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## By using rice straw to produce ethanol instead of corn, Colusa Biomass Energy is not upsetting the food chain, while producing a cleaner burning fuel for the transportation industry



Energy Ethanol (CLME-OTC: BB)

Colusa Biomass Energy Corp.

1023 Main Street Colusa, CA 95932 Phone: 530-458-8101



Thomas Bowers
Chief Executive Officer

## BIO:

As a professional manager with over twenty years experience in small cap public companies, Mr. Bowers has held positions as chief executive officer, chief operating officer and general manager. He has held senior management positions in organizations involved in information technology, renewable and sustainable energy, alternative energy production and manufacturing in the US, East and

Southeast Asia, Africa and South America.

Mr. Bowers has a BA in liberal arts (College of Idaho), an MA in economics (UC Berkeley), and an MBA in finance and business administration (UC Berkeley).

## **Company Profile:**

Colusa Biomass Energy Corporation (Other OTC: CLME.PK) is planning to build a bio-refinery which is engineered to convert waste rice straw residue into ethanol. The plant is based on CLME patented and proprietary technologies that converts waste biomass into ethanol for use in transportation fuels. It is important to note that the CLME technology takes nothing from the food stream but only consumes waste biomass such as straws, wood chips, forest slash and orchards trimmings.

## Interview conducted by: Lynn Fosse, Senior Editor CEOCFOinterviews.com

**CEOCFO:** Mr. Bowers, what is your vision for the company?

Mr. Bowers: "Our view is that the lignocellulosics ethanol production is the transportation fuel of the future today. The reason I say that is that every night on the five o'clock news we see the incidence of transportation fuels being more and more expensive. Every time we here of some sort of scare around the world, the American gasoline buyers pay more at the pump. When we can take biomass waste and in our case, rice straw, and other cereal straw and convert that to fuel ethanol, it provides a phenomenal relief for the solid waste handling by providing

a viable option for some agricultural wastes. What do is create a second revenue source for the agricultural producer because his waste can be turned into an income stream. By processing these wastes Colusa Biomass has a well defined business based upon the transportation needs of the United States. The need for transportation fuels will continue to grow. The less fuel costs more miles will be driven. As the population grows there more the people are driving and demand increases. All of these conditions blend together to create a very good business opportunity for Colusa."

**CEOCFO:** We here a lot about ethanol from corn; how does rice compare?

Mr. Bowers: "It is important to understand that our process takes nothing from the food supply. When the farmer grows the corn and sells the kernel from the corn cob and sells the corn to an ethanol producer, he takes from the food supply. The cob and stalk are left over and only the kernel has the value to make ethanol the way it is traditionally done. In our case, and let's talk about rice straw again, after the rice kernel is harvested, what is left is basically a large amount of biomass that has no commercial value. The farmer must remove it from his field one of two ways; one he needs to chop it up and plow it back into the field. The farmer then must to use a second flooding of water to cause the rice straw to decompose, requiring twice as much water to grow single crop. Another option for the producer is to pay somebody to cut and bale the straw and take it away. The problem is, there is no commercial home for about 96 or 97% of the rice straw grown in the United States. We take that rice

straw and convert it to fuel ethanol. That is the difference between the corn fellows and us. They take a very good product from the food chain and make that into ethanol. We take what is left after the food has been harvested and we refine that low value residue into transportation fuel ethanol."

**CEOCFO:** Big difference! **Mr. Bowers:** "Yes it is!"

**CEOCFO:** Will you give us more background on the use of rice in this way?

Mr. Bowers: "Jim Lucas, the Colusa Biomass science consultant, has been involved in iust the examination of rice straw for twenty years. The science is not something that just happened yesterday, it has been around for quite some time. Rice is the most widely grown and widely distributed foodstuff in the world. China, India, Bangladesh, all of South America, most of Africa, many places in the Orient grow and consume rice. Forty percent of the carbohydrates that they consume come from rice. It is a very big crop. Rice, by a factor of eight, is the largest agricultural crop in the world and the second being corn in the United States. We took the least desirable feedstock available, waste rice straw, refined a process that is patented to convert the celluloses that are in that rice straw to sugar. Colusa Biomass' process converts through fermentation into alcohol. What we have done is make the largest AG waste in the world a

valuable asset to those people who grow it now who have no use for the rice straw as it is produced in the field. Waste rice straw will always be waste rice straw unless that straw is converted into some other basic element and that is what we do."

**CEOCFO:** Do you need to build a production facility?

**Mr. Bowers:** "We have designed a facility along with process engineers and chemical engineers that will handle about

140,000 tons of waste rice straw annually. We will convert that into twelve million, five hundred thousand gallons of fuel ethanol. We will do that in a facility in Colusa County California. We will locate in the Colusa Industrial Park where we have already secured the fifteen acre site. The Colusa Industrial Park it is an industrial park and it has the proper zonings for what we want to do. We hope to break ground this July and have the bio-refinery ready for commission in June-July of 2008."

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**CEOCFO:** Do you have the funds necessary to get this off the ground?

Mr. Bowers: "Yes, but I guess that is a qualified yes. Since this is a brand-new science, it is fairly hard for us to raise 100% of the construction cost which is approximately \$40 million. We are in the process of negotiating with several firms about a strategic alliance that could be a partnership for assisting us in raising the amount of funds that would not be available under conventional construction financing. It is important to know that the state of California has in-place a tax-free

bond program that would provide for permanent financing for the bio refinery once it is up and running. The state guarantees the issuance and the sale of the bond through the state mechanism and part of it is the state treasury office. The permanent financing is in-place and very economical, what is expensive and hard for us to get completed right now is the construction financing."

**CEOCFO:** Once you are up and running; how do you get the ethanol to where it needs to go?

Mr. Bowers: "We will make about 36,000 gallons a day. The tanker trucks carry about 10,000 gallons a load. We have four major distribution areas in California that use ethanol in huge quantities now. Three of those are within an hour-anda-half drive from our facility in Colusa. We feel it is much better to be able to carry a truckload of high-value ethanol some distance than it is to carry biomass that has high volume but very little value, very far. That is why we have located our factory right in the heart of California rice producing region in the Sacramento Vallev."

**CEOCFO:** Down the road, do you anticipate building other locations?

Mr. Bowers: "Here is our plan; technologies such as these are very hard to manage when they are not in your hands. What our business plan describes is we are going to build this first facility in Cali-

fornia and then we will build two additional bio-refineries in Northern California that will be identical to the Colusa bio-refinery: and then we will build four plants in Arkansas that will use exactly the same thing, waste rice straw, and each one will be twelve-and-a-half million gallons of rice. Following that, we will go to Texas. Texas and Arkansas are two other large rice producing states. That will give us eleven here in the United States. These plants will be built and operating by the end of 2012. That

will give us about \$400 million in revenues and it will yield an EBITDA of about \$205 million. It is a very, very, good commercial operation in the sense of what it will bring to the bottom line and even better when you think about what it can do to help the environment. When biomass breaks down in the field, it turns into carbon dioxide and methane, which are two of the major components of greenhouse gas that everybody is so concerned about. It would be much better for us to convert these waste products into transportation fuels and use these much cleaner-burning ethanol fuels for daily transport than it would be to allow these wastes to rot and continue to pollute the atmosphere."

**CEOCFO:** Everybody wins!

Mr. Bowers: "It is the only opportunity in my thirty years of business where there was an equal sharing of the win/win formula. It isn't that one group gets 10% and another gets 90%; when you look at how the profits would be spread, it is pretty much about a third, a third, a third; a third for the business, a third for the community and a third for the producers. The economics break out amazingly well and very comfortably. Each one of these factories will provide about 44 permanent employments, will run 24 hours a day. 350 days a year. Our employees will have access to benefits which in the AG community, fulltime employment and benefits are a rarity."

**CEOCFO:** What are the challenges ahead?

**Mr. Bowers:** "There are technical challenges that come from extraneous sources to us. We know what we can do and we

know what our enzymes will do and we know what our yeast will do for fermentation, and what those yields will be. Those producers of enzymes and yeast in the marketplace today are going through tremendous change in much higher performing enzymes and yeast are on the horizon. Those improved enzymes and yeasts will make us much more competitive to any energy source and allow us to bring the ultimate cost of production down. Today, those two items, yeast and enzymes, make up more than half the cost in producing a gallon of ethanol. We would hope in the future that they would tend to lower the percentage to 30 to 35% of the cost of ethanol. When that happens, there will be an ethanol plant in every farming community in the US because you cannot haul biomass very far but you sure can haul high-value ethanol for delivery to the distribution points."

**CEOCFO:** Are there competing technologies?

Mr. Bowers: "No there really is not. If you talk about organic conversion you must have hydrolization, which is using enzymes, and hydrolization allows you to get access to the different five or sixcarbon sugars. We require these sugars to be able to have the yeast feed upon them and ferment into ethyl alcohol. If you are going to have organic fermentation, the science is pretty much defined and we are right in the mainstream of that. There are other ways to handle biomass, you can burn it or gasify it. These are technologies in our view that are very expensive for what they yield and do not lend themselves to smaller installation. You need rather large ones to make it economically feasible. We think that in the future there

is going to be literally hundreds of biorefineries like the one that we have designed here in California, all over the world. Every place that they have biomass and transportation fuel needs or energy needs, they are going to make money. They will be making this in the future out of ligno-cellulosics."

**CEOCFO:** And you will be making money on all of those!

Mr. Bowers: "Even a couple is good!"

**CEOCFO:** Will you sum it up for potential investors?

Mr. Bowers: "I think we are an excellent company with some tremendously underpriced shares in the market today. Our market is where crops are grown worldwide. If you look at the global expansion of population and then consider the emerging middle classes in South America, Asia, China, India, I believe that you would agree. In the past when I was asked about fuel prices, I said fuel prices will start to go down when all the Chinese emerging middle class and the Indian middle class, have all the fuel they need to drive their Buicks, then fuel prices will start to fall. That is the market we are in. There is huge competition for energy today and even greater competition for transportation fuel. We think that we could sell right now in California fifty times what we can manufacture in the Colusa bio-refinery. The market is virtually unlimited. Five years from now it will be a rocket ship compared to where it is today. I think we are an awful good bet for medium and long-term."



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