CoBank

Bioenergy: Risks / Trends in Finance
November 5, 2007
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CoBank

Risk Assessment / Issues:

- Presently involved in financing several bio-diesel projects and approximately 50 ethanol plants
- Gross loan commitments to renewal fuels industries over $1.3 billion
- Net commitments held by CoBank over $800 million

Ethanol Industry Stats (October 2007):

- 129 - 135 (?) plants presently in production with total capacity of approximately 7 – 7.7+ (?) billion gallons
- Another 80 – 83 (?) under construction or expanding
- Total capacity expected* to increase by 4.5 – 7+ billion gallons, to 11.9 – 14+ billion gallons within the next 2 years, the majority of the increase by early 2009
  • (subject to widely varying assumptions about which projects will be completed and when)
- Additional plants in the planning stage

Risk Assessment / Issues:

- Crude oil and related fuel values – high headed higher, or speculative bubble about to burst?
- Ethanol “Value”/Selling Price – relative to gasoline?
- Feed Stock Risk – cost of corn, and lack of direct relationship to value of ethanol (supply vs. demand issues)
- Distillers Value Risk – selling price as an offset to the cost of corn
- Transportation / Logistics Risk – ability to ship, unload, and distribute ethanol and DDG’s
- Imports Risk – competition from Brazil and sugar cane-based ethanol
- Political Risks – current vs. future tax incentives and mandated usage requirements

Risk Assessment / Issues:

Ethanol Market Value vs. Gasoline

- Conceptually ethanol is worth price of gasoline (RBOB) plus 51 cent/gallon federal blending credit.
- Not, though, always the case based on ethanol’s own market supply/demand characteristics
- Per OPIS (October 22), “cash ethanol lately trading at $1.67/gal for October …..but with spot unleaded prices in Chicago over $2.20/gal, it still implied an excellent blending advantage versus gasoline - a fat $1.04/gal once the federal blending credit was included.”

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Ethanol minus Wholesale Gasoline Price

Bio-Diesel Industry Stats (October 2007):

- Industry capacity has increased from less than 100 million gallons to over 300M within the past 2 years
- Dozens of additional plants under construction
- Forecast capacity estimates range as high as 1.5 billion gallons within the next 24 months
Current State of Economics:
- **Ethanol** – plants presently remain profitable, but the future is uncertain given pending additional supply relative to demand, combined with logistics issues and "blend wall" concerns.
- The media reports several plant construction projects have been cancelled or postponed.

- **Bio-Diesel** – current economics are challenged given feedstock costs.
- The media reports several plant construction projects have been cancelled or postponed, and also some start-ups will be delayed until economic circumstances improve.

"Wall Street" $$$$ [Ethanol]
- Raw Material (Corn) / Finished Product (ethanol) relationship (lack thereof) used to "scare off" Wall Street.
- Tremendous interest developed, both for debt and equity investments (concerned about being "left out").
- Project finance (leveraged) structures (equity % vs. other industries).
- Was a ready market to sell deals into.
- Significant fees; not much "skin".

Financing Structures / Issues [Bio-Diesel]
- Total capital needs for bio-diesel projects less than ethanol plants, which broadened the field of lenders with varying experience in industry.
- "Leverage" in terms of percentages of debt and equity vs. viewed on a per gallon basis.
- State and USDA guarantees more common.
- "Structure" and adequacy of working capital (i.e., funded as "permanent" vs. short-term).
- Rearview mirror vs. windshield view of economics.
- "Worst case" scenario; who has the lowest cost AND deepest pockets ??

Summary
- Confidence is high that the bio-fuels industry is here to stay, and will continue to grow.
- Industry risks are, though, significant, with substantial continued economic volatility anticipated.
- Consolidation within both ethanol and bio-diesel industries likely.
- Well located, well capitalized, low-cost producers will survive, whereas projects lacking such attributes represent significant risk to capital providers.
- Politics and crude oil prices remain "wild cards".