

Ethanol Climate Protection Oil Reduction

A Public Forum

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Welcome to "ECO." This newsletter is written to provide the most current information about ethanol and serve as a public forum. The Environmental and Energy Study Institute (EESI) hopes to build consensus within the environmental community regarding the potential benefits of ethanol – and particularly the expanded opportunities provided by cellulosic ethanol – with a special focus on climate protection. Ethanol can also be a political bridge to broader alliances in support of climate initiatives.

Many in the environmental community have made strong statements in support of ethanol as a low-carbon fuel with large potential benefits to reduce life-cycle greenhouse gas (GHG) emissions. Ethanol also reduces carbon monoxide emissions and our reliance on oil, contains no sulfur and helps to eliminate smog through its use as an oxygenate for gasoline. Cellulosic ethanol, which is produced from agricultural or wood wastes, provides even greater GHG emission reductions than corn-based ethanol, promotes rural economic revitalization and offers a solution to waste disposal problems. However, there have been concerns about ethanol ranging from volatile organic compounds (VOCs) to corporate welfare. ECO addresses these and other issues. Please share your views with us and we will address them in "ECO."



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IN THIS ISSUE:

COMMENTARY: AN OPEN LETTER TO THE ENVIRONMENTAL COMMUNITY
BY DAVID MORRIS, INSTITUTE FOR LOCAL SELF-RELIANCE ...PAGE 2

107TH CONGRESS UNABLE TO PASS 2002 ENERGY BILL – RENEWABLE FUEL STANDARD IN LIMBO...PAGE 4

EPA SETTLES WITH MINNESOTA ETHANOL PLANTS ... PAGE 4

THE LAST MAJOR CALIFORNIA OIL REFINER ANNOUNCES SWITCH TO ETHANOL BY MAY 2003...PAGE 6

LEGISLATIVE UPDATE: MCCAIN/LIEBERMAN INTRODUCE CLIMATE STEWARDSHIP ACT OF 2003...PAGE 7

FARM BILL: IMPLEMENTATION UPDATE

RECENT STUDIES

- USDA: "ENERGY BALANCE OF CORN ETHANOL: AN UPDATE"... PAGE 8

- USDA: "EFFECTS OF RENEWABLE FUELS STANDARDS"...PAGE 8

ETHANOL NEWS BRIEFS ...PAGE 9

UPCOMING EVENTS ...PAGE 10

NOTABLE QUOTABLES ...PAGE 11

COMMENTARY

An Open Letter to the Environmental Community

By David Morris, Institute for Local Self-Reliance

Ethanol is the fuel environmentalists love to hate. After a decade of discussing the issue with my brethren in the environmental community, I'm bewildered by the continuing unreflective opposition of some. I understand the antagonism from those with an apocalyptic vision of the future. David Pimentel, for example, has written that nearly 80 percent of the planet's population will have to disappear to allow the remainder sufficient biological resources to survive in comfortable fashion. He and others who forecast mass starvation reasonably enough recommend that every acre be used to grow food for humans. Feeding crops to animals itself is suspect. Using plants to generate energy is taboo.

I disagree with their dismal prognosis but I understand their logic.

The virulent opposition to ethanol from those with a less apocalyptic vision of the future is more perplexing. Some say it is because ethanol is now made from corn, but they aren't opposed to corn chips or corn flakes. Some say it is because ethanol is not a perfect fuel. But every energy source has its drawbacks, a fact the environmental community appears to recognize when it evaluates other fuels.

Indeed, one might expect ethanol to be given a little leeway. After all, it is alcohol—a single chemical that the body, or at least the mind, enjoys imbibing. Gasoline, on the other hand, is a chemical stew of several hundred highly toxic materials. Yet it is these chemicals, not ethanol, that tend to get the benefit of the doubt from environmentalists.

By way of example, when MTBE was on the way to constituting more than 10 percent of California's and 3 percent of the nation's automobile fuel supply, environmentalists appeared unconcerned that the net energy equation of MTBE was decidedly negative. They appeared equally unconcerned that one or two global corporations dominated the MTBE industry. Yet the controversy over just how positive is the net energy of ethanol and the dominant role ADM plays in the ethanol industry continues to rage.

Even when MTBE was found to cause widespread water contamination, many in the environmental community were measured in their response. One report by a prominent New England coalition of environmental and business groups concluded that, when all the costs and benefits were included, MTBE was an acceptable fuel. It argued, "The aggregate public health benefits RFG provides by reducing air pollution substantially outweigh potential adverse public health impacts from exposure to increased levels of MTBE in the air and water."

But with ethanol, this measured cost/benefit based approach is less evident. Recently, for example, we were involved in an exchange with a prominent member of a national environmental organization. He had been sent our paper examining the net energy of ethanol (www.newrules.org/agri/). He found the report "unpersuasive" because the excess of energy produced over fossil fuel energy consumed was modest.

We then asked him two questions. First, given that the study identified a 38 percent net energy benefit based on the national average of energy used on farms and in ethanol facilities in 1995 and a 100 percent net energy benefit (two units of energy out for every unit of energy in) for 1995 "best practices", a better indicator of the average net energy figure for 2002, what would he consider a "persuasive" net energy increase?

Second, what is the net energy equation for fuels and technologies that his group supports, like on-board reforming of natural gas into hydrogen for fuel cells or electrolyzing water for making hydrogen?

He was unable or unwilling to answer these questions.

Two years ago environmentalists and ethanol advocates met in Washington, D.C. to thrash out their differences and work together on federal legislation phasing out MTBE. One of the disputes at the meeting related to ethanol's impact on air quality, specifically on ozone formation. At the end of the meeting participants agreed to share scientific and economic information that supported their different points of view. ILSR sent a paper citing scientific studies that argued that ethanol's impact on ozone formation was trivial. The environmental representatives offered no studies.

Last year, ILSR requested epidemiological data that support the California Air Resources Board's (CARB) position that the public health impact of ethanol blends is significantly harmful. Our staff epidemiologist identified a number of studies that found the negative health impact of ozone to be modest and reversible. Several senior officials at CARB responded to our request by simply repeating their contention that ethanol blends increase gasoline's volatility, a contention with which we did not disagree. They were unable or unwilling to provide studies that support their position.

This refusal to engage hurts both sides because it prevents us from working together to develop win-win strategies. For example, if public health studies should indicate that higher emissions of volatile organic compounds from ethanol blends are a problem, we could and should require oil refineries to lower the base volatility of gasoline. A number of oil companies already make such gasoline. EPA estimates the cost would be 1-2 cents per gallon. The result would be to allow a 10 percent ethanol blend without raising VOC emissions at all.

When it comes to transportation, we agree with environmentalists that improved vehicle efficiency is the best strategy. Yet even the most efficient vehicles will need fuels. Hydrogen may be the best long-term solution, but for the next few decades we will be relying on liquid fuels. Moreover, carbohydrates may be a better source of hydrogen in the long term than either hydrocarbons or water.

Every fuel source, including wind turbines and solar cells, has tradeoffs. When the wind energy industry first expanded there was a problem with bird kills. Large wind turbines can be visually intrusive. Solar cell manufacturing uses toxic chemicals.

Yet these drawbacks have not dampened environmentalists' enthusiasm for these energy sources. Why not bring the same full-cost accounting attitude to the ethanol debate?

A vigorous dialogue over the future of our transportation energy supply is essential. We may never get to yes. But we should be able to know where we disagree and why.

As a start, we could have a place where interested parties can go to review the positions and the supporting studies of all sides. ILSR would be glad to provide the host site. Or perhaps one of the nation's leading environmental organizations would take on this role?

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This letter originally appeared in the Carbohydrate Economy Newsletter, Summer 2002 Edition. See <http://www.ilsr.org/> for more info.

As always, EESI welcomes your comments about the issues raised in this commentary and throughout ECO. Responses, article and commentary submissions, and feedback can be sent to eco@eesi.org

107TH CONGRESS UNABLE TO PASS 2002 ENERGY BILL – RENEWABLE FUEL STANDARD (RFS) TO BE REINTRODUCED

United States House and Senate conferees were unable to reach agreement on a comprehensive energy bill before the clock ran out on the 107th Congress. Although both the House and Senate passed energy legislation, members of the conference committee were unable to reconcile the two bills before the end of the session. The Senate's bill (S.517) included an agreement to ban the fuel additive MTBE, the elimination of the federal oxygenate requirement for reformulated gasoline, and the establishment of a national Renewable Fuels Standard (RFS) for motor vehicle fuels.

Despite criticism from the New York and California senators, the RFS passed with broad bipartisan support. The proposed RFS was seen by many as groundbreaking legislation for renewable fuels. It would have ensured the use of 5 billion gallons of biofuel (ethanol and biodiesel) by 2012 in the United States fuel market. It also would have credited 1 gallon of cellulosic ethanol as 1.5 gallons of renewable fuel, as an incentive to spur the development of waste-to-ethanol facilities (See Recent Studies).

Recent analysis by the United States Department of Agriculture (USDA) had suggested that the RFS would have created as many as 13,500 jobs and raised net farm income by \$700,000,000.

Proponents of the RFS appear confident about their prospects in the 108th Congress. According to Tom Hume, chairman, National Corn

Growers Association (NCGA), "The groups that supported a renewable fuels standard are still in place...Just because Washington doesn't have its act together doesn't mean people will start walking away from it." Indeed, nearly all key Senate supporters of the RFS will be returning to Capitol Hill in the 108th Congress. Although the House did not include an RFS in its bill, the idea seems to have increasing support in the Energy and Commerce committees. House conferees had offered an RFS agreement, which was rejected by the Senate conferees due to disagreement on a MTBE liability waiver.

Several Senators from both parties, including Minority Leader Tom Daschle (D-SD), are expected to reintroduce RFS legislation in the next month.

US EPA ANNOUNCES SETTLEMENT WITH MINNESOTA ETHANOL PLANTS

In October 2002, the United States Environmental Protection Agency (US EPA), the Department of Justice, and the State of Minnesota announced that they had reached civil settlements with 12 Minnesota-based ethanol plants. The plants were accused of violating a section of the "New Source Review" provision of the 1990 Clean Air Act. Under the provision, if sources are found to be emitting above legal levels, they are required to assume all costs associated with the purchase and installation of appropriate pollution control equipment in order to come into attainment levels. In the case of the 12 Minnesota plants, the terms of the civil settlement require the installation of equipment called thermal oxidizers, an apparatus designed

to reduce emissions of volatile organic compounds (VOC's) and carbon monoxide (CO). The equipment will also lessen emissions of nitrogen oxides (NOx), particulate matter (PM), and hazardous air pollutants. The purchase and installation of the oxidizers are estimated to cost roughly \$2 million per plant, and will come in addition to a civil penalty ranging from \$29,000 - \$39,000 per facility.

The settlements were the conclusion of an investigation dating back to May 2002, after EPA officials noticed data suggesting excessive emission levels among Minnesota's ethanol plants. Because this was the first time that ethanol producers had been investigated for Clean Air Act violations, the process served as somewhat of a litmus test for interaction between ethanol producers and federal and state enforcement agencies. According to government officials, interaction with the ethanol industry has thus far been positive: "This is a success story for everyone involved and a sign of continued progress with the ethanol industry. These companies are to be commended for working cooperatively with state and federal officials to achieve compliance," said Tom Sansonetti, assistant attorney general for the Justice Department's Environment and Natural Resources Division.

As EPA and Justice Department officials were announcing the settlements, the Sierra Club announced its intention to file suit against two Midwestern ethanol plants - one of which is located in Minnesota. The Sierra Club charges that based on EPA data, the plants are emitting far more pollutants than legally permitted, and that the government should be pursuing enforcement action against the plants. "There's a clear pattern in this industry of systematic disregard for the law...these lawsuits should serve as a warning to the entire industry to clean up their act, and to the EPA to enforce the law," said Sierra Club attorney David Bookbinder. At the time of this printing, no official lawsuits have been filed by the Sierra Club.

LAST MAJOR CALIFORNIA OIL REFINER ANNOUNCES TRANSITION FROM MTBE TO ETHANOL

ChevronTexaco Corp. announced in January that it would make the transition from blending MTBE to blending ethanol in its gasoline in Southern California by May 2003. It was the last of the major refiners in California to commit to phasing out MTBE before the December 31 2003 state deadline, joining ExxonMobil, British Petroleum, Shell Oil, and Phillips Petroleum.

The 1990 Clean Air Act requires either MTBE or ethanol to be blended with gasoline in order to improve regional air quality. But when MTBE began showing up in groundwater supplies, California Governor Gray Davis ordered that MTBE be phased out of gasoline blends by Dec 2002. However, controversy ensued when both the public and private sector expressed concerns about the risks of relying upon ethanol as the sole oxygenate in California gasoline.

Specifically, doubts were expressed as to the availability of the anticipated 580 million gallons of ethanol that would be needed in the state and the effects the transition might have on gas prices. Despite a study by the California Energy Commission (CEC) showing that the ethanol community is expected to double its current production capacity in four years and a study by Downstream Alternatives, Inc. showing that California has substantial potential ethanol production capacity, Gov. Davis requested a "waiver" from the EPA that would have exempted them from meeting federal oxygenate requirement. The EPA denied the request in June 2001, and Davis responded by extending the MTBE phase-out deadline to December 31 2003.

ChevronTexaco's announcement that it would phase out MTBE in advance of the deadline is a defining moment in California's transition from MTBE to ethanol. Based in San Francisco,

ChevronTexaco owns two refineries in California and is the largest oil and natural gas producer in the state. Given the extensive network that it has in California, ChevronTexaco's announcement makes clear that major refiners do have the institutional capacity to make a transition from MTBE to ethanol. "We've made good progress with meeting the many difficult logistical, technical and permitting challenges that must be overcome to remove MTBE statewide," said Dave Reeves, president of North America Products, a refining and marketing division of Chevron U.S.A. Inc.

LEGISLATIVE UPDATE

McCain/Lieberman Climate Bill

On Jan 8, 2003, Senators John McCain (R-AZ) and Joseph Lieberman (D-CT) introduced the "Climate Stewardship Act of 2003." The bill requires the United States Environmental Protection Agency (US EPA) to promulgate regulations that limit the greenhouse gas (GHG) emissions of the electricity generation, transportation, industrial, and commercial economic sectors.

The bill sets forth specific GHG emission reduction requirements for the target years 2010 and 2016, reaching 1990 emission levels by 2016 (5123 million metric tons). Affected companies include any company from the above-mentioned sectors that emit more than 10,000 metric tons of greenhouse gases per year. The quantity of emissions (number of tons) are to be specified by the Administrator of the EPA, and would be based upon the EPA's *Inventory of United States Greenhouses Gas Emissions and Sinks*. Companies not meeting emissions limits would be fined for each ton of greenhouse gases over the limit at the rate of three times the market value of a ton of greenhouse gas.

In order to achieve these target emission levels, the bill provides for the creation of a national GHG "cap and trade" system for all covered entities. Essentially, the cap and trade system would allow companies to buy and sell "permits" to emit greenhouse gases. The

program rewards companies that have reduced their emissions through energy efficiency improvements or the use of renewable energy because they would be able to sell emission permits to less energy-efficient companies. Thus, the idea of the system is to create a market-based incentive for energy efficiency: "Our approach promises environmental progress in reducing harmful global warming, economic progress by creating new high-tech jobs to meet emissions goals, and international progress by showing our allies that we're serious about this global problem," said Sen. Joseph Lieberman.

The bill stands in stark contrast to White House policies regarding climate change. President Bush does not support any policy that imposes required target levels to be met by companies. Instead, Bush has relied upon the 'voluntary' GHG reporting program (1605(b)) of the Energy Policy Act of 1992, which allows companies to report their yearly emissions figures should they choose to do so. To this end, the White House is expected to reveal voluntary emission reduction agreements with a variety of industry sectors on Feb 6, 2003. In contrast with the McCain/Lieberman bill that provides the federal government with the authority to monitor and enforce national GHG standards, Bush's voluntary system leaves reporting entirely up to individual companies and does not set concrete long-term reduction levels.

The bill has clear implications for the United States biofuel industry. If passed, the bill would require a reduction in GHG emissions for the first time on a national scale. Greater use of renewable energy fuels like ethanol and biodiesel could become a significant strategy for reducing GHG emissions in the transportation sector. According to numerous studies, including a recent one by the United States Department of Agriculture, ethanol yields far more energy than is needed for its production (See Recent Studies).

Rep. Kaptur Introduces Biofuels Energy Independence Act

Congresswoman Marcy Kaptur (D-OH) reintroduced, as her first bill of the 108th Act (H.R. 130) to promote U.S. energy independence from foreign suppliers and accelerate the development of ethanol and biodiesel. The bill calls for increased production of biofuels and the creation of a biofuels reserve by directing the United States Department of Agriculture to guarantee loans for entities that develop, produce, and distribute biofuels. “America needs a ‘declaration of energy independence.’ We must replace imported petroleum with renewable energy that will create thousands of jobs, control pollution, cut greenhouse gas emissions, and restore our freedom,” said Rep. Kaptur. She is the Ranking Democratic Member on the House Appropriations Agriculture and Rural Development Subcommittee, and has consistently been a vocal supporter of biofuels.

RECENT STUDIES

Energy Balance of Corn Ethanol: An Update

In July 2002, the United States Department of Agriculture released a study concerning the net energy balance of ethanol. The report, authored by Hosein Shapouri and James Duffield of the USDA’s Office of the Chief Economist and Michael Wang of Argonne National Laboratory, concludes that the production of ethanol “yields 34 percent more energy than it takes to produce it, including growing the corn, harvesting it, transporting it, and distilling it into ethanol.”

The report finds that the increasing efficiency of ethanol production is due in large part to advances in technology that have been adopted by “most ethanol plants in production today.” The authors contend that advances in crucial areas such as fertilizer production, fuel conversion, and corn harvesting requires that any study of the net energy value (NEV) of ethanol must rely upon up-to-date information: “It is important that the most current data available be used to estimate the NEV of ethanol because the efficiency of growing corn and converting it to ethanol has improved

Congress, the Biofuels Energy Independence

significantly over the past 20 years.” Studies that do not take new technologies into account, the report concludes, are inherently flawed. Specifically, the study addresses the conclusions of a controversial study entitled “The Limits of Biomass Energy” by David Pimentel of Cornell University. In his study, Pimentel states that ethanol has a negative net energy value. The authors conclude that in nearly every part of his study, Pimentel makes use of information based on technology that is clearly outdated. They also emphasize that Pimentel’s findings in the areas of corn yield, ethanol conversion, and fertilizer application rates are often derived from outdated statistics, and rarely taps information from modern ethanol production.

Effects of Renewable Fuels Standards

A second USDA study, released in August 2002, analyzes the anticipated effects of the Renewable Fuels Standard (RFS), as proposed in the Energy Policy Act of 2002 (S.517). The study was requested by Senator Tom Harkin (D-IA) to examine how the proposed RFS would affect “commodity markets, farm income, and employment.”

As it was laid out in the 2002 Senate passed energy bill, the RFS would have ensured the creation of a 5 billion gallon per year market for renewable fuels over the next 10 years. This would have more than doubled the size of the current ethanol market.

According to the analysis, the effects of this increase would be positive on a variety of levels. Increased ethanol production would be followed by increased demand for corn and sorghum, and by 2011, “prices would be up about 13 cents per bushel or 5 percent.” The increased demand for ethanol would also impact net farm income. In the short-term (2002-05), the effects on farm income would be relatively small, but the period 2006-2011 would see net farm income rise “on average by \$0.7 billion a year.” The USDA study found that the increasing size of the ethanol market would also influence employment, creating an estimated 13,500 jobs in the United States economy. Over half of

these new jobs would come from nonfood sectors, while the rest would come from the farming sector and the food processing sector.

For more information on these reports, please visit USDA's Office of the Chief Economist at: <http://www.usda.gov/oce/>

ETHANOL NEWS BRIEFS

New York seeks Oxygenate Waiver

New York State has asked the United States Environmental Protection Agency (EPA) for an exemption from the federal oxygenate requirement in the area surrounding Manhattan. In their letter, officials express concerns about the economic and logistic feasibility of making a transition to an MTBE-free gasoline blend. New York officials argue that replacing MTBE with ethanol will prove too costly for oil producers who will be forced to import the ethanol from out-of-state producers. They also contend that they can meet clean air standards without any gasoline oxygenate at all. New York now becomes the second state that has requested a gasoline oxygenate exemption. California recently made a similar appeal that was ultimately rejected by the EPA and the Bush administration. According to an official with the New York State Department of Environmental Conservation, California relied too much on the argument that ozone requirements could be met without use of an oxygenate. The official forecasted greater success for New York's appeal because the application details the potential negative effects that ethanol could have on air and water quality.

Ethanol Industry Pushes FFV Hybrid Using CLEAR Act Credits

Officials from the ethanol industry are considering a new avenue for expanding the use of ethanol in cars by way of a Flexible Fuel Vehicle (FFV) hybrid. Under the Clean Efficient Automobiles Resulting from Advanced Car Technologies Act of 2001 (CLEAR Act), taxpayers receive significant credits for purchasing hybrid vehicles. 'Hybrids' are vehicles that run on gasoline and use an electric motor as a backup source of energy, thereby greatly boosting fuel economy. The ethanol industry is anxious to see vehicle manufacturers come up with a FFV hybrid, a car that would give hybrid owners the chance to use ethanol as opposed to gasoline. Doing so, officials contend, would greatly reduce United States dependence on foreign oil.

Canadian Company Producing Cellulosic Ethanol at Demonstration Plant

The Canadian company Iogen has announced further progress in the commercial production of cellulosic ethanol at its EcoEthanol™ demonstration plant. Iogen has announced that it is successfully processing 25 tons of wheat straw per week into fermentable sugar, and is on track to produce 320,000 liters (approximately 85,000 gal) of ethanol annually. The process involves the use of advanced enzyme technology to convert cellulose material such as straw into fermentable sugar, the essential component in ethanol production. "This step toward commercialization is great news for Canada and Kyoto... EcoEthanol will create jobs, put money in farmers' pockets, and benefit the environment. EcoEthanol and Iogen are proof of the new economic opportunities associated with Kyoto implementation," says Iogen Executive Vice President Jeff Passmore. As opposed to starch-based ethanol, made primarily from corn in the United States, cellulosic ethanol is derived from a variety of fuel stocks such as crop residues, forestry wastes, and organic municipal waste.

USDA/DOE Awards Biofuel Grants

The Value-Added Agricultural Product Market Development grant program (<http://www.rurdev.usda.gov/rbs/coops/vadg.htm>) was originally created by the Agriculture Risk Protection Act of 2000 to help farmers develop and market innovative new uses for their crops. Several biofuels projects received funding in FY02, including:

- \$167,500: Dakota Renewable Fuels, LLC, Fargo, ND, to develop a 30-million gallon dry mill ethanol plant.
- \$450,000: Treasure Valley Renewable Resources, Weiser, ID, to develop a 15-million gallon ethanol fuel production facility.
- \$211,650: Green Virginia Ethanol Project, Reedville, VA, to conduct a feasibility study on fuel ethanol production in a grain mill or cellulose hydrolysis or hybrid facility.
- \$150,000: American Corn Growers Association, Washington, DC, in order to provide farmers and farm organizations with the tools to evaluate the feasibility of ethanol production and build consumer awareness of the role ethanol-blended fuels could play in meeting Clean Air Standards.

Minnesota Focuses On Cuts In State Ethanol Program

In lieu of the state's growing budget deficit, Minnesota Governor Tim Pawlenty (R) recently called for the elimination of Minnesota's ethanol payment program that provides nearly \$27 million annually to Minnesota's 13 ethanol plants. The ethanol community expressed deep concern about the impact the cuts could have, "This is drastic and could have severe consequences for a number of the ethanol producers in the state," said Bill Lee, general manager of Chippewa Valley Ethanol Co. in Benson, Minnesota. Although state legislators decided not to eliminate the program, the state Senate voted to trim the program by \$3 million and the state House voted to cut roughly \$5 million. When the Senate and House reach a consensus on their budget proposals, they must forward the budget to Governor Pawlenty for approval.

Ethanol Production Being Explored in New Jersey, Texas, and Michigan

The year 2002 has been a remarkably good one for the ethanol industry. In addition to consistently breaking production records, 12 new ethanol plants have begun production across the country. Some states that have never hosted ethanol plants are exploring the prospect of producing ethanol in-state.

In the Northeast, **New Jersey** Governor, James E. McGreevey, announced his support for the building of New Jersey's first ethanol plant. The plant is a project of Garden State Ethanol, a private corporation of farmers and investors who hope to build, own, and operate the first facility. The plant would use an anticipated four million bushels of locally grown corn each year to produce up to 40 million gallons of ethanol annually.

In June 2002, farmers of the Brazos Valley in Central **Texas** formed the Central Texas Ag Development (CTAD), a group charged with bringing an ethanol plant to the valley. CTAD has recently received a \$65,000 matching grant from the United States Department of Agriculture in order to produce a feasibility study. "We believe strongly that ethanol production can provide a much needed market for Texas grain while helping to improve our country's security," said Kit Worley, a San Gabriel farmer and new chairman of the CTAD board.

Michigan Ethanol will soon be the first ethanol plant to be built in the state. The Michigan Corn Processor's Development Committee has teamed up with Broin Co., a South Dakota-based company specializing in ethanol plant creation. "The people I talk to are happy about the opportunities...We've been waiting for this for years," said Phil Block, a dairy farmer from Birch Run, Michigan. The plant is scheduled to run 24 hours a day, seven days a week, create 41 jobs, contribute an estimated \$60 million per year to the area's economy, and produce 40 million gallons of ethanol per year.

Brazil Looks to Expand Ethanol Production

Sparked by the energy crises of the 1970's, Brazil's sugar cane-based "Pro-Alcohol Program" launched Brazil into the world ethanol market. Despite rough times for the industry in the late 80's and early 90's, Brazil is once again looking to expand its domestic production. Brazil's Vehicle Manufacturer Association has stated that technological progress in fuel injectors and "flex fuel" systems, which automatically adjusts to any mixture of gasoline and ethanol, has made the rebirth of the alco-car possible. The alco-car is a car running on cane-based 96-proof hydrous ethanol, or alcohol. The expansion has also drawn praise from public sector figures that see the value in a diversified fuel market: "Why buy a car that runs on just alcohol or just gasoline. It is imperative, if we are to revive our alcohol industry, to give consumers a choice at the pump," said Joao Carlos, Agriculture Secretary of Sao Paulo state, Meirelles.

UPCOMING EVENTS

Third Annual Harvesting Clean Energy Conference

Monday, Feb 10 - Tuesday, Feb 11, 2003

Boise, Idaho

Contact: Diane Gasaway

360.943-4241

dgasaway@wreca.coop

<http://www.harvestcleanenergy.org/conference/> for more information

Renewable Fuels Association's National Ethanol Conference: Policy & Marketing

Feb. 17-19, 2003

Scottsdale, Arizona, <http://www.ethanolrfa.org/nec.shtml> for more information

NOTABLE QUOTABLES

"It is time to pay attention to where the oil comes from, and it is time to do something here at home to revive the sagging and critical state of rural America and, at the same time, create jobs from coast to coast... acres can be turned to productive use and move farmers from farming for a government check by going to their mailbox, to farming the marketplace and producing new, renewable clean fuels for America."

Rep. Marcy Kaptur (D-OH), introducing the Biofuels Energy Independence Act of 2003 (H.R. 130), January 8, 2003.

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