



Alternative Energy Report

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Water, water everywhere and not a drop to drink...

Like the old adage, biofuels production continues to expand, but without an efficient system to deliver it to users, the transportation industry can't get the supplies it needs.

In December, Congress passed a newly enhanced Renewable Fuels Standard, and Pennsylvania is considering a state mandate for use of ethanol and biodiesel. Just this week, two major players announced they were studying the feasibility of building an ethanol pipeline from the Midwest to the East Coast, with end points in Pittsburgh, Philadelphia and New York.

While the state and federal governments are showing faith in the future of the biofuels industry, mandates and a pipeline won't generate the needed infrastructure that will allow full development of production of either ethanol or biodiesel.

A pipeline might deliver Midwest ethanol to Pennsylvania, but it does nothing to solve the basics of ethanol blending and distribution. One grand pipeline corridor is one thing but extending that supply to various distribution points means developing the same infrastructure needed now. Similarly, the biodiesel industry is poised to produce for Pennsylvania's needs, but without access to the oil supply system, manufacturers will have to sell product elsewhere.

Lake Erie Biofuels is producing 45 million gallons of biodiesel in Erie, and at least three other biodiesel companies are considering commercial size plants of from 20 to 100 million gallons of biodiesel in Pennsylvania. But these companies can't find the storage or distribution facilities to get the fuel to end users in the Commonwealth. Major trucking companies have told ERG that they want to move to biodiesel, but without a system in place to assure they can fill their tanks, they cannot hope to make that change. And manufacturers of diesel engines have been hard pressed to find the funding and the quality product with which to develop specifications for use of biodiesel in their engines.

The major supply of these products cannot always come from the Midwest. Proof of that is readily available in Pennsylvania with plans on the books for at least seven major ethanol plants and the previously mentioned biodiesel facilities.

As the General Assembly considers the energy independence initiative, the PennSecurity Fuels Initiative, and the Governor's new infrastructure initiative, it has an opportunity to help secure the state's energy future by earmarking funding for development of storage, blending and distribution facilities to make ethanol and biodiesel truly available statewide.

ERG has consistently supported funding in these packages to aid in developing these facilities, and to promote education of the wholesale, retail and transportation industries. And creation of a quality assurance program to insure biofuels produced in Pennsylvania meet or exceed standards is critical to the future acceptance of these fuels

in the marketplace.

Unless and until the state has developed a system for distribution of these biofuels, mandates may be triggered, but we will have no way to ensure the ability to sell B2, B5, B10 or B20 – or ethanol in all areas of the state. We have recommended a comprehensive strategic approach be taken to increase the availability of biofuels that coordinates expected production levels with the necessary distribution infrastructure development. This will be an expensive proposition, and existing state programs do not provide significant funding that will be necessary to support the needed storage, distribution and retail capabilities.

The need is imminent -- now -- not ten years from now. Hopefully, the Rendell Administration and the General Assembly will take the needs of the entire transportation industry into consideration and fund programs to help create this system as these programs are developed and become law.

Budget Hearings Begin in Harrisburg, Ag-Related Energy Questions Raised

The budget hearing process in Harrisburg began earlier this month, offering the Appropriations Committees a chance to review proposed budget cuts and increases one agency at a time. Over the last two week, both the House and Senate Appropriations committees heard testimony from Secretary of Agriculture Dennis Wolff, and many members were interested to know how the production of alternative fuels would impact the agriculture industry in Pennsylvania.

Secretary Wolff said that there are increasing opportunities for biodiesel fuel from soybeans and corn and the state should position itself to take advantage of this new technology. Pennsylvania is on the frontier of creating new food stocks and is exploring new fuels. There are biodiesel plants operating at this time; however, there are no corn ethanol plants currently operating in Pennsylvania.

He explained that corn ethanol is the necessary step before the next generation of ethanol fuel made from cellulosic-materials, such as various grasses, wood chips and other natural agriculture byproducts, is ready to go. In addition, most corn-ethanol facilities can be converted to produce cellulosic-ethanol once that technology is refined.

He also noted that feedstock left over from the ethanol production offers a quality food source for livestock. In response to increasing corn and soy prices, Wolff said that even though Pennsylvania does not have an operations ethanol facility at this time, corn and ethanol prices and demand are effected by the global community, and will continue to climb because other states will continue to produce these fuel alternatives regardless if Pennsylvania is a major player or not.

This week both the House and Senate will hear budget testimony from the Department of Environmental Protection, which may delve further into the Governor's proposed \$850 million energy plan.

Diesel Prices Reach Record High, Rendell Again Urges Lawmakers to Move on Energy Bills

Last week, crude oil prices again topped \$100 per barrel. According to AAA earlier this week, a gallon of diesel averaged \$3.67. Since Diesel is the fuel of choice for the trucking industry, as well as locomotives, higher prices for shippers will most likely

continue to have a trickle-down effect on consumers by causing increases in prices across the board.

To put these numbers into perspective, a trucking company with 200 tractor-trailers hauling goods across the Northeast may burn through as much as one million gallons of diesel a year, and with current diesel prices, that is an estimated cost of \$3.76 million a year, assuming prices do not increase.

To ensure shipping companies can turn a profit, many will need to raise rates, which will be absorbed by consumers. The supply of crude oil is expected to increase at the end of the year as new oil fields are opened up for extraction and the high prices decrease demand, so there is a chance that diesel prices may decrease some, but by how much and for how long?

As prices surge, and with expectations that oil-cartel nations will cut production in the coming weeks, Rendell once again urged the state's lawmakers to support pass legislation that would invest in homegrown energy solutions rather than continuing to send billions of dollars abroad.

With oil prices up, rate caps ready to expire and a variety of other high-cost energy-related issues, Rendell urged the General Assembly to move swiftly on his Energy Independence Strategy, which includes the PennSecurity Fuels Initiative – all initiatives unveiled more than a year ago.

“It has been 385 days since I first unveiled the Energy Independence Strategy that included the PennSecurity Fuels Initiative,” said Governor Rendell. “In that time, we as a nation have sent nearly \$400 billion abroad to purchase gasoline, and much of that money we had to borrow from foreign nations. That kind of financial dependence puts our economy, national security and our way of life at risk.”

The PennSecurity Fuels Initiative is now before a special session of the legislature. The plan calls Pennsylvania to produce and consume nearly 1 billion gallons of homegrown, renewable transportation fuels annually, including ethanol, biodiesel and coal-derived fuels—a target amount that will equal the amount of fuel Pennsylvania is expected to import from the Persian Gulf region by 2017. The House of Representatives overwhelming approved Governor Rendell's proposal in June (138-60). It has yet to be acted on in the Senate.

Crude oil for March delivery closed at \$100.74 per barrel on the New York Mercantile Exchange, which topped the record set Tuesday when the futures price settled at \$100.01 per barrel. Today's closing price is 74 percent higher than one year ago.

Governor Rendell Call on Congress to Extend Renewable Energy Tax Credit

Governor Rendell sent a letter to Pennsylvania's congressional delegation asking for their support on an eight-year extension of the renewable energy production and investment tax credits, saying a failure to do so would put thousands of jobs at risk and imperil the nation's security.

Since 2004, the state has attracted more than \$1 billion in private economic investments since enacting the Alternative Energy Portfolio Standards Act in 2004. These projects have created 3,000 in manufacturing, research and development, operations and maintenance, transportation and construction positions. In the letter, the Governor argues that without extension of the credits, renewable energy companies

may be “unwilling to commit the billions of dollars these projects promise because of the uncertainty association with the renewable energy tax credits.”

The Governor wrote that: “The renewable energy tax credits are a valuable tool in diversifying our energy supply and moving us closer to energy independence. The tax credits help to level the playing field by making renewable energy projects financially viable and competitive with conventional sources. If we can spur the development of solar, wind, geothermal and biomass technologies, we can help meet our nation’s energy needs while reducing our dependence on foreign oil, which is heavily subsidized. Simply put, our country's continued appetite for imported petroleum is putting America's interests at risk.”

The U.S. House of Representatives could vote as early as this week on a proposal to extend the production tax credit by three years and the investment tax credit by eight years. Long-term extensions—rather than the 1- to 2-year extensions that have been enacted previously—are necessary to assure companies eager to invest billions of dollars that the nation is committed to developing and advancing the use of clean, renewable technologies.

Anti-Idling Proposals Hone in on Details

Details of proposed reduced-idling regulations will a focus of the Department of Environmental Protection as well as the General Assembly in the coming months. The Senate has already passed reduced-idling legislation that is now before the House of Representatives and last month, the DEP’s Environmental Quality Board wrapped-up hearings on proposed reduction regulations.

Two of the most important points of the proposals to curb excessive idling by diesel trucks are how the new regulations would be enforced and how much time truckers would be allowed to idle their engines to heat or cool their trucks.

The DEP is considering regulations that would bar idling for more than five minutes in an hour, with exemptions for buses, trucks and emergency vehicles in traffic. Truckers would be allowed to idle to heat or cool their truck cabs below 40 degrees and above 75 degrees at legal parking spots, such as truck stops and terminals, if idle-reduction technology is not available. Temperature exemptions would expire in 2010.

At one of the DEP hearings, Jim Runk, president and chief executive officer of the Pennsylvania Motor Truck Association (PMTA), said that although PMTA has worked with the DEP and the Legislature on anti-idling regulations, he sees one flaw in the current proposals – five minutes of idling an hour may not be enough to heat or cool a truck while a driver is trying to get their required hours of sleep.

Both versions exempt trucks built after 2007 with labels issued by the California Air Resources Board. The labels indicate the trucks meet stricter standards for emissions.

The Senate version of the regulations includes \$50 fines for idling and \$150 fines for repeat offenders. However, both the legislature and the DEP will need to determine the best way to enforce any new regulations. For example, if local police write tickets, a portion of the fines would be returned to the municipality where the offense took place, but if a state official enforced the regulations, the money may be returned to DEP for future investments.

Lancaster Farm to Get Innovative Manure-Treatment System

A New York-based firm intends to spend \$3 million to \$5 million to install an innovative manure-treatment system on a local dairy farm as part of the Chesapeake Bay cleanup effort.

Bion Environmental Technologies said it plans to build the system at the Ron Kreider farm in Lancaster County to remove ammonia emissions and nutrients from manure produced in the farm's 1,400-head dairy barn.

Bion's president has said that the company hopes to start construction this spring and have the system operational this summer. Later, it could be expanded to treat manure from other aspects of the dairy operation, as well as poultry houses on the property.

The Kreider farm installation will be the first for Bion in Pennsylvania and in the Chesapeake Bay watershed, and among the first of Bion's new generation of systems, said Smith.

The installation will generate credits under the state's 2005 nutrient credit trading program, which Bion will sell to polluters that have excessive discharge amounts. The installation would be the first to generate credits for ammonia reduction; the balance would come from reducing nitrogen and phosphorus.

Ethanol Pipeline Proposed

Earlier this week, Tulsa based Magellan Midstream Partners and Breinigsville PA based Buckeye Partners announced plans to assess feasibility of a \$3 billion ethanol pipeline from the Midwest through Pittsburgh to the East Coast.

The companies said that the 1,700-mile ethanol pipeline could bring ethanol from production facilities in Iowa, Illinois, Minnesota and South Dakota to terminals in Pittsburgh, Philadelphia and the New York harbor. Both noted that construction of such a pipeline would depend on construction requirements, costs and regulatory issues, and that they would need Congressional support and assistance to complete the project if found feasible.

The companies said they would need Congressional support and assistance, financing, and that actual completion of the pipeline would also depend on construction requirements, costs and regulatory issues, among others.

Road Testing Conducted on B100 Algal Biodiesel

Solazyme, Inc., a synthetic biology company formed in 2003 to pursue biofuels from microalgae, recently road tested its first algal biodiesel, Soladiesel, as a part of a fuel blend used in a Mercedes-Benz sedan. The company has now announced that it has successfully taken the test blends up to B100.

Soladiesel, the first of Solazyme's planned algal fuel projects, is a biodiesel produced from algae that are engineered to produce an optimized oil with enhanced performance. The resulting fuel is "far better than soy, palm and canola," according to Jonathan Wolfson, Solazyme's CEO. He estimates that Solazyme has another two to three years of work until it is at production economics, defined as parity with fossil fuels.

DOE to Invest \$34 Million in Enzymes for Cellulosic Ethanol Production

DOE recently announced its selection of four projects to develop improved enzymes

for breaking down cellulosic biomass material into sugars, which can then be fermented into ethanol. For all four projects, DOE intends to invest up to \$33.8 million over the next four years, subject to congressional appropriations, and when combined with the cost sharing from industry, up to \$70 million will be invested in the effort.

Cellulosic ethanol could be produced in every region of the country using locally grown materials, while producing a fuel that creates less greenhouse gases than corn-based ethanol. Within the last year, DOE has announced that it will invest \$1 billion in biofuels research and development, \$114 million in small-scale cellulosic refineries, \$405 million in bioenergy centers, and \$385 million in commercial-scale cellulosic refineries.

Natural Gas and Hybrid Vehicles Lead Annual Green Rankings

The natural gas-powered Honda Civic GX is once again the greenest new car sold in the United States, according to the American Council for an Energy Efficient Economy (ACEEE). The ACEEE's Green Book Online, released last week, places the Honda Civic GX on top for the second year in a row, followed by the Toyota Prius and Honda Civic Hybrid. Other hybrids in the top-twelve list include the Nissan Altima Hybrid in sixth place and the Toyota Camry Hybrid in tenth. The ACEEE's annual evaluation of the current model year vehicles ranks them primarily in terms of air emissions and fuel economy.

Meanwhile, five diesel models are among the seven least-green vehicles for 2008, but that trend should reverse itself next year, as automakers begin rolling out clean diesel vehicles in the United States.

FEDERAL ISSUES

Three pieces of energy-related legislation were recently introduced in Congress:

- Senate Bill 2642, sponsored by Sen. Amy Klobuchar (D-MN), establishes a national renewable energy standard to extend and create renewable energy tax incentives.
- House Bill 5437, sponsored by Rep. Mike Ross (D-AR) promotes alternative and renewable fuels, domestic energy production, conservation, and efficiency, to increase American energy independence.
- Senate Bill 2651, sponsored by Sen. James Inhofe (R-OK) amends the Clean Air Act to make technical corrections to the renewable fuel standard.

GRANTS

[President's High Growth Job Training Initiative](#)

Close Date: March 25, 2008

Department of Labor's Employment and Training Administration (ETA) announced a solicitation for grant applications under the President's High Growth Job Training Initiative. Approximately \$10 million in grant money is available "for high-impact regional approaches to meet the workforce challenges of the energy industry and/or address the shortage of construction and skilled trade workers needed to maintain and expand the energy industry infrastructure."

Applicants must demonstrate that their proposed project will be developed and implemented by a strategic regional partnership and focus on regional talent development and training. Average individual grants are anticipated to be between

\$500,000 and \$1 million and may be awarded to public, private for-profit, or private non-profit organizations in the oil and natural gas, mining, electric, renewable energy, or nuclear energy sectors.

Proposed training solutions must support participants' long term career growth and result in an industry-recognized certificate, degree, or license.

[Plug In Hybrid Electric Vehicle \(PHEV\) Technology Acceleration And Deployment Activity](#)

Close Date: April 30, 2008

The Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy's (EERE) Office of Vehicle Technologies (OVT) Program, is seeking applications for cost-shared development and demonstration of plug-in hybrid electric vehicles (PHEVs). The vehicle shall be capable of charging by using the standard 110 volt outlet found in every home and building across the United States.

EVENTS

[Washington International Renewable Energy Conference](#) (WIREC), March 4-6, Washington, DC.

The Trade Show at WIREC 2008 is anticipated to be the largest business to business and business to government conference and exposition ever held on renewable energy in the U.S.

[4th National 25x'25 Renewable Energy Summit](#), March 11-13, Omaha, Nebraska
The summit, "Bringing the Vision to Life: Win-Win Solutions for America's Energy Future," will kick off the next stage in co-operative efforts among state alliance leaders and other renewable energy champions in 2008 to bring the 25x'25 vision to life.

[OPIS 4th Annual Ethanol & Biodiesel Supply Summit](#), March 16-18, Washington, DC.
This summit aims to provide answers to key supply, storage, pricing and marketing questions now facing the biofuels marketplace.

[Renewable Portfolio Standards Symposium](#), March 26-27, Washington, D.C.
Renewable Portfolio Standards have rapidly developed momentum in certain sections of the U.S. and throughout the world. This conference features prominent utilities and policy decision-makers active in the RPS arena.

[2008 International Biomass Conference & Trade Show](#), April 15-17, Minnesota.
The first International Biomass Conference & Trade Show aims to facilitate the advancement of near-term and commercial-scale manufacturing of biomass-based power, fuels, and chemicals. Plan to learn and share information on biorefining technologies for the production and advancement of biopower, bioproducts, biochemicals, biofuels, intermediate products, and coproducts –through general sessions, technical workshops, and an industry trade show.

[10th Small Fuel Cells Conference](#), April 30-May 2, Atlanta, GA.

The U.S. Department of Energy will discuss how portable fuel cells offer the earliest market opportunities, in addition to citing the ready market for small fuel cells and their less stringent technical requirements.

National Alternative Fuels & Vehicles Conference May 11-14. Las Vegas, Nevada
The event will offer a wealth of information to advocates for clean transportation, with a variety of conference sessions organized around the following categories: fuels & fueling, electric drive, money, policy, and vehicles. The Expo, which features more

than 125 exhibitors from around the globe, will showcase alternative-fueled light-, medium-, and heavy-duty vehicles.

[Energy from Biomass and Waste](#), October 14-16, Pittsburgh, PA.

Energy from biomass and waste can make a significant contribution to oil-independence and climate protection. The technology opens up new earning potentials and markets for the waste management and power generation industry as well as for the agriculture sector.

NEWS CLIPS

[Conserve to cut costs of energy, group told](#)

[Somerset windmill plan judged deficient by state](#)

[Tiny 'Smart Cars' Conveniently Green, Affordable](#)

[SEPTA's new theme: 'Go Green'](#)

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