DAILY NEWS SUMMARY

Monday, June 30, 2008

National

1. Betting on a Biofuel

The Wall Street Journal

http://online.wsj.com/article/SB121432268425800193.html?mod=2_1586_middlebox

"Chemicals maker DuPont Co. and oil giant BP PLC have placed a big bet on a biofuel they think will work much better than ethanol. It's called biobutanol. It's less corrosive for car engines than ethanol. It's easier to mix with gasoline and, unlike ethanol, can be transported via pipeline. Its energy content is higher than ethanol's. Still, there's one big problem: It costs more to produce than ethanol."

Regional

2. Drunk on E85

Southtown Star (IL)

http://www.southtownstar.com/news/1029826,062908e85.article

"E85 has been around since 1998, but fewer than 5 percent of cars on the road are made to run on the corn-based fuel that costs less but doesn't go as far as a gallon of gas. For those who buy E85, the Illinois Environmental Protection Agency offers rebates to offset the decline in fuel economy compared with gas."

3. Biofuels, Iowa get a scolding at forum in Switzerland

Des Moines (IA) Register

http://www.desmoinesregister.com/apps/pbcs.dll/article?AID=/20080629/NEWS/806290329/1001/NEWS

“Annan referred to Iowa as one of the "great breadbaskets of the world" and called on Iowans to refocus corn production on human consumption needs, condemning the Bush administration's subsidies of biofuel production. ‘I understand the difficulties Iowans are in, but given the crisis of food, for the farmers to shift back to producing corn for consumption and export shouldn't be too difficult a task,’ Annan said. ‘But if the government withdraws the subsidies, it must be done in such a way that it gives the farmers a soft landing because they were misled into going in that direction, and if the government were to decide to correct it, they should make sure that farmers do not unduly suffer.’”

4. Ethanol floods the Treasure Valley

Idaho Statesman

http://www.idahostatesman.com/102/story/428985.html

“If you think you're seeing more ethanol on offer at the gas pump lately, you're right. Idaho fuel distributors have raised the supply of ethanol blends by 35 percent since January, according to state officials.”

5. Nebraska Cattlemen, Farm Bureau on opposite ends of ethanol debate

The Grand Island Independent (NE)

http://www.theindependent.com/news/x2010598613/Nebraska-Cattlemen-Farm-Bureau-on-opposite-ends-of-ethanol-debate

“A debate is raging within the state and nation's agriculture industry about the high costs of food and how much ethanol is contributing to it. With Nebraska feedlot owners facing feed costs of as much as $300 per head, Nebraska Cattlemen is asking the U.S. Environmental Protection Agency to reduce the nation's renewable fuel standard (RFS) within the Clean Air Act to 4.5 billion gallons. On the other hand, Nebraska Farm Bureau is urging EPA to deny the recent request from the State of Texas for a waiver of the Renewable Fuels Standard (RFS).”

6. Citrus-to-ethanol

My FOX Tampa Bay (FL)

http://www.myfoxtampabay.com/myfox/pages/News/Detail?contentId=6871144&version=1&locale=EN-US&layoutCode=TSTY&pageId=3.2.1

“One of Florida's most abundant natural resources will soon be fodder for alternative fuel. Florida Power and Light has plans to build a citrus-to-ethanol plant in Polk County, a first of its kind.”

Opinions & Editorials

7. Consider the source of ethanol criticism

South Bend Tribune (IN)

http://www.southbendtribune.com/apps/pbcs.dll/article?AID=/20080629/Opinion/806290506/1065/Opinion

Jack Colwell, Tribune columnist, discusses where ethanol criticism is coming from, mainly legislators with ties to oil companies. "Sen. Richard G. Lugar, an ethanol proponent who agrees that it's not the ultimate answer to oil dependence, says that strong opposition to ethanol comes from the oil states and the oil companies. In a recent interview in Washington, Lugar said oil interests have sought to put roadblocks in the way of ethanol distribution and now portray use of corn for ethanol as the cause of food shortages and world hunger."

8. ALABAMA VOICES: Biofuels promising

Montgomery Advertiser (AL)

http://www.montgomeryadvertiser.com/apps/pbcs.dll/article?AID=/20080629/OPINION0101/806270334

"The growth in ethanol is outstanding and ethanol is saving us money at the pump. We are on track to replace 10 percent of our gasoline consumption in less than three years. Breakthrough technology is happening every day. Merrill Lynch analyst Francisco Blanch estimates that gasoline prices would be about 15 percent higher today if biofuel producers were not increasing their production of fuel. It is easy to cast blame at the biofuel industry for the increase in food prices. But we can not afford to overlook the benefits we have gained and the potential that lies ahead for the emerging industry," Raine Cotton, CEO of Southeast Alternative Fuels Inc., writes.

9. Consider pros and cons of corn ethanol

The Grand Island Independent (NE)

http://www.theindependent.com/news/x379978278/Consider-pros-and-cons-of-corn-ethanol

"Nebraska has 21 ethanol plants in operation and another six plants under construction. This increased production of ethanol has raised many questions about the overall cost-benefit ratio of this industry."

Blogs & Websites

10. Ethanol Coproducts Eyed As Fillers In Plastics

Science Daily

http://www.sciencedaily.com/releases/2008/06/080629075630.htm

"A coproduct of ethanol production could be used as a non-petroleum-based filler in plastics, based on preliminary studies by Agricultural Research Service (ARS) scientists and their cooperators."

11. Ethanol: Miracle or Mistake?

Florida Trend

http://www.floridatrend.com/article.asp?aID=781096602.2182864.640367.187285.7292027.444&aID2=49250

"At his global warming summit in Miami last year, Gov. Charlie Crist held out ethanol as a major tool in reducing greenhouse gases. No state, he said, can match Florida's capacity to produce ethanol. Since virtually all the ethanol in the U.S. is made from corn, Crist was anticipating a time when Florida entrepreneurs could take various forms of cellulose that are plentiful in the state — citrus waste, sugar cane waste, plants and trees — and distill ethanol from them. Following Crist's green lead, the Legislature this year mandated that all gas sold in Florida have at least 10% ethanol by the end of 2010. That translates into Florida needing some 861 million gallons of ethanol annually in less than three years. At May's going price for a gallon of ethanol, that's $2.4 billion worth each year — money that the lawmakers don't want to flow only to corn farmers and ethanol distillers in the Midwest. To spur production in Florida, the Legislature allocated $8 million this year for bioenergy project grants and another $7 million for renewable energy and efficiency grants."

The Wall Street Journal
June 30, 2008

Betting on a Biofuel

Biobutanol has several advantages over ethanol. And one big disadvantage.

By: Ana Campoy

With ethanol looking less and less like the ideal alternative to fossil fuels, companies are rushing to come up with better options.

Chemicals maker DuPont Co. and oil giant BP PLC have placed a big bet on a biofuel they think will work much better than ethanol. It's called biobutanol. It's less corrosive for car engines than ethanol. It's easier to mix with gasoline and, unlike ethanol, can be transported via pipeline. Its energy content is higher than ethanol's.

Still, there's one big problem: It costs more to produce than ethanol.

DuPont and BP, as well as a handful of start-up companies and research labs, are in a tight race to find a cheaper way to make biobutanol and bring it to market. The DuPont-BP team says it's confident that it has the technology to do it. "The challenge is how can we make this move faster," says John Ranieri, vice president of biofuels at DuPont, who's heading the company's biofuel efforts.

Butanol already has potential clients eagerly waiting for it to go commercial. Refiners and blenders are under pressure to meet federal biofuel mandates and aren't too keen on ethanol because it needs to be hauled by truck or train, which creates more logistical headaches than a fuel that can be piped. Butanol, which can be blended into gasoline at higher percentages than ethanol, would also help car companies under pressure from federal regulators, politicians and the public to cut the amount of fossil fuels their vehicles consume.

Compressed Development

To get butanol out as quickly as possible, DuPont and BP are cramming all the development phases together. As DuPont scientists work in the lab to develop a more economic way to make butanol, BP is testing the more expensive form of butanol available today.

Meanwhile, plans are under way for a project that will include both a pilot plant and a $400 million commercial plant in Hull, near the east coast of England. The pilot plant will be capable of producing 5,000 gallons of butanol a year, and the commercial plant's capacity will be 110 million gallons a year. The two plants will be built at the same time so that the commercial plant is ready the moment the pilot plant establishes the viability of large-scale biobutanol production. In the meantime, the commercial

plant will be put to full use making ethanol. The companies expect commercial production of butanol to hit the market in 2012.

Other companies are anxious to start selling butanol as well. Gevo Inc., a start-up based in Englewood, Colo., recently opened a pilot plant, while Green Biologics Ltd., an English company, said earlier this year it had started up its pilot plant.

The science to produce butanol from plants has been around for decades. Although today butanol is mostly produced from fossil fuels to be used as a solvent, it was first made in the early part of last century by fermenting feedstock such as molasses.

But the traditional fermentation process is too inefficient to make butanol in the large amounts that would be needed for it to be used as a biofuel. That's because aside from butanol, the fermentation also yields two other products: acetone and ethanol. The yeast that's used to transform plant material into ethanol doesn't create any byproducts. That means it takes more feedstock to create a gallon of butanol than it does to create a gallon of ethanol, says Andy Aden, a senior researcher at the National Renewable Energy Laboratory, a Department of Energy facility in Golden, Colo.

Additionally, butanol in high concentrations is toxic for the bacteria that make it, so at a certain point, they shut down production. The yeast that produces ethanol is more resistant.

Mr. Aden is conducting a study on the economics of butanol. Although the conclusions won't be ready for a couple of months, he says it's clear that making butanol with existing techniques is considerably more expensive than the $1.75 to $2 it costs to make a gallon of ethanol -- probably about 50% more expensive.

Making Progress

The key to changing those economics is bioengineering a more tolerant bug that transforms plant matter more purely into butanol.

DuPont has been working on the butanol bug since 2004. The company isn't disclosing many details about the new organism, but says that it already yields more butanol than the traditional process.

Meanwhile, BP is testing how gasoline blended with butanol flows through its pipelines, tanks and pumps. Its trials show that the mix behaves more like regular gasoline than the ethanol-laced version, the company says. That's because ethanol, unlike gasoline and other oil-based fuels, mixes easily with water. So if ethanol finds any water residues in transit it can separate from the gasoline it's blended with.

BP is also running different types of vehicles with its gasoline-butanol mix. It says it has been able to add up to 16% butanol to gasoline without the need to modify their engines. Researchers generally believe higher concentrations than that may be possible.

Ethanol content is limited to 10% of a gallon of gasoline because at higher levels it corrodes engine parts.

So far, says Phil New, president of BP's biofuel unit, butanol is "living up to its promise."

Help From Evolution

One major challenge ahead is figuring out how to make butanol out of nonfood feedstocks. Ethanol has recently come under fire because it absorbs large amounts of grain that would otherwise be available as food. Its critics blame increased production of the fuel for contributing to skyrocketing food prices.

At least initially, DuPont and BP will be making butanol out of wheat. Mr. New says there's a surplus of wheat in the U.K. and that at the moment the grain is what's readily available to test their new technology.

"One of the great strengths of butanol is you can make it from any form of sugar," he adds, and sugar comes in many forms.

For example, Green Biologics is testing feedstocks such as paper pulp derivatives and food waste. Lars Angenent, a scientist at Washington University in St. Louis, is experimenting with using corn waste from ethanol plants to make butanol.

The materials Mr. Angenent and Green Biologics are using are forms of cellulose, which is tougher to turn into fuels than grains are, because the sugar content is trapped between fibers. To break those fibers down, Mr. Angenent is relying on bacteria that are already doing the job inside sheep's bellies. "Evolution has done its work already," he says.

Mr. Angenent is using ethanol waste because that's the kind of cellulose that's available to him right now, but his process, if successful, theoretically could be applied to other sources. Like many of the butanol projects, his work is still experimental and it's unclear when, if ever, it will be applied to make large quantities of butanol.

Southtown Star (IL)
June 29, 2008

Drunk on E85

By: Guy Tridgell

With gasoline prices at record highs, the allure of E85 never has been greater.

So much so that drivers whose cars aren't made to run on it are looking to save a few dollars by trying out the fuel, which consists of 85 percent ethanol and 15 percent gasoline.

Although E85 typically costs about 50 to 80 cents less per gallon than gas, it is strongly advised for use only in so-called "flexible fuel vehicles."

But Ray Wnek, an employee at the Kean station in Chicago's Beverly community, said some customers are insisting on buying E85 - even though burning the fuel risks damaging their engines. He said the usual culprits are owners of older cars who figure they have nothing to lose.

"I tell them if they use it for a prolonged period of time, it'll mess up their car," Wnek said. "They don't care."

Gas City vice president Bill Shireman said he has heard reports of Chicago cabbies, pinched by gas prices averaging $4.22 a gallon in the city and suburbs, mixing E85 and standard gas in their tanks.

"We don't recommend it," Shireman said.

E85 has been around since 1998, but fewer than 5 percent of cars on the road are made to run on the corn-based fuel that costs less but doesn't go as far as a gallon of gas.

For those who buy E85, the Illinois Environmental Protection Agency offers rebates to offset the decline in fuel economy compared with gas.

Darwin Burkhart, manager of the IEPA's alternative fuel program, said he's noticed more rebate applications from people buying E85 for vehicles that should not use it. Those applications are rejected, he said.

Burkhart urged motorists to read the vehicle's manual or check the inside of the flap leading to the fuel tank before trying E85.

"We used to think people were filling up with E85 by mistake," Burkhart said. "People now are doing it anyway. We do not condone that."

In the industry, the practice is known as "misfueling." The effects on motors that are not equipped to run on E85 is widely debated.

Burkhart said E85 can corrode fuel lines in vehicles not built to run on multiple fuels, causing emissions failures. Some auto manufacturers will void warranties on vehicles if it's discovered they improperly burned E85.

But Gary Brach, owner of Brach's Auto Center in Beverly, said E85 is harmless. He said a few times a year someone sputters and stalls into his shop after buying E85 - intentionally or unintentionally.

"It really doesn't damage anything, but the engine just doesn't run well," Brach said. "It's like running on bad gas."

But Wnek said E85 can be potentially harmful in a much different way - some of his customers find it intoxicating. Literally.

"I get people who come here, buy the stuff in gas cans, take it home, boil it and drink it," he said. "They say it tastes like moonshine."

Des Moines (IA) Register
June 29, 2008

Biofuels, Iowa get a scolding at forum in Switzerland

By: Mark Micheli

Geneva, Switzerland — They came from India, Brazil, the Marshall Islands, Togo and Canada. They shared stories of thinning ice, devastating cyclones, ruined economies and some things familiar to Iowans — rising waters and failed levees.

Together, at the first Global Humanitarian Forum, five youths meant to represent the human face of climate change sent a message to world leaders: The threat is real and we want solutions.

"I come from the Marshall Islands, and I'm angry right now," said James Bing III, 18, addressing more than 300 business and government leaders. "Rising sea levels have taken our sand, our beaches, our trees, our food and most importantly, our soil. Where is my soil, ladies and gentlemen? What have you done to it? I want my soil back."

Created at the urging of former U.N. Secretary-General Kofi Annan, the Global Humanitarian Forum held here Tuesday and Wednesday sought to bring a sense of urgency to the issue of climate change.

Annan proposed a concept of "climate justice," saying that the world's polluters must pay for problems, instead of the poor and vulnerable. He and 300 other participants called for increased money for research and production of second-generation biofuels, greater government incentives to private industry to reduce carbon emissions, solutions to food and water shortages, and enforcement of a stringent carbon tax paid by wealthy nations for reinvestment in small, developing countries.

The event was billed as the first time the human effects of climate change took center stage over science-heavy environmental aspects at an international forum.

Delegates said the human element of climate change has never been more visible. They cited the effects of phenomena that Annan and others linked to climate change, such as debilitating drought, volatile storms, high food prices around the globe and record floods in the United States.

The event addressed the world food crisis in addition to climate change.

"Everybody feels terrible for the tragedy that Iowa is living through right now," said Jeffery Sachs, special adviser to U.N. Secretary-General Ban Ki-moon, discussing the world impact of the billions of dollars of damage to Iowa's agriculture industry in recent weeks because of flooding. "But it also means with the reduced crop yield, we

cannot afford to put as much corn-based biofuel in the gas tank without further ratcheting up food prices and (creating) real havoc in a world struggling to feed itself."

Annan referred to Iowa as one of the "great breadbaskets of the world" and called on Iowans to refocus corn production on human consumption needs, condemning the Bush administration's subsidies of biofuel production.

"I understand the difficulties Iowans are in, but given the crisis of food, for the farmers to shift back to producing corn for consumption and export shouldn't be too difficult a task," Annan said. "But if the government withdraws the subsidies, it must be done in such a way that it gives the farmers a soft landing because they were misled into going in that direction, and if the government were to decide to correct it, they should make sure that farmers do not unduly suffer."

U.S. officials have disputed allegations that biofuels are driving up world food prices. Secretary of Agriculture Ed Schafer, noting that 2007 brought the largest grain harvest in world history, downplayed the role of biofuels in the food crisis, saying their production is responsible for only 2 percent to 3 percent of the increase in prices.

Aid groups like Oxfam, however, argue that even an extra 1 percent increase in food prices forces 16 million people into hunger.

Rick Tolman, CEO of the National Corn Growers Association, said he believes that biofuels are being unfairly targeted.

"It is wrong to blame biofuels like ethanol for the world food crisis," Tolman said. "There are more significant factors in play, such as high energy costs, surging demand for commodities, droughts, and export restrictions in food-producing countries."

Tolman rejected calls by a U.N. official, Jean Zigler, for a five-year moratorium on biofuel production.

"Abandoning biofuels or putting a moratorium on production would send a very negative signal to the growing biofuels industry and undermine the progress we are making with one of the few solutions to keeping oil prices lower," Tolman said.

"There is more than sufficient research now that shows biofuels have a very positive effect on the economy by keeping gasoline prices lower than they would be otherwise, which is one of the real solutions to the global food crisis."

The ideas put forth by think tanks, corporations and world leaders at the Global Humanitarian Forum are expected to help lay the groundwork for 2009 climate change negotiations to take place in Copenhagen, Denmark.

A number of ideas were proposed at the forum to help vulnerable populations cope with increasingly severe storms, floods and drought. These include improving access to

weather data in poor regions and a commitment to providing more solar, wind and hydroelectric energy.

The conference concluded with a call for greater investment in long-term technological solutions to climate change.

But for many, action is needed now, delegates said.

"Bring a television crew down to the Marshall Islands," said Bing, referring to his homeland in the north Pacific Ocean. "My island is 30 miles long and one mile wide. You'll see the rising water levels. You'll see the effects of climate change firsthand. Come see the islands while they're still there."

Mark Micheli is a Drake University journalism student who is reporting from Geneva, Switzerland.

Idaho Statesman
June 30, 2008

Ethanol floods the Treasure Valley

Supply is up 35% this year, but not all drivers are happy about it

By: Anne Wallace Allen

If you think you're seeing more ethanol on offer at the gas pump lately, you're right. Idaho fuel distributors have raised the supply of ethanol blends by 35 percent since January, according to state officials.

Almost all of the 160 stations that Meridian-based Jacksons Food Stores owns in eight Western states have switched over to ethanol. Many did so just a few weeks ago, said owner and Chief Executive Officer John Jackson. Jackson also supplies 400 stations it doesn't own.

Ethanol is a biofuel, an energy source made from a plant or from plant waste. Idaho has two ethanol factories: one in Caldwell that uses potatoes and a new one in Burley that uses corn. The clean-burning fuel is one of many alternative energy sources promoted by lawmakers, policymakers and politicians as an alternative to the fossil fuels like oil, natural gas and coal that provide most of the nation's energy.

Ethanol promoters say it will help improve air quality in the Treasure Valley and reduce Idaho's dependence on foreign oil.

"Ethanol is a cleaner-burning, higher-octane fuel than conventional gasoline," said Charley Jones, president and co-owner of Stinker Stores, which has been selling a 10 percent ethanol blend at its stations for 25 years. Stinker offers the 10 percent blend, known as E10, at all 50 of its Idaho stores, and offers an 85 percent blend, known as E85, at three stations in Boise, Nampa and Lewiston. E85 can be used only in vehicles designed for it.

Opponents of ethanol say it powers fewer miles per gallon and causes engine problems.

Ethanol is promoted by commercial interests that profit from agricultural crops like corn, said Paul Martin, a lobbyist for United Street Rods of Idaho, a classic-car hobbyist group. Older cars can't use it, he said.

"Ethanol is like putting a Band-Aid on a wound that requires sutures," he said. "It's a boon for (agriculture giant) Archer Daniels Midland. It's a bust for everybody else."

PUSH FROM WASHINGTON

While there are strong differences of opinion about ethanol's efficacy as a fuel, it got a big push late last year when Congress raised its requirements for the renewable content of fuels sold by importers and refiners. Last year, refiners sold 6.85 billion gallons of ethanol nationally; to meet the new standard, they'll have to sell 9 billion gallons, said Al Mannato, the fuels issues manager for the American Petroleum Institute in Washington, D.C.

And four states - Minnesota, Hawaii, Missouri and Oregon - require fuel dealers to sell gas with at least 10 percent ethanol.

"In effect, over 70 percent of the gasoline out there needs to have ethanol in it this year in order to comply with the federal mandate," Mannato said.

It's not yet clear exactly how that will affect the Treasure Valley. Some gas-station owners said Chevron recently started shipping only E10 fuel to Boise. A spokeswoman for Chevron said she didn't know if that is true.

Jackson said he hadn't heard any complaints. But he has few himself.

"Well, it's a mandate by the federal government, so there's not a whole lot I can do about it," he said. "Personally, I think it's a controversial product. But to the extent that we can lower our dependence on foreign crude oil, that's a positive."

Gary McCracken, another classic-car enthusiastic, has many complaints. He said ethanol has stopped old cars dead. It isn't good for four-wheelers or snowmobiles either, he added.

"It's the people with the older cars who are going to need the no-ethanol gasoline. Look in Boise, Emmett, Meridian, and what do you see? Older trucks."

Mannato disagreed. Only pre-1981 motorboat engines run into problems with ethanol blends, because some have fiberglass tanks, he said.

"Ethanol swells rubber and corrodes aluminum, but it's generally compatible with the vehicle fleet," Mannato said. "Can I guarantee every antique car out there will be OK with it? No."

In January 2008, Idaho blenders - licensed distributors that blend gasoline with ethanol - produced 1.04 million gallons. That rose to 1.4 million gallons in April, said Liz Rodosovich, a spokeswoman for the Idaho Tax Commission - an increase of 35 percent. The state couldn't provide data on how many individual stations now offer ethanol blends.

The move toward ethanol is right in line with the wishes of city and state policymakers looking for renewable, lower-polluting fuels. Gov. Butch Otter last fall created an Office of Energy Resources to explore alternative fuels.

"I would like to see more ethanol here, and stations with higher blends," said Beth Baird, coordinator of the Treasure Valley Clean Cities Coalition.

The Grand Island Independent (NE)
June 29, 2008

Nebraska Cattlemen, Farm Bureau on opposite ends of ethanol debate

By: Robert Pore

GRAND ISLAND —A debate is raging within the state and nation's agriculture industry about the high costs of food and how much ethanol is contributing to it.

With Nebraska feedlot owners facing feed costs of as much as $300 per head, Nebraska Cattlemen is asking the U.S. Environmental Protection Agency to reduce the nation's renewable fuel standard (RFS) within the Clean Air Act to 4.5 billion gallons.

On the other hand, Nebraska Farm Bureau is urging EPA to deny the recent request from the State of Texas for a waiver of the Renewable Fuels Standard (RFS).

According to Nebraska Farm Bureau President Keith Olsen, "it would be short-sighted by those of us in agriculture to abandon or undermine decades of work to develop and expand a biofuels industry that is not only critical for boosting long-term demand for grains but also important in moving the U.S. closer to the goal of energy independence."

Renewable fuels aren't responsible for the higher food costs this year of the typical Fourth of July barbecue, according to FoodPriceTruth.org, a Web site administered by the New Fuels Alliance, a group funded by the ethanol industry.

"Everyone loves a Fourth of July barbecue, but no one loves grocery store prices anymore," said Brooke Coleman or FoodPriceTruth.com.

"The biggest reason food prices are through the roof is because gas prices are through the roof," Coleman added. After all, the typical item at the grocery store traveled 1,500 miles just to get there. Anyone who has been to the gas pump lately knows that shipping something 1,500 miles is going to make that item cost more."

Nationwide, diesel fuel is up nearly $2 per gallon from a year ago.

According to FoodPriceTruth.org, these are the real reasons why this year's Fourth of July BBQ will cost more:

- Chicken -- The average chicken sold in the United States travels 1000 miles just to get to the market, because the vast majority comes from Maryland or Arkansas.

- Pork -- According to USDA, the price of pork chops, ribs and bacon increased by about 2 percent in 2008, but a leading economist at Purdue University attributes 75 percent of corn cost increases to oil prices.

- Beer -- Retail beer costs are virtually the same as 12 months ago, before Congress passed the biofuels bill.

- Potato salad -- In the last year, potato prices increased by almost 9 percent, despite a big 2007 harvest and ample stocks of potatoes in storage; and mayonnaise, like most other products made using vegetable oil, has increased in price as higher incomes overseas mean better diets and more vegetable oil consumption.

- Fruit salad: Apples (up 14 percent this year), bananas (up 26 percent this year) and orange juice from concentrate (up 32 percent since 2006) are all more expensive recently. Harvesting fresh fruit requires a great deal of hand labor, which has grown more scarce in recent years (the nation clamps down on illegal immigrants), and the cost of freight has shot up with the price of fuel.

- Plastic cutlery -- Polystyrene, the type of plastic in a pincifork is produced from crude oil, and the price of crude oil increased by 97.6 percent in the past year.

"On average, the retail price of food rose by 3 percent per year from 1980 to 2005," said David Morris, vice president of the Institute for Local Self-Reliance. "During the same period the price of corn and soybeans and wheat remained the same."

But according to Chris Hurt, Purdue University Extension agricultural economist, with prices the way they are, very few people can afford it, whether it be livestock producers or ethanol manufacturers.

"The ethanol industry is struggling to pay for corn that has reached the $7 a bushel level," Hurt said. "So the ethanol industry may also experience losses and might not be able to bid the price. That will depend on what oil prices, and therefore ethanol prices, are.

Hurt said that before planting season began and the floods came, farmers had already indicated they were cutting back on planting corn this year.

In March the U.S. Department of Agriculture projected farmers would plant 86 million acres of corn nationwide -- an 8 percent decrease from last year.

Hurt said following a wet early spring that delayed planting in some states and then this month's devastating floods, the USDA adjusted its harvest estimate to 76 million acres and production to 11.7 billion bushels.

Hurt estimated U.S. corn production could drop below 11 billion bushels this year. "That's not nearly enough corn to go around," he said.

He said the U.S. ethanol industry needs 4 billion bushels of corn this year -- or 1 billion bushels more than 2007 -- to meet anticipated production. Also, livestock producers used 6.15 billion bushels and foreign buyers 2.45 billion bushels of U.S. corn in 2007, and both could buy at least that much corn this year if it were available and more favorably priced, Hurt said.

Usage will have to come down, likely in the livestock and foreign sectors, Hurt said.

"The USDA has said that if the ethanol industry gets 1 billion more bushels of corn it means that the domestic livestock industry will have to cut back 16 percent in feeding corn," he said. "And then our foreign buyers will have to cut back 18 percent."

Hurt said adding to the supply shortage and, ultimately, higher corn prices is the ongoing devaluation of the U.S. dollar.

"Another important part in who is going to be able to pay the price for corn is the exchange rate of the dollar," Hurt said. "When their currencies are strong, the foreign sector's currency goes a long way in the United States.

"If we should see our dollar weaken more, the foreign buyer is going to be able to stay in and pay these prices. That says that the domestic livestock feeder might have to bear even more of the consequences."

With demand for corn growing with more ethanol plants coming on line, producers this year planted less corn than last year's record harvest and laid everything on the line hoping the weather dice didn't roll them snake eyes.

But Mother Nature didn't cooperate and decided tho drench the nation's Corn Belt. With millions of farm acres damaged by high water, the losses to Midwest farmers stand to reach into the hundreds of millions of dollars, Hurt said.

"This crop in particular for our farm producers is the most valuable crop they have ever raised," he said. "Not only is it a valuable crop, they have the most invested in this crop of any crop they have ever raised. So if they are losing that crop, it is going to be the biggest dollar loss that we have ever experienced on a per-acre basis."

My FOX Tampa Bay (FL)
June 28, 2008

Citrus-to-ethanol plant coming to Polk County

Citrus greening is a huge problem facing growers.

WINTER HAVEN -- One of Florida's most abundant natural resources will soon be fodder for alternative fuel.

Florida Power and Light has plans to build a citrus-to-ethanol plant in Polk County, a first of its kind.

Ethanol would seem to be the front runner in the race to find alternative fuels that could ease the squeeze of high oil prices.

New ethanol plants are going to be built here in the Tampa Bay area. In the meantime, research has been going on in a Winter Haven lab.

Fuel for thought that Dr. Bill Widmore with the U.S. Department of Agriculture hopes will soon be fuel for your car.

Widmer has figured out how to take citrus pulp and make ethanol.

And two citrus-to-ethanol plants are being built in Florida—the first of their kind—one of which will be in Polk County.

'It's great that it seems to be finally happening. Negotiations are underway, and it's great," said Dr. Bill Widmer with the U.S. Department of Agriculture.

Governor Charlie Crist is among those who hope citrus-to-ethanol may be the sweet deal that we have been looking for..

"This is another example of Florida companies leading the way in bringing about alternative sources of energy while helping its citizens, businesses and economy," said Governor Charlie Crist.

Citrus-to-ethanol would seem a perfect fit for Florida.

Citrus pulp is essentially a throw away—right now, ranchers use it to feed their cattle.

Even if it's made into ethanol, cows could still eat the leftovers.

But even if every last peel is used, the amount of ethanol produced would only fuel one percent of our state's vehicles.

And it costs a lot to produce ethanol this way.

Widmer is working to figure out how companies can make it cheaper.

Florida Power and Light is building one of those citrus to ethanol plants, and says it will be up and running in about two years..

South Bend Tribune (IN)
June 29, 2008

Consider the source of ethanol criticism

OPINION

By: Jack Colwell, Tribune Columnist

Ethanol is criticized now as just a corny substitute fuel. Critics say it brings more harm than good. But from where comes the criticism?

Sen. Richard G. Lugar, an ethanol proponent who agrees that it's not the ultimate answer to oil dependence, says that strong opposition to ethanol comes from the oil states and the oil companies.

In a recent interview in Washington, Lugar said oil interests have sought to put roadblocks in the way of ethanol distribution and now portray use of corn for ethanol as the cause of food shortages and world hunger.

Other critics, too, especially on the East and West coasts, view ethanol as some kind of Midwestern scheme to raise farm prices. They buy the contention that increased corn prices are leading to poverty and starvation abroad. The New York Times, which calls for ending tax breaks for ethanol and halting mandated increases in biofuels, raised the specter of "100 million people falling into poverty due to soaring food prices."

Well, the outlook for an adequate food supply to meet world demands is not bright. But higher oil prices increasing the cost of producing, transporting and packaging food is a more significant factor than ethanol. So is the increased demand for an improved diet by the rising middle class in China, India and other countries. So are weather-related factors here and around the world.

Lugar noted that the U.S. Department of Agriculture calculates that use of corn for ethanol accounts for no more than 3 percent of the recent hikes in food prices.

It's not as if abandoning ethanol would cause more corn to go for food. Larger corn crops are planted because of larger profits than had been available before ethanol helped a depressed agriculture sector. Even with ethanol use, the amount of corn available for food and feed has increased. A sudden drop in corn prices with abandonment of ethanol would lessen production.

But the main reason Lugar advocates continued expansion of ethanol is national security.

Lugar, the top Republican on the Senate Foreign Relations Committee, has been warning since back when oil was only $20 a barrel that the United States was risking economic crisis and risking being beholden to whims and pressures from authoritarian oil exporting nations if it didn't get serious about breaking dependence on oil.

Ethanol, though no final answer, is the only immediate answer for a significant alternative to oil, Lugar said.

"It's a pretty small price to pay," Lugar said of paying a slight increase in food prices in order to lessen vulnerability to governments that use oil as a political weapon and distort market concepts of supply and demand.

"The essential point is that it's dangerous to be dependent on foreign oil," Lugar said.

In addition to national security concerns, Lugar said, the flow of dollars to the Mideast for oil constitutes "the greatest transfer of wealth." They get the dollars and get wealthy. The United States gets oil "that is burned up and gone."

And our standard of living and the value of our dollar diminish.

Lugar is not too enamored with the contention of some fellow Republicans that the nation can simply drill its way out of the gasoline price situation or of the rival view of some Democrats that the nation can just go green to solve everything.

Neither domestic drilling nor energy conservation nor new alternatives can come quickly enough to remedy the present situation, Lugar said.

That doesn't mean he's against some additional domestic exploration. Nor does it mean he's unenthusiastic about conservation and development of alternative energy. He's for all of that and hopes that the next president will make a realistic energy effort the top priority.

Lugar looks for development of cellulosic ethanol made from such things as crop residues and weeds. He looks also for use of farm, municipal and industrial wastes for fuel.

This would lessen need to use corn.

Meanwhile, Lugar hails the startup of new ethanol plants and urges greater availability of E85, fuel with 85 percent ethanol, and manufacture of more flex-fuel cars capable of using E85.

But oil interests, clearly interested in maintaining rather than reducing reliance on their product, have offered no cooperation in marketing E85.

"They present one obstacle after another," Lugar said.

Indeed, oil companies have sought to keep the E85 pumps from their stations or to hide them and direct operators to provide no signs about E85 prices or availability.

And now they would have us believe that E85 is causing food riots and world starvation.

There is a kernel of truth in the claim that ethanol is responsible for a slight increase in food prices. But abandoning ethanol before there is a less corny substitute would cost a whole lot more.

Montgomery Advertiser (AL)
June 29, 2008

ALABAMA VOICES: Biofuels promising

By: Raine Cotton

With the recent issues surrounding ethanol's link to corn prices and the increase in food prices there have been several misleading claims and missing facts about ethanol, oil and food prices.

First and foremost, corn used for ethanol is not used for human consumption; it is mostly used to feed cattle and poultry. There have been many pundits who use the phrase "food for fuel," which paints a mental picture of a person going hungry because we are driving food off their plate and into our fuel supply. The type of corn used to make ethanol is not the same corn we eat out of a can or throw on the grill Sunday afternoon.

The U.S. Department of Agriculture states that 5.65 billion bushels of corn will be used for animal feed, while 3.2 billion bushels will be used for ethanol production. Only 1.79 billion bushels is used for food use and seed.

When ethanol is produced from corn only the starch of the kernel is converted to ethanol. Ethanol production does not use the entire kernel of corn. The vitamins, minerals, proteins and fiber are not used in the ethanol process and get sent back into the feed markets in a form of high-value feed called distillers dried grains.

What other "food" uses would the starch of a standard bushel of corn provide us if we did not use it for ethanol? It would produce 32 pounds of starch used in adhesives, batteries, cardboard, crayons, degradable plastics, dyes, plywood, paper, antibiotics and chewing gum, or it would be further refined into corn sweetener used in soft drinks and juices, jams and jellies, cereal, licorice, peanut butter, catsup and marshmallows.

When looking at increasing food cost we must make a factual and informed decision. A barrel of oil cost more than $130 and many experts (and OPEC's projections) expect that number to reach $200. According to the Federal Reserve Bank in Kansas City, "a 10 percent gain in energy prices could contribute 5.2 percent to retail food prices."

Since January, the price of oil has increased approximately 30 percent. Money we spend on home-grown biofuel is money not sent to foreign oil-producing countries that often are not looking out for the United States' best interests, and too often quite the opposite.

Oil has its limitations and a fixed supply. Even with the "windfall profits" of ExxonMobil, the company was not able to maintain the production level of crude oil and lost 10 percent of its on-line production in 2007.

In an interview with Bloomberg News in July 2006, Dr. Ali Samson Bakhtieri, a former senior executive of the National Iranian Oil Company, stated that "world oil production is now at its peak" and predicted that oil production would fall 32 percent by 2020.

According to the International Energy Agency, worldwide production of oil has been flat since 2005 and decreased .7 percent in 2007 (and the IEA included ethanol and biofuels in the 2007 total oil production calculation).

Oil will never completely run dry, but our pocketbooks will. Dwindling supply and increasing demand from surging nations such as China and India are a recipe for continued skyrocketing prices.

The growth in ethanol is outstanding and ethanol is saving us money at the pump. We are on track to replace 10 percent of our gasoline consumption in less than three years.

Breakthrough technology is happening every day. Merrill Lynch analyst Francisco Blanch estimates that gasoline prices would be about 15 percent higher today if biofuel producers were not increasing their production of fuel.

It is easy to cast blame at the biofuel industry for the increase in food prices. But we can not afford to overlook the benefits we have gained and the potential that lies ahead for the emerging industry.

Every year we can plant the same amount of corn and through the use of better seed and farming techniques get more and more bushels off the same acre of land. As we focus more science into better yields and bring idle farmland from around the world back into farm production, there is no telling what the future holds for biofuels.

The growth of the biofuel industry is not without pain, but neither are the production loss and limitations of oil.

Raine Cotton is president and CEO of Southeast Alternative Fuels Inc. in Andalusia.

The Grand Island Independent (NE)
June 29, 2008

Consider pros and cons of corn ethanol

By: Tom Drudik

GRAND ISLAND —

Nebraska has 21 ethanol plants in operation and another six plants under construction. This increased production of ethanol has raised many questions about the overall cost-benefit ratio of this industry.

Many controversial factors affect the production of ethanol, including fossil fuel use, environmental concerns, water use and job creation in communities near ethanol plants. To accurately assess the costs and benefits associated with ethanol, all these factors need to be evaluated.

Much of the controversy about ethanol production in the past has been created by conflicting studies that support both sides of the ethanol energy debate.

Most recent studies have determined that ethanol produces a net energy gain. A life-cycle energy analysis in 2007, which examined corn input costs and fossil fuel use, showed ethanol produces a 30 percent positive net energy increase over the amount of fossil fuels used during production.

The environmental costs and benefits are more difficult to measure. One concern is that large numbers of Conservation Reserve Program acres will be put into corn production, and this along with the added corn acres will increase the amount of fertilizer and pesticides used in the environment, increasing nutrient runoff and reducing habitat for wildlife.

Although some CRP acres were put into production in 2007 and more look to come out in the future as contracts expire, some CRP acres will not be farmed because they are highly erodible or not suitable for corn production. Improved farming methods, such as no till and heartier corn hybrids, increase the chances that acres taken out of CRP will be farmed with less erosion and fewer chemicals.

Water also is a concern when considering where ethanol can be produced. It is estimated that it takes three to six gallons of water to produce one gallon of ethanol, so a sustainable water supply is needed for ethanol production.

Whether the economic benefits of an ethanol plant make good use of water is up to the observer. Since water isn't valued like energy, it is difficult to put into context.

Before an ethanol plant is built, the local Natural Resource District must issue a permit. The NRD examines whether the proposed site has sufficient water for ethanol production. There must be enough water available to provide for the plant without adversely affecting the supply to nearby populations.

If ample water is available a permit usually is granted because of the economic benefits ethanol brings to an area.

Ethanol plants can benefit a community by directly employing between 30 and 40 on-site workers, as well as stimulating other local industries like grain haulers, distillers grain haulers and local contractors. A community also benefits from property taxes, the influx of jobs during the construction phase, a partnership with ethanol plants for city infrastructure and another local market for corn. Each person and community has to decide whether these benefits outweigh the costs.

The costs of ethanol production in Nebraska include water use,the total fertilizer and pesticide use, and movement of land out of CRP acreage.

These costs bring up valid concerns about water and the environment. Recognizing these concerns is important when looking at the reality of ethanol production as an industry.

Although studies are showing a net energy increase with ethanol, it is important to look at all the factors that go into the process when determining benefits of this industry to a community.

Tom Drudik is a Hall County Extension specialist in agriculture.

Science Daily
June 29, 2008

Ethanol Coproducts Eyed As Fillers In Plastics

ScienceDaily (June 29, 2008) — A coproduct of ethanol production could be used as a non-petroleum-based filler in plastics, based on preliminary studies by Agricultural Research Service (ARS) scientists and their cooperators.

The ethanol coproduct, called distiller's dried grains with solubles (DDGS), has a high fiber content and a molecular structure suitable for binding—two attributes that make it a candidate as a filler in plastics, according to ARS agricultural engineer Kurt Rosentrater.

Rosentrater is based at the ARS North Central Agricultural Research Laboratory in Brookings, S.D. He conducted the research with Robert A. Tatara, a professor at the Northern Illinois University (NIU) Department of Technology, part of NIU'S College of Engineering and Engineering Technology.

The researchers compressed molded blends of DDGS and phenolic plastic resin (ranging from 0 to 90 percent DDGS) and found that DDGS concentrations between 25 and 50 percent worked best as fillers in plastics. These findings were published recently in the Journal of Polymers and the Environment (JPE).

The preliminary study yielded only limited data on the resulting physical properties of the various DDGS/plastic blends, so follow-up tests are currently under way.

The data can then be used to develop new bio-based manufactured products. Rosentrater and Andrew W. Otieno, also with Northern Illinois University's Department of Technology, have developed comprehensive guidelines that take into account the unique challenges encountered when manufacturing plastic composites that contain biological materials. This work has also been published in the JPE.

Fillers such as clay, talc, glass, paper and metals are commonly used in plastics to increase strength, and also to save costs by reducing the amount of actual plastic resin used. Using bio-based fillers such as bamboo, kenaf, corn stover, soybean hulls or even chicken feathers is receiving increased attention as a way to use less petroleum in plastic products. Thus both DDGS and distiller's dried grains (DDG) are candidates for use as biofillers for plastics.

Florida Trend
June 30, 2008

Ethanol: Miracle or Mistake?

By: Mike Vogel

At his global warming summit in Miami last year, Gov. Charlie Crist held out ethanol as a major tool in reducing greenhouse gases. No state, he said, can match Florida's capacity to produce ethanol. Since virtually all the ethanol in the U.S. is made from corn, Crist was anticipating a time when Florida entrepreneurs could take various forms of cellulose that are plentiful in the state — citrus waste, sugar cane waste, plants and trees — and distill ethanol from them.

Following Crist's green lead, the Legislature this year mandated that all gas sold in Florida have at least 10% ethanol by the end of 2010. That translates into Florida needing some 861 million gallons of ethanol annually in less than three years. At May's going price for a gallon of ethanol, that's $2.4 billion worth each year — money that the lawmakers don't want to flow only to corn farmers and ethanol distillers in the Midwest. To spur production in Florida, the Legislature allocated $8 million this year for bioenergy project grants and another $7 million for renewable energy and efficiency grants.

That's on top of the $60 million the state already has given to would-be ethanol developers and other biofuel researchers in Florida. "About every state has a cellulosic ethanol initiative," says University of Florida professor Lonnie Ingram, who has a $20-million state grant to build a cellulosic ethanol demonstration plant with sugar maker Florida Crystals in Palm Beach County. "There's a lot of money being put into this area."

Indeed. The federal government, which has been pushing cellulosic ethanol for more than 30 years without so much as one commercial refinery to show for it, has mandated 36 billion gallons of ethanol — 16 billion from cellulose — in use by 2022 and is funding a host of research efforts around the country.

But even as the government pours out research dollars and ethanol-use mandates, new questions have arisen — and old questions persist — about whether ethanol can live up to its billing as the clean, green path to energy independence.

Aside from the now-debated question whether ethanol may actually be worse for the environment than fossil fuels, cost and risk remain a big issue, even with oil spiking northward of $130 a barrel.

Chemically, ethanol's not hard to make — it's just a matter of distilling alcohol from sugar. "Everybody who has moonshined" knows how to make ethanol, says Ali Raissi,

director of the University of Central Florida's advanced energy division, who is leading research on a state grant. The problem is that it's technologically hard and expensive to break down cellulose, the woody parts of plants and trees, into a fermentable, simple sugar.

"You're not going to solve our fuel problem with citrus waste," says USDA researcher Bill Widmer. Clewiston based Citrus Energy has a $2.5-million grant to build a 4-million gallon ethanol refinery.

USDA researcher Bill Widmer ["Starter Fuel," May 2006, FloridaTrend.com] is among the few researchers who have developed reliable numbers on the cost. He has been working for four years at reducing the cost of turning citrus waste to ethanol, building off research dating to the early 1990s. Widmer, of the USDA's agriculture research service citrus lab in Winter Haven, says that four years ago the enzymes needed to convert citrus waste to a fermentable sugar cost $12 to $15 per gallon, which would make $4-a-gallon gas a bargain. While he still has processing issues to resolve, he now has the enzyme cost down to just 80 to 90 cents per gallon. While that's "still quite expensive," he says, it has made citrus-waste ethanol "more than" price competitive with corn-based ethanol after the value of co-products such as limonene, which is used as a food additive and as a solvent, is included.

In theory, at least. Currently, citrus waste is made into animal feed. Now, just as the ethanol arithmetic has started to make economic sense, the rising price of corn has driven the price of animal feed upward, making citrus waste more attractive in the short term financially for growers to sell as a feed source. "We still have a ways to go in improving the economics for producing ethanol from citrus processing waste to prove there would be a clear advantage making the conversion (from animal feed production) to produce ethanol," Widmer says.

Producing ethanol also can require copious water. At three gallons of water per gallon of ethanol — some methods require more — meeting the state's ethanol quota with Florida-produced ethanol would translate into using an additional 2.5 billion gallons of water each year in a state already struggling with the demand on its water resources.

Some experts question ethanol's green friendliness in other ways. Princeton University researcher Tim Searchinger touched off widespread biofuel skepticism earlier this year in a Science magazine study that looked at how growing crops for fuel drives changes in land use. Searchinger favors using waste products as fuel sources. But he says using citrus waste for ethanol could be a poor choice in terms of greenhouse gas emissions if it induces growers to cultivate untouched land to grow animal feed to replace the citrus waste.

Ingram, the UF researcher, would seem to have the solution for all. He says he hopes his cellulosic ethanol process will be not only water neutral, but also may generate water. His pilot refinery also will use a farming byproduct rather than a crop — sugar

bagasse, the crushed sugar cane stalks left over after the sugar juice is extracted. (It later will use yard and wood waste, among other sources.)

At present, sugar industry titan Florida Crystals burns that bagasse along with yard waste from Palm Beach County to generate electricity at its Okeelanta site, the largest biomass co-generation energy plant in North America. Gaston Cantens, Florida Crystals' government relations vice president, says the expectation is that Ingram's process will first refine the bagasse into ethanol. Then the part of the bagasse that can't become fuel will be burned for electricity. Ingram's cellulosic ethanol breakthrough first was patented 17 years ago, however, and there's still no refinery.

At least two other researchers using state grants are working on other ways to make bagasse into fuel. But since there's not enough bagasse to fuel Florida, state officials are banking on making cellulosic ethanol out of everything from suburban yard trimmings to wood from Florida's forests. It didn't get encouraging news in June when Florida agribusiness firm and land developer Alico announced it was abandoning plans to build a plant in LaBelle that would have turned yard, wood and agricultural residue into ethanol, hydrogen, ammonia and electricity. The company said it wouldn't take the $33-million federal grant that would have helped build the plant because the risks outweighed "any reasonably anticipated benefits for Alico."

Ethanol, meanwhile, isn't immune from the normal hiccups that accompany any startup industry. United States Envirofuels, holder of a $7-million state grant, encountered opposition from a neighboring community to its plans to build a $60-million sweet sorghum ethanol refinery in Highlands County. Brad Krohn, the company's president, says he will now build at a location near the one originally proposed.

Similar siting problems are likely all over Florida. Transporting the source crop for ethanol to the refinery drives up its costs, so Florida will need a score or more of small refineries scattered throughout the state to efficiently exploit timberland as an ethanol source.

And just because a technology carries a "green" label doesn't mean local residents will welcome an ethanol refinery. "It's a big boondoggle," says Joy Towles Ezell, a Taylor County farm owner and president of the Florida League of Conservation Voters and a member of the suspended Florida chapter of the Sierra Club, which opposed agrifuels. She says biofuel production is polluting and unsustainable and biofuel crop maximization is bad for soils and water supplies. The national organization shut down the Florida chapter this year, with the suspension attributed variously to internal troubles within the Florida chapter and its tougher stance on fuel crops than the national group.

The division over biofuels among the environmentally minded extends beyond the Sierra Club's intramural squabble. The Nature Conservancy's Richard Hilsenbeck, associate director of protection, generally favors cellulosic ethanol. He reasons that by keeping the timber industry prosperous, Florida will see fewer treetops giving way to

rooftops. Audubon of Florida policy director Eric Draper says his organization supports renewable energy. But his group worries that the state's 10% mandate will mean more corn ethanol, which it objects to, and importing Brazilian ethanol, which is currently kept out by tariffs. Draper says it will also create incentives for growers to switch to fast-growing trees at the expense of water resources and forest diversity. "For us, the jury's out until we see if the source works," he says.

Draper notes the number of lobbyists in the last legislative session representing interests that stand to gain from the energy bill; he wonders about a green bubble and the state spending. "It's a question of how much money government is going to throw at this stuff before they realize it doesn't work," he says. "We're chasing the energy solution and postponing the hard discussion on the real solution, which is conservation and efficiency."

Ethanol's difficulties also prompt other questions: If ethanol, which has been around as vehicle fuel for more than 100 years, is so difficult to pull off, how tough will it be to achieve Crist's other energy goals? Specifically, Crist wants Florida's utilities by 2025, when its population is projected to be north of 23 million, to reduce their greenhouse gas emissions to 1990 levels, when the state's population was 13 million.

But with the state and federal government dictating ethanol use, an ethanol process doesn't have to prove cheaper, more efficient or more environmentally friendly than gas; it just has to prove superior to the other alternatives to meet the government-required demand. "Congress in its wisdom has said we're going to have 36 billion gallons of this stuff no matter what the cost," says Princeton's Searchinger.

And so it's inevitable that Florida entrepreneurs and researchers will continue to chase ethanol development. Ingram says that once ground is broken on his Florida plant it will take two years to build. He's convinced that a few months of operation will prove cellulosic ethanol's economic and technologic viability. Others then will see the investment risk of building more as worthwhile, he says. "The technology is there. The hang-up is in building the first one."