offer a lower-risk energy play with a relatively modest return profile. A benefit of these funds is their longevity; these programs typically last 15-30 years. The target return for these investments is approximately 8-10% in a stable price environment, but may be higher in periods of rising prices. There are ten institutional-quality royalty funds we might recommend to our clients.

Resource Funds

Resource funds acquire already-producing energy reserves from major oil companies and/or large independent producers. Institutional-quality resource funds focus on acquisitions of significant size, at least \$100-\$200 million in market value. These acquisitions are usually located in "out of favor" reserve areas. A resource fund's primary investment strategy is the acquisition of assets at higher discount rates than those located in "in-favor" basins. "In-favor" assets are more expensive because they are perceived as having higher drilling potential. Value is created in resource funds in three key ways: increasing top line revenue by increasing production, improving margins through operating efficiencies, and buying reserves at the "right" price.

The risk/return profile of a resource fund is based on the type of drilling program it undertakes. There are two principal programs designed to increase production: *exploration* programs and *developmental* drilling programs. Exploration drilling is the search for oil or gas more than a mile away from any existing or proven oil or gas wells. Developmental drilling is done to extend a proven field or existing production. There are two primary activities in developmental drilling: "step-out" and "in-fill." A step-out project involves drilling outside of, but near to, existing producing wells. An in-fill project involves drilling between producing wells. Developmental drilling offers the highest profit potential of any oil and gas area, and has significantly lower risk. Resource funds will typically hedge 75% of production over the initial 2-5 years following an acquisition to protect the base rate of return of approximately 7-10%. Production revenue will likely be exposed to market pricing thereafter, but could be re-hedged if market conditions warrant.

Exit strategies for resource funds depend upon market conditions. In the current environment, a resource funds most likely strategy is to acquire and enhance properties, and then harvest the income from production until the end of the term. Any remaining reserves would be sold into the market. Another option is to monetize development activity of the fund by selling a portfolio of reserves after the conclusion of the investment period. If the reserve development program is particularly successful, this may maximize value for investors. The course selected will depend on market pricing for the types of reserves a fund owns. In addition, new avenues to exit via the securitization market may increase the available options. Target returns for resource funds are 12%-15%. The life of a resource fund is 10-15 years, however the holding period is shorter, 7-10 years, because these funds are income-oriented and income returns are front-loaded.

Table 2: Oil and Gas Investment Vehicles

Fund Type	Risk Level	Holding Period	Debt Level	Number of Funds	Exit Strategy	Tax Benefits
Royalty Fund	Low to Medium	15-30 years	None	10	None	Depletion
Resource Fund	Medium	7-10 years	Medium to High	4	Get Acquired, Sell or Go Public	Depletion and/or Expense Drilling Costs
Private Equity Fund	Medium to High	2-4 years	Varies	9	Underlying Companies are Sold	Mainly Expensing of Drilling Costs

Private Equity Funds

U.S.-based energy private equity funds focus on equity investments in ten to fifteen operating companies involved in the exploration and production of crude oil and natural gas in North America. More than 50% of capital invested by private equity funds is invested in *upstream*, production-oriented companies. Most private equity funds engage in a “buy-and-build” strategy utilizing an “acquisition and exploitation” business model. A buy-and-build strategy entails the accumulation of assets – in this case, producing oil and gas properties — through numerous relatively small transactions, creating a larger entity capable of attracting interest from either a strategic acquirer or the public markets to create an exit for investors. The acquisition and exploitation strategy is where significant value is created for investors. After reserves are acquired, a considerable portion of which are already in production, management seeks to operate with lower costs than the prior owner and increase production. In general, smaller, younger firms with lower legacy costs are able to operate properties more cost effectively than established integrated energy firms. Through reinvesting in the property, management seeks to increase reserves and improve production levels. Such activity involves engineering-intensive processes, including secondary recovery efforts and in-fill development drilling.

The returns private equity firms seek to create are not dependent on increasing commodity prices, but rather on the combination of a leaner cost structure and increased production and reserves. Both financial leverage and hedging strategies are used in an acquisition and exploitation strategy. To limit risk, private equity portfolio companies usually employ programs to hedge 50% - 80% of projected proved production over a two- to three-year horizon. Liquidity occurs when portfolio companies are sold. The life of a private equity fund is typically 10 years, but underlying deals will turn-over in 2-4 years. Return expectations are greater than 15%.

Tax Benefits

For the benefit of potential energy investors, Congress provides tax incentives to stimulate domestic natural gas and oil production financed by private sources. All revenues from oil exploration and development projects are subject to a depletion allowance from the U.S. government. The primary investment activity in an oil or gas property is known as a working interest. A working interest is held directly or through an entity that does not limit the liability of the taxpayer, but is not considered a passive activity by the IRS, regardless of whether or not the taxpayer materially participates in the activity. Thus, an owner of a working interest in an oil or gas property is permitted to deduct losses attributable to the working interest against other income without limitation under passive loss rules. Working interest holders will pay taxes on only 75%-85% of total oil and gas income.

With royalty or income-oriented funds, income is taxable but unit holders receive a pass-through of proportionate shares of depreciation or tax credits to which the underlying property owner is entitled. Some resource funds actively drill and can write off the associated expenses. Private equity funds are oriented more toward drilling, and when underlying companies are sold, gains are long-term. Thus, private equity is the energy investment vehicle offering the most tax benefits. As always, you should consult your tax advisor to better understand the tax ramifications of energy investing.

Michael M. Pompian, CFA

Director, Private Wealth Practice

(314) 746-1632

mpompian@hammondassociates.com

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