

## Natural Gas, Natural Advantage

*Natural gas is the cleanest of all fossil fuels (vs. coal and oil) and is the fuel of choice for residential heating, cooking and base loaded electricity generation. With ample supplies and stable prices, investment capital is being spent on developing new uses for natural gas that should result in increased demand.*

*“Rising supplies for natural gas, along with low and stable pricing, should lead to increased demand and should be beneficial for the stock prices for this set of companies.”*

### What is the genesis of the Hennessy Gas Utility Index Fund?

The Hennessy Gas Utility Index Fund was formed in 1989 in conjunction with the American Gas Association (AGA) to provide a mechanism for investors to invest in the distribution companies within the natural gas industry.

Rushmore Trust and Savings FSB was the first advisor and they were acquired by FBR Funds in 2001. I was an employee of FBR and that is when I took over the management of the fund. In 2012, FBR sold the asset management business to Hennessy Advisors, Inc. in Novato, California, and I have continued to manage this fund.

The Hennessy Gas Utility Index Fund owns all member companies of the American Gas Association that are publicly-traded on an American exchange. The index uses a modified market capitalization approach. The modification tends to underweight diversified companies while overweight the purer natural gas focused members. In 1989, the AGA Stock Index had roughly 125 companies and that has declined to 62 companies today, mainly due to merger and acquisition activity in the industry.

Out of these 62 companies, only six have some form of exposure through a subsidiary to the exploration and production part of the industry. Thirty-eight (38) companies generate and distribute electricity while 54 distribute natural gas to residential customers. The remainder includes pipeline, storage and liquefied natural gas (LNG) businesses.

### What part of the natural gas industry do you invest in?

There are really two pieces, or subsectors, to the natural gas business and each has a little different dynamics to it. One piece is exploration and production, namely drilling. The second piece is the distribution side of the business that deals with the process of transporting, storing and ultimately delivering natural gas to the end user in a refined form, be it to the home, a power or industrial plant or a port to export. Included in the distribution side of the industry are pipelines, storage facilities, LNG (liquefied natural gas) exporting companies and of course the company that connects the residential property to natural gas for home heating and cooking.

In summary, the fund and AGA concentrate on the distribution side of the natural gas business.

### How have new techniques helped natural gas supply in the United States?

In the early 2000s, 85% of natural gas needs in the United States were met locally and 15% of the demand was met with imports. The feeling at that time was that supplies were dwindling, and we as a



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Skip joined Hennessy after having been a Portfolio Manager of the FBR Funds since 1998. Skip's prior experience includes serving as President and Founder of Grandview Advisers, a Registered Investment Adviser that managed the Grandview Funds, and also as Executive Vice President for Bank of Boston, where he spent over 13 years as a real estate specialist.

Skip received a BS and MS degree in Meteorology from Florida State University and his MBA from DePaul University.

country would need to import more gas in the future. Prices at the time ranged from \$10 to \$12 per million BTUs. Today, more than a decade later, the U.S. has well over one hundred years of supply of natural gas, which is wholly within our political control, and is at a much lower cost (\$4-\$6 range). This change has come about through new techniques in drilling.

The new discoveries have been near old shale formations around the country, predominantly in Appalachia, Western Pennsylvania, Texas and in the Rocky Mountain region - Dakotas, Wyoming, and Colorado. However, getting the supplies from the well to the actual users involves dealing with pipelines of some nature, and, of course, not all the pipelines were in the right spots. This has led to a lot of capital spending to develop new pipelines to try to move the gas from the wellhead to where it is used.

Among the largest users of natural gas are base loaded electricity generating stations. Many of these have historically used coal. With new environmental restrictions and with the aging of these power plants, the large supply of natural gas and its stable pricing offers a significant opportunity for increased gas demand in replacing the coal-fired aging power plants.

### **Why do you think investors would invest in a gas utility fund?**

There are two investment theses for the sector and for the fund.

One is the perceived "safe haven" provided by investing in utilities. Historically, utilities have provided preservation of capital and steady income. Investments in this sector have been less volatile than the broader stock market. As such, an investment in utilities had a stabilizing influence in a portfolio and provided income tied to a regulated industry.

The second reason that investors look for an exposure in this utility index fund are the dynamics of the natural gas distribution industry. The use of the natural gas is expected to rise given the stable and historically low price, coupled with plentiful supply.

Rising consumption, stable price and ample supply should lead to rising revenues of the natural gas distributors, and that should also increase profits and drive stock prices of distributors higher.

This is a utility fund that provides income, has paid a quarterly dividend and has been less volatile than the general market. Therefore, the fund can offer diversification to an investor's portfolio, with its primary holdings of regulated utility companies. We are concentrated on the distribution side of the natural gas business, which for the last five years has been an area with tremendous visibility, good growth and growth prospects.

### **Who are the primary users of natural gas? What propels growth?**

The two largest users of natural gas today are homeowners, for cooking and home heating, and base loaded power plants. Depending on what part of the country you're in, there is a lot of growth potential in the conversion from fuel oil to natural gas for a heating source. Based on current pricing, natural gas runs only about 25% to 30% of the cost of fuel oil for heating, so there is a natural economic incentive to convert to natural gas.

The second growth area, and probably more significant, is in base loaded power plant electricity generation. The U.S. has an aging power plant infrastructure. There are roughly 950 large base loaded utility power plants in the country, of which roughly 600 are fueled by coal today, with an average age of approximately 45 years. The plants were built with life expectancy of 50 years, which means they will need to be replaced or modified relatively soon. This offers a tremendous opportunity for natural gas to replace coal as the primary electricity generation fuel.

Because of environmental issues, there are incentives to shut down coal burning plants and to accelerate replacing them. This year there has been roughly 3,000 megawatts of new power plant production, of which none has been fueled by coal. Currently, about 60% of new plants built are powered with natural gas and the rest powered by solar, wind, hydroelectric and other forms of fuel.

The alternative to replacing these coal power plants could be nuclear, which has no greenhouse gases, but does have other environmental and safety concerns. However, after the Fukushima disaster in Japan, there is reluctance in the U.S. to pursue nuclear.

Another fact is that an average sized power plant is about 650 megawatts or larger in size, and to create a wind/solar farm to replace one power plant would take over 100,000 acres. The economy of scale is just not there today to deal with the magnitude that we are dealing with and retiring these plants. Hence, almost by default, the fuel of choice should be natural gas due to its environmental benefits and availability within U.S. borders.

### **What are the new demand drivers in the industry?**

There are two new demand areas for natural gas: exportation and transportation. The premise behind exporting natural gas is the price differential between the U.S. (\$4-\$6 per million BTUs) and Europe (\$9-\$10 per million BTUs) and China (\$15-\$18 per million BTUs). This price differential offers large profits for those who can process and transport LNG from the U.S. to these higher priced markets.

Because of this large profit potential there are companies today building exporting facilities. One is Cheniere Energy, Inc. located in Louisiana, and they are the first company that is building a terminal to export LNG overseas. The first exports should begin late next year. But exporting doesn't come without controversy. The first controversy is centered on the issue of exporting clean, cheap American fuel overseas while importing dirty, expensive fuel from places that don't like us. The second one is if we do export a lot of natural gas overseas then we will build demand so high that the price will go up and we will not have cheap energy here for our own economy. In the last six months it has gotten even more interesting due to geopolitical tensions between Russia and Ukraine. Russia provides 60% of the natural gas to Europe and it all goes through Ukraine. If Russia decides to shut the pipeline, then exporting natural gas to Europe becomes another issue.

It costs billions of dollars to build these export facilities, and it takes approximately three or four years to get them built. Meanwhile, in the last six months, the prices have come down in Europe and China, so the price gap that drove this idea of exporting - this big profit potential - has declined a bit. The price range in Europe has dipped to between \$8 and \$9 and Asia is more like \$11 to \$12. With regards to exporting, stay tuned.

The second area of building demand for natural gas is in transportation, such as cars, trucks, buses, garbage trucks, delivery trucks, etc.

Natural gas can power vehicles at an equivalent cost of \$1.50 to \$2.00 a gallon compared to diesel cost of as high as \$4.50 a gallon. Of course there is a cost of conversion, which is currently about \$50,000 for a large semi-tractor trailer. Hence, long distance truckers who drive 100,000 miles annually or more are potential convertors. Of course, once converted, where do the trucks fuel up?

Today there are companies building out natural gas stations along interstate highways to meet this potential need. Finally, commercial users, such as buses and delivery trucks, have used natural gas to cut fuel bills for many years. They use the overnight depot for refueling, which works for this type of use. Personal transportation use has been limited because not many vehicles had been offered to consumers in the past. This is changing, as all the major car manufacturers are offering, or will offer, natural gas vehicles in the near future.

### **What is your investment strategy?**

My job as a portfolio manager of this index fund is to replicate the performance of the AGA index. Currently there are 62 publicly-traded members of the American Gas Association, so by definition they are in the index. This index is market cap weighted and that market cap is adjusted for the percentage of each company that is devoted to the natural gas distribution business. No one position in the portfolio can be greater than 5%.

The fund owns all 62 companies that are in the AGA index in roughly the same weightings as the index but we don't trade all 62 stocks every day, so we allow certain tolerance plus or minus fairly tight to minimize trading costs.

My role is not to select investment ideas, rather it is to strive to deliver the return of the index (minus expenses) and manage the process and to make sure money is available to meet redemptions.

### **What is your buy and sell discipline?**

We do not have the discretion of picking and choosing what goes in the index. That is what AGA does. The requirement is to be a publicly-traded company, traded on an American exchange and pay dues to the AGA. If you meet those requirements you are in the AGA Index.

There can be changes in the index. Over a year's time, there can be one, two, three names added. The reasons for addition or deletion are usually a function of industry M&A activity or a company deciding to add or drop AGA membership. For instance, we have recently deleted a company from the index because another company bought their distribution business. Hence, they are no longer an AGA member. The acquiring company doesn't trade on an American exchange so will not be in the index.

### **Can you give examples of companies that are changing their distribution landscape?**

One of the members of the American Gas Association is Berkshire Hathaway, Inc., an American multinational conglomerate and a member of the index and a holding in the fund. Berkshire Hathaway own a utility company called MidAmerican Energy Holdings Company in the Midwest and gas utilities in the Pacific Northwest. Berkshire also owns Burlington Northern Santa Fe Corp, a railroad operator, so they can benefit from potentially using natural gas as a fuel for the railroad. One doesn't think of Berkshire Hathaway as a gas utility but they are definitely in the business.

Another area is the Northeast, which is pipeline deficient, particularly north of New York City. This is one of the few regions of the country where we actually have to import natural gas to power plants and to supply residential markets.

There are a lot of companies that have announced pipelines to be built to try to meet that demand and transport gas from the Marcellus Shale in Pennsylvania to the East Coast and up to New England. The need for new pipelines is an avenue of growth for many companies.

### **How does the economics of distribution work?**

Transportation/distribution normally is debundled from the price of the fuel, so it is usually billed as a volumetric or fixed cost. If billed volumetrically, the more that goes through the pipeline, the higher the revenues. If it is fixed cost billing, then the more "burner tips" the better. Both benefit from low, stable pricing and increased demand.

### What risks impact this industry?

One of the easiest risks to point out is in exporting LNG. What drives potential profit on the exporting side is the price differential between the domestic price of natural gas in the U.S. vs. Asia and Europe. As such, we need a big enough profit potential to cover the cost of transportation: processing the gas into the LNG state on the sending side and then reprocessing it on the receiving side. Because it takes several years and significant capital to develop an exporting facility, market dynamics can change during the development time, which can result in increased or decreased profitability.

Another risk factor is safety. We have an aging local pipeline infrastructure, and a lot of money is spent on replacing pipelines to deal with safety issues before they arise. There are environmental issues, despite gas being the cleanest of all the fossil fuels.

One of the most widely reported risks in the industry is the issue of "fracking". This horizontal drilling technique uses many chemicals and also a lot of water resources, and the fracking process is not without controversy. There are several regions in the country where local governments have put moratoriums on, and even prohibited drilling for natural gas.

I think one of the risks that many people don't look at is the cyber security risk that utilities face. Pipelines and much of the utilities infrastructure in our country are computer controlled. The industry is quite concerned over cyber security, so investors should be aware.

However, as long as we have this virtually unlimited supply, low and stable pricing, times should be good for the natural gas industry.

### Hennessy Funds

|           |  |
|-----------|--|
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Current standardized performance for the Hennessy Gas Utility Index Fund can be found [here](#).

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Top ten holdings for the Hennessy Gas Utility Index Fund can be found [here](#). Fund holdings and sector allocations are subject to change at any time and should not be considered a recommendation to buy or sell any security. References to other mutual funds should not be construed as an offer of those securities.

**Mutual fund investing involves risk; Principal loss is possible. A non-diversified fund, one that may concentrate its assets in fewer holdings than a diversified fund, is more exposed to individual stock volatility than a diversified fund. Investments are focused in the natural gas distribution and transmission industry, which may be adversely affected by rising interest rates, weather, and the wholesale pricing of alternative fuels. Investments in foreign securities may involve greater volatility and political, economic and currency risk and differences in accounting methods.**

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