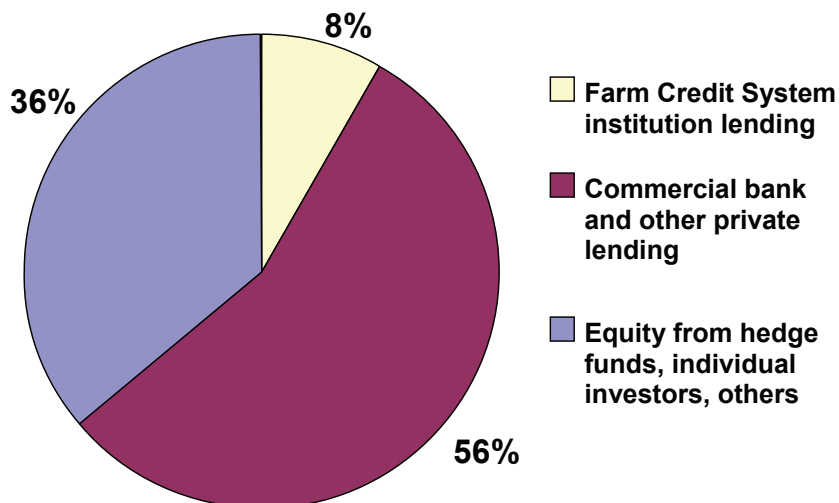


US Ethanol Investment Overview

Ethanol project development capital provided by investors and lenders, 2004-present



Note: the estimate is based on New Energy Finance transaction record data, which amounts to at least \$15 billion in funding for new plants. The estimate assumes a 64% to 36% debt to equity ratio in the financings, which is based on historical averages.

Source: New Energy Finance

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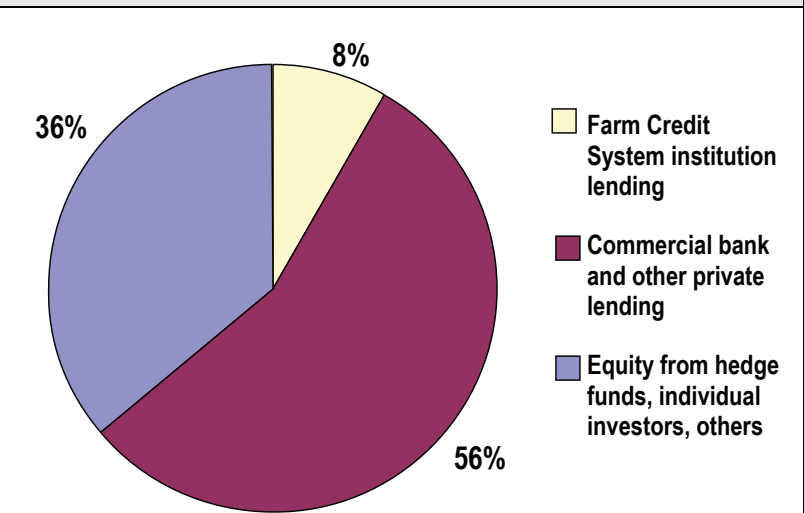
The US ethanol sector has been awash with new capital over the past several years. The sources of these funds have ranged from Silicon Valley tycoons and venture capital firms, to hedge funds and investment banks, to hundreds of community banks, to general public investors. No less than \$15 billion has flowed into US ethanol projects in just the past four years as annual capacity has jumped from 2.8 billion gallons in 2003 to around 7 billion gallons today. If most of the projects currently planned come online, total investment will likely top \$22 billion.

At the request of the American Bankers Association and the Independent Community Bankers of America, New Energy Finance Ltd. (NEF) conducted a brief look at the financial side of the recent growth in the ethanol industry. NEF is a global industry research firm that serves major investors by, among other things, maintaining a large and far-reaching database of financial transactions in clean energy. NEF figures are regularly cited by major media organizations and served as the basis of a recent United Nations report on clean energy investment worldwide. NEF is not an investor in clean energy and holds no stakes in the companies it covers.

For the purposes of this analysis, NEF probed its large database of ethanol financings to draw preliminary conclusions about who has been backing US ethanol development since the start of 2004. A wide group of investors, from the public to community banks and investment banks, have provided capital to the ethanol industry in the last four years. This capital can take the form of equity or debt financing for the ethanol plant. Equity finance can involve purchasing an equity stake in a private company developing an ethanol plant; the purchase of shares by a multitude of individual investors, particularly farmers, in said company; or from the purchase of a stake in a listed public company from the stock markets. Debt finance is normally structured in the form of senior debt, with the investor assuming the "senior" debt risks and benefits, and subordinated debt, where the investor takes on more of the risk but with higher returns. The debt from the financing of the ethanol plant asset can be split into smaller pieces (participations) allowing investors to reduce their risk exposure in the event of a default.

A variety of financial players with different profiles have helped spur rapid growth in the sector. By NEF's estimate, banks based in the Midwest, New York, and overseas, as well as other private sector lenders, have played a major role in financing ethanol, providing roughly 55% of the funding since the beginning of

Figure 1. Ethanol project development capital provided by investors and lenders, 2004-present



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Source: New Energy Finance

Table 1. Top Initial Public Offerings of US corn-based ethanol producers

Company	IPO Date	Funds raised*	Lead Underwriters
Aventine Renewable Energy	30 June '06	\$276m	Bank of America Friedman Billings Ramsey Goldman Sachs
VeraSun Energy	13 June '06	\$253m	Lehman Brothers Morgan Stanley
US BioEnergy	15 Dec '06	\$161m	Piper Jaffray UBS
BioFuel Energy Corp.	14 June '07	\$108m	JP Morgan Citigroup

* The figures reflect the total amounts received by the companies from the offerings. In the case of Aventine and VeraSun, existing shareholders used the IPO to sell some or all of their holdings in the two companies. Those sales are not reflected.

Source: Securities Exchanges Commission filings

2004. Farm Credit System institutions, most notably CoBank and Agstar Financial, have provided approximately 8% of the total capital that has gone into ethanol projects in the past four years.

Private equity funds, public market investors, and others provided approximately 36% of the capital (see Figure 1).

In addition to providing direct backing of ethanol projects, US banks have helped ethanol producers raise substantial sums via the public stock exchanges by underwriting initial public offerings. When banks underwrite initial public offerings they guarantee that the company selling stock – the offering – will receive its full required amount of capital. From January 2004 to the present, biofuels companies have raised a total of \$1.7 billion in new capital via the stock market, virtually all of which was underwritten by investment banks. The majority of those funds have gone directly toward the construction of ethanol plants in the US heartland. Table 1 displays the top four initial public offerings on US stock exchanges for ethanol companies and their accompanying underwriters.

Ethanol financings – a look back

Through the 1980's and 1990's, ethanol enjoyed relatively quiet growth as an alternative fuel in the US. In 1980, US capacity totalled 175 million gallons per year. By 1990, that figure had risen to 900 million gallons and by 2000 there were 1.6 billion gallons of operating capacity.

Until the recent boom, typical plants were 10 million to 25 million gallons in size and were developed by local farmers who pooled their funds into cooperative financial structures ("farmer cooperatives"). To complete the financing picture, these cooperatives would then seek outside debt capital from local and regional banks, finance companies, or Farm Credit System institutions. Local government assistance, often in the form of tax breaks, also played a role in plant development. The plants were built deep in the heart of corn country.

Starting in about 2004, ethanol plant development began to pick up steam. Plants began to get larger and the locations more widespread. Some farmer cooperatives were bought out by corporations that specialized in owning and operating whole portfolios of ethanol projects. Ethanol facility development went into high gear in 2005 after Congress passed the Energy Policy Act mandating that fuel blenders incorporate certain levels of ethanol into their fuel stocks. After methyl tertiary butyl ether (MTBE) was effectively phased out by US gasoline blenders as an oxygenate, the ethanol market exploded. Plants became larger, often topping 100 million gallons per year and in some cases being planned far from the corn belt but close to major metropolitan areas on the east and west coasts.

Investors on the coasts also began pouring funds into ethanol. Among the more notable investors were Microsoft founder Bill Gates whose Cascade Investment fund put \$84 million into Fresno-based ethanol producer Pacific Ethanol, and Sun Microsystems founder Vinod Khosla who has invested in no less than eight biofuels companies to date, including Altra, a company developing corn-based ethanol plants in Ohio, Indiana, Nebraska and California.

Bank Profile: First National Bank of Omaha

Headquarters: Omaha, Nebraska

In 1990 First National, which is a large community bank, began financing ethanol projects in Nebraska and elsewhere. According to the bank, it has been involved in the financing of 42 biofuel facilities in the US representing over 3 billion gallons of annual ethanol production capacity.

Most recently in October 2007, First National's renewable fuels division led the \$110 million debt financing of a 100 million gallon facility in Gibson City, Illinois, which is being developed jointly by retailer Rex Stores and five grain co-operatives.

First National likewise led \$95 million worth of financing for the construction of a 50 million gallon plant in Richardton, North Dakota, in May 2005, which was being developed by Red Trail Energy. First National was the lead arranger for \$59 million of debt; \$36 million of equity was also provided. The plant has been operating at full capacity since March 2007.

Source: First National Bank of Omaha, New Energy Finance

Bank Profile: United Bankers Bank

Headquarters: Bloomington, Minnesota

United Bankers Bank has been directly and indirectly involved in arranging the financing of seven ethanol plants. The total amount of debt provided for these seven projects exceeds \$250 million.

UBB, as a bankers' bank, typically participates in a portion of the debt financing for these projects, which includes a sizeable number of its community bank members. The number of community banks involved in financing these ethanol facilities has ranged from twenty to sixty five banks per project. UBB provides some of its own funding to each project and also provides underwriting expertise.

Source: United Bankers Bank

Slightly lower profile but of equal importance were the major investments from private equity funds such as Eos Capital Partners of New York and Bluestem Capital of South Dakota, which both backed ethanol producer VeraSun Energy.

Banks, ranging from small Midwest-based community institutions to larger investment banks, played a major role in this development as well, providing direct loans to farmer cooperatives and ethanol companies. First National Bank of Omaha, United Bankers Bank, SunTrust, Bank of the West, Hudson United (now TD Banknorth), hundreds of community banks, in addition to Morgan Stanley, Goldman Sachs, and many others have helped bankroll plants from New York State to California. (See break-out boxes to the right.)

In total, banks and other private sector institutions have provided at least \$8 billion in direct debt financing over the past four years, according to New Energy Finance estimates. If all of the predicted construction comes online in the next two years, these banks will have provided roughly \$12 billion.

In addition, banks have paved the way for ethanol producers to raise major sums from the public via the New York Stock Exchange and Nasdaq. One of the top ethanol initial public offerings came in June 2006 when Bank of America, Friedman Billings Ramsey, and Goldman Sachs underwrote Aventine Renewable Energy's debut, which netted the company \$276 million. Aventine has since put nearly all those funds into the development of new ethanol plants. VeraSun, US BioEnergy, Green Plains Renewable Energy, and others also successfully launched in New York in 2006, ploughing the money into the construction of new plants as well. Community banks have played a slightly different role in equity finance. They have lent to farmers who wanted to invest in or increase their stock or equity stake in ethanol projects, which has facilitated farmer ownership of local assets.

Current Outlook

The current ethanol production capacity of approximately 7 billion gallons is up 2 billion gallons from a year ago. Production is forecast to almost double by early 2009 to 13.6 billion gallons if the 70 plants (or more) under construction are completed. The past 12 months have seen fewer announcements of new ethanol plants as high corn prices and lower ethanol prices have squeezed ethanol producers' profit margins. This has positioned the industry for consolidation in the coming months.

Congress is considering a higher Renewable Fuels Standard (RFS), to increase demand in the US ethanol market. However, even with an expanded RFS, it will take time for the market to soak up the large supply of ethanol currently available, and potentially on its way. In addition, the supply infrastructure cannot yet adequately deliver more ethanol to the fuel blenders as new capacity comes online. This adds to the final cost of production for ethanol producers. Indeed, the conundrum for ethanol plants at the moment is not securing access to capital but rather improving their own product's access to the fuels marketplace.

Bank Profile: Morgan Stanley

Headquarters: New York City

Ethanol project developer Altra secured financing for the construction of a 60 million gallon corn ethanol facility in Coshocton, Ohio, in June 2007 at the cost of \$117 million. Morgan Stanley served as lead debt arranger on the deal.

The investment bank likewise underwrote the initial public offering of VeraSun for \$483 million in the summer of 2006.

Illinois River Energy secured financing in July 2007 to proceed with the construction of a second 50 million gallon facility at Rochelle, Illinois. The German bank WestLB was the lead debt arranger and Morgan Stanley brought an equity stake worth \$26 million in the project.

Source: New Energy Finance

Bank Profile: Stearns Bank

Headquarters: St. Cloud, Minnesota

In December 2001 locally-owned plant developer Husker Ag secured financing to build a 20 million gallon ethanol plant in Plainview, Nebraska. Stearns Bank led the debt financing round, which amounted to \$20 million. Fagen Engineering broke ground at the beginning of 2002 and the plant was operational at the end of 2003.

In July 2004, Stearns Bank was the lead arranger in the construction of a 50 million gallon capacity facility in Goldfield, Nebraska, at the total cost of \$90 million – a project that was developed by Corn LP (formerly known as Central Iowa Renewable Energy).

Source: New Energy Finance

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