

When, where and how do we light the fire?

*Funding energy projects in today's
environment*

by

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What do the following have in common?

1. *Procter & Gamble*
2. *Lehman Brothers*
3. *Merrill Lynch*
4. *Goldman Sachs*
5. *Bear, Stearns*
6. *Morgan Stanley*

**Attributes of all are needed to
finance a project.**

Procter & Gamble = Marketing

*Non-recourse financing is
sold through the use of
“story bonds”*

*It will take some story to sell
energy projects now.*

A Partial List of Current Biofuels Projects in the US

More than \$2.5 billion in real projects have been announced, but NONE are actually making fuels from lignocellulosic biomass.

- DOE and Private Companies– \$1.2 billion for six ethanol demo. projects at the 700 tpd scale
- DOE - \$375 million for 3 Genomes to Life Centers to “Break the Barriers to Cellulosic Ethanol”
- DOE - \$300 million in 4 small scale (70 tpd) demo projects
- BP – \$500 million to look at fundamentals barriers, to UC Berkeley and Univ. of Illinois
- Individual States – 10-15 states working on initiatives, research, pilot plants, that range between \$5 and 60 million

Source: Steve Kelley, NCSU

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700 tpd Projects

Location / Feed / Technology

Calif. / City Wastes / Acid, Fermentation

Iowa / Ag Wastes / Enzymes, Ferm.

Idaho / Ag Wastes / Enzymes, Ferm.

Kansas / Ag Wastes / Gasification, Ferm.

Florida / Ag & Citrus / Gasif., Chem Cats.

Georgia / Wood / Gasif., Chem. Cats.

Source: Steve Kelley, NCSU

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How new technology projects have been financed.

- Investment bank with the capacity to underwrite using
- Story bonds

The old US investment banks that had the capacity to underwrite projects of this size:

- *Lehman Brothers*
- *Merrill Lynch*
- *Goldman Sachs*
- *Bear, Stearns*
- *Morgan Stanley*

*They seem to have disappeared
or lost their focus*

*While energy costs are down and
the markets are in turmoil, the
investment community will be
watching Range Fuels*

*It is imperative that Range Fuels
be an economic success.*

*Story Bonds and most other possible
ways of financing require a
Feasibility Study*

The Contents of a Feasibility Study are:

1. Assessment of markets
2. Assessment of raw materials
3. Assessment of the assets (including people) that one places between the markets and the raw materials to achieve success
4. Sensitivity analysis on the risky components

BTW, a Feasibility Study is usually done twice for a given project:

1. An *equity* assessment (focuses on the upside)
2. A *debt* assessment (focuses on the downside)

1. Assessment of markets

1. Starts with the competition
 1. How long established?
 2. Defensive strengths?
2. Continues with market prospects
 1. Will market accept the product?
 2. What will be the price for the length of the financing?
3. Includes logistics costs
4. Discounts special conditions such as government subsidies
 1. Take out anything that may go away
 2. Any trends that could make markets go away?

2. Assessment of raw materials

1. How much available?
2. Where is it?
3. What is it going to cost over the life of the financing?

3. Assessment of the assets (including people) that one places between the markets and the raw materials to achieve success

1. What is the management teams' experience?
2. What is the technology?
3. How risky is it?
4. How many suppliers can supply the technology?
5. What are the regulatory risks?

4. Sensitivity analysis on the risky components of the project

1. These may not be obvious at the start
2. Investors will want protection from them
3. Range Fuels will help identify them

Conclusion

1. Investors want safe, low risk projects
2. The current energy market does not provide this
3. Investment bankers with capacity to handle the size of investments are pre-occupied
4. It is convenient to wait and see what happens to Range Fuels

So we wait....

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under the title

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