Waiting for Godot Biofuels Financing

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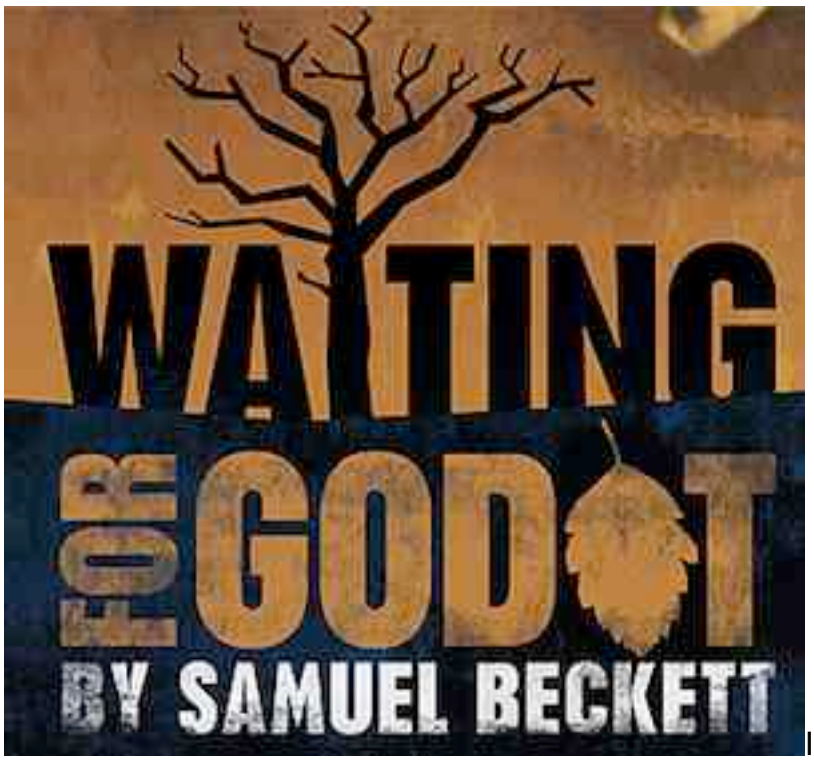
If I were forced at gunpoint to compare the process of financing advanced bioenergy projects with a text in the canon of our classical literature, I would likely choose *Waiting for Godot*, an absurdist comedy in which the protagonists of the play spend their stage time fruitlessly and fretfully waiting for the aforementioned Godot, a character who never arrives.

The script was an essential element in the winning of playwright Samuel Beckett's 1969 Nobel Prize for Literature, and there ought to be some kind of special award established for bioenergy project developers who survive the process and succeed in obtaining funds. After all, the conversion of the world to a new energy system is at least, even to theatergoers, as monumental an achievement as the writing of a popular West End play.

The honorees, in one's imagination, would win funds for their project, a suitable medal, and an opportunity to address the Swedish parliament or the United Nations and regale us with tales of adversity overcome, hurdles surmounted, and new energy triumphant.

But for now, in the midst of their considerable agony, the protagonists of our energy transformation will have to sweat it out in the back halls of the Department of Energy, and a pile-up of rejections from the purveyors of conventional finance that would sink a battleship under the weight of all the layers of all the papers with all the noes.



In *Waiting for Godot*, Estragon and Vladimir consider their dilemma in words that convey the essence of our bioenergy situation.

ESTRAGON: Charming spot. (He turns, advances to front, halts facing auditorium.) Inspiring prospects. (He turns to Vladimir.) Let’s go.
VLADIMIR: We can’t.
ESTRAGON: Why not?
VLADIMIR: We’re waiting for Godot.
ESTRAGON: (despairingly). Ah! (Pause.) You’re sure it was here?
VLADIMIR: What?
ESTRAGON: That we were to wait. He should be here.
VLADIMIR: He didn’t say for sure he’d come.
ESTRAGON: And if he doesn’t come?
VLADIMIR: We’ll come back tomorrow.
ESTRAGON: And then the day after tomorrow.
VLADIMIR: Possibly.
ESTRAGON: And so on.

For confirmation, one only has to pick up the phone and call any one of a hundred CEOs of energy projects. Yesterday I happened to catch up with the latest from Arnie Klann and Bluefire Ethanol, a company which has graced the “50 Hottest Companies in Bioenergy” top 20 since its establishment — and which has won a series of DOE grants and competitive awards going back several years. Its weak acid hydrolysis process converts municipal solid waste and other municipal and agricultural residues to sugars and thereafter ethanol — a process proven at pilot and demo scale since 2004 with a project that was completed in Japan. Today, Bluefire has a fully-permitted, “shovel-ready” project in Lancaster, California that is stalled for lack of debt financing, and a project coming along quickly in Mississippi that will similarly hit a wall in a few months when permitting is complete.

Bluefire is a good bellwether company for looking at the state of play in advanced biofuels. It's been around quite a while, as these companies go — it's a publicly traded stock, so there's transparency, and CEO Klann is a straight-shooter. As one of the six projects to win in the 2007 round of DOE grants, the technology should have advanced rapidly towards commercial scale and be contributing its share this year to what had been a 100 million gallon cellulosic ethanol target in the Renewable Fuel Standard.

For now, though, Bluefire is producing low-cost sugars from waste residues at its pilot plant in California, providing them as a feedstock to Solazyme, which in turn feeds them to its heterotrophic algae, and thereby converts to renewable oils. It's a fair proof of the process — since the conversion of cellulose to sugars is the difficult part in cellulosic ethanol (the fermentation of sugars into alcohols is far less taxing) — but its not the business the company intended to be in by 2010.

It's not for the lack of creativity, for sure. Unlike the characters in *Godot*, energy developers generally create a beehive of activity, and Arnie Klann has always been a high-energy guy who never sits still, but probes, probes, probes for another jurisdiction, another source, another avenue for funding.

Klann and a group of 30 other companies began the process of opening up another avenue just last week. They signed a petition last week in support of an investment tax credit for advanced biofuels. An investment tax credit, as structured for renewable energy, allows Treasury to pay out the cash for the total value of the tax credit at the beginning of the project (rather than waiting to earn out the credit over the life of the project), and that cash can be applied as a sweetener to reduce debt, and thereby reduce risk.

"We got together with 6 other companies to talk about legislation – EPA, the language issues," Klann recalls at what evolved into the loosely-structured Bioenergy Alliance and the The Cellulosic Coalition. "Congress leaves out the details when it makes legislation , and agencies and staff work it out. We had a common interest. For example, the definition of MSW was unclear. It started with us, Enerkem, Fulcrum, and Coskata, and a few others. We had an email list and a weekly call, no chairman or even a scrivener – whoever wanted to lead on an issue did the follow up."

But the ITC, although an important element, is not enough. There is the fundamental problem of who will take the risk in the market.

"Cellulosic ethanol is not the same as first generation ethanol. There, you had the corn growers, and there was a vested interest, and companies like ADM, Cargill to provide the support. There really aren't large companies in this space, no one except the ITC group pushing for cellulosic. Individual states have varying interests in it, and we're working with the Clean Fuels coalition and ACORE.

"With wind and solar, there are tens if not hundreds out there to look at and kick the ires and determine that the technology works. But with the first-of-a-kind projects like cellulosic ethanol, DOE can't assess the risk. It's not unique to these

times or this market. We've been at this since 1998. There are systemic problems, and either you have to of it the Shell way where you finance it off the balance sheet, or you round up venture capital to put a plant through.

"Otherwise, there's no one large enough or invested enough in the solution outside of the government to step in and assume the risk for this market.

"Its the guarantee of repayment that is the problem. Other renewables markets have 15-20 year power purchasing agreements. With ethanol, we are trading into a merchant market that is at best going to provide prices 2-3 years out – there are no long-term contracts. How do you ameliorate the risks? Some companies are building out hedging strategies for 5 years, but it's difficult to do. That offers something different in case DOE can't get its arms around the risk, for some reason.

"My background is in the power industry," he muses. "With wind, solar, biomass power, it's well known technology, but the finance market is so dysfunctional today that even after the government has given them preferential power pricing, an investment tax credit, and long term contracts guaranteeing pricing over 15 to 20 years — they still need the loan guarantees to get a project through.

"So far, loan guarantees have provided close to zero. So far, only one or two projects have received a term sheet, and those are, I believe, off the 1703 program that dates back to 2007 — in a case like Range, that's over two years to secure a loan guarantee.

"We are waiting for a term sheet from the DOE for a loan guarantee. It was expected in November, then we heard December, now it's March and we're still here, and we've paid DOE money to process the application. We worked hard. We had the independent evaluation of the project, which we did very well with. Then we went and got a Fitch rating because DOE required it. We got CCC, which I think Ecuador doesn't have, and it was expensive for us to get. Now, nothing to show for it. Bottom line, [the market is telling us], we're not getting financed without a loan guarantee.

"For sure, there are a lot of incentives for these ethanol plant to get built. But there's a deep disconnect between what's out there for cellulosic ethanol and what's needed. A lot of legislators say, when we visit them — "what are you doing back here?" The truth is, what worked in 2007 doesn't always work now to get debt placed for first-of-a-kind technologies. Grants, loan guarantees, credits, production tax credits are all important but they don't get these things financed, and that's what its all about."

So, like the characters of Waiting for Godot, the industry continues to furiously pursue a series of initiatives and capital searches, and perhaps with the investment tax credit there will success on the Hill, followed by success on Wall Street. I am not sure I will hold my breath on this one until a Washington champion steps forward with the clout and focus to get this done. Too often we have seen the impact that good intentions have in DC.

I asked Arnie about a different structure. There is a public policy interest in education and in first-time home mortgages, and there is a similar “first of its kind” risk. Who can guarantee as an incoming college freshman that a job will materialize that will pay for the student loan? Who among young homebuyers can guarantee 30-years of steady employment that will pay all the monthly installments of a mortgage loan?

Here is where the government stepped in with a loan guarantee system and backed that with a packaging of those loans into asset-backed securities that were sold into the broader investment market. Billions of dollars have thereby been generated for the support of public policy imperatives, from sources that would have never touched a single student loan in a million years. We all know the daggers of politicizing a financial system — we have the subprime mortgage meltdown to remind us of what happens when political calculations encourage the assumption of excessive risk. But we have millions of success stories, also, to show for it.

“I don’t know,” said Klann, when I asked him why there isn’t such a structure for energy.