



**Remarks Prepared for Testimony to the Senate Special Session Committee on Energy Policies**

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Thank you for the opportunity to share some of our thoughts with you this morning. I am John Nikoloff, a partner in Pennsylvania Energy Resources Group, LLC. ERG is a strategic consulting and project development company working with companies who are involved with clean energy projects. Our joint venture – between John Nikoloff and Associates and McFarren and Associates – was formed because we recognized that many companies in Pennsylvania have been hampered by an inability to raise initial capital to cover the costs of early-stage development, preliminary engineering, feedstock and logistics issues – all of which are standard requirements for participation by commercial lenders and investment firms.

If we can provide you with one salient observation in the process, we would ask that you recognize our clean energy industries have the capacity to create jobs, investment and ultimately revenues for the commonwealth. And that we are in a competition with other states for those industries, those jobs, and those consumer dollars.

Given the actions being taken by other states, the ultimate package of programs and policies that result from the special session on energy will determine whether Pennsylvania taxpayers help create economic growth here, or simply end up subsidizing other states and countries for growth in these industries elsewhere.

ERG believes that a growing biofuels industry can be an economic boon to the state, and that action is needed now to prevent an additional drain of consumers' dollars and tax revenues to imports, whether those come from OPEC or biofuels plants in Virginia, Indiana or Iowa.

Securing financing in Pennsylvania is currently very difficult. We have not kept up with the incentives being offered by other states for manufacturing facilities in biofuels, advanced energy technologies, clean energy projects, or even research and development in energy fields.

Pennsylvania's existing state economic development programs have not provided the resources essential to financing biofuels operations. These programs were designed to create jobs on site, and are not set up to consider jobs created BY these firms, and frankly, they don't currently provide the resources that are essential to financing biofuels operations. No dedicated state programs exist to work with the marketplace to determine state support – instead we have a system of programs which may or may not be applied, with the decisions made at the agency head level on a noncompetitive basis, and where there are competitive grant programs, biofuels – and the industries needed to support the industry – must compete with all other alternative energy projects, from manure digesters to organic solar nanotechnology.



To date, the state's involvement with ethanol and biodiesel firms has been limited to relatively low levels of funding for small local biodiesel operations, or promises of tens of millions of dollars in state investments for select ethanol companies. ERG is working with three ethanol companies in Pennsylvania, and with four other potential ethanol operations from out of state that are looking at Pennsylvania as a potential site. All are either fully funded or are well on their way with permitting and funding negotiations in the private marketplace.

Capital costs for building an ethanol plant that can produce 100 million gallons a year has risen from about \$145 million to between \$250 million or more, depending on site and processes. And biodiesel plants now cost more than \$1.20 per gallon exclusive of site and preparation costs. Still, biofuels plants generate hundreds of jobs in construction, engineering, processes, feedstock production, transportation, logistics, marketing, and distribution, but these jobs cannot be considered in qualifying for most state programs.

You have already received information that projects the economic value to Pennsylvania of an expanded biofuels industry from other sources. LECG last year projected that development of capabilities to produce 1 billion gallons of ethanol and biodiesel in Pennsylvania would generate \$27 billion in economic benefits for the Commonwealth.

Location of ethanol production facilities in Pennsylvania should – and will - be based on the individual company's economics and the marketplace. Arguing that we don't have enough corn in Pennsylvania to support the industry may be an accurate statement, but that by no means should preclude Pennsylvania reaping the benefits of the location of these plants. If a company can demonstrate on its bottom line that it can produce ethanol – or biodiesel for that matter – and make a profit, the marketplace will drive investment to that operation. Pennsylvania WILL have ethanol plants, that much is certain. But the Commonwealth should not be picking winners and losers, NOR should it be taking actions which scare investors to our neighboring states and make investments in Pennsylvania a more difficult process.

One way or the other, Pennsylvania is a natural location for large ethanol and biodiesel plants. The national biofuels industry has moved toward destination manufacturing plants for a simple reason. It makes economic sense to locate these plants closer to the end markets. East Coast plants will enjoy a cost benefit advantage over Mid West plants because it is cheaper to rail corn than ethanol – as a result we benefit on the output side, offsetting the costs of railing in corn now, and other biomass in the future. Companies which have established plans, found reliable, successful partners, and have financing in place would not necessarily be helped by mandates.

But the market for offtake of ethanol and biodiesel is not restricted to the borders of the Commonwealth. A 200 million gallon per year ethanol or biodiesel plant would be hard pressed today to find a market within the state for that quantity – selling to the oil and gas companies would not ensure the product stays here either.

Last fall the Energy Resources Group began contacting companies that we knew were interested in biofuels operations in Pennsylvania. Since that time, we have talked to more than 30 companies



looking at biodiesel production, 17 ethanol companies, and five biomass or coal-to-fuel companies all of which are either putting their operations together or considering locating in Pennsylvania. We have talked with dozens of companies who provide processes, machinery, feedstock, engineering, and marketing services for the industry. We are working with biodiesel companies who plan to use soy oil, waste oil, animal fats, algae, palm oil and rapeseed oil as feedstock. And we are working with ethanol companies who want to utilize corn, sweet sorghum, sawdust, grasses, woody biomass, combinations with waste coal, municipal waste, and even manure!

The companies looking to go into biofuels production in Pennsylvania are significantly different than existing and planned operations in the Midwest. We have no ADM, Cargill or Louis Dreyfus self-financing plants here, because those mega-companies do not have farmers under contract in the East. By and large, the companies who succeed on the East Coast are local businessmen and women, investors and engineers who have developed their financing from ground zero; who have partnered with companies from out of state; or who have virtually eliminated all the risk for potential lenders.

We surveyed them all, to identify their real needs, and asked all of them what kinds of state programs would provide REAL assistance in securing long term financing for their projects. Our recommendations reflect the industry's opinions – not developed to help one or two, but to provide suggestions for programs that all companies can participate in on an equal footing, providing their economics justify that state support funding.

Pennsylvania is not alone in focusing on alternative energy programs and legislation – ERG has been tracking more than 330 bills which have been introduced or passed in 38 states during 2007. Pennsylvania has two choices in the alternative energy investment debate. We either establish an effective program which encourages broad capital investment in a number of alternative energy facilities, or by default, we are subsidizing a number of more aggressive states. If Pennsylvania hopes to compete for investments and jobs in the alternative energy arena, the state must develop supporting programs now, because funding decisions are NOW being made. And when a company opts for Indiana, Kentucky, New York, or North Carolina, they won't be back to Pennsylvania. As companies seek sites for their projects, and as investors consider potential returns on investments, the economic benefits and capital investments will flow to those states which offer the most incentives and economic advantages to the investor.

Unless the Commonwealth can provide a comparably competitive package of programs to states within a 500 mile radius, firms in these competing states will absolutely capture large portions of the Pennsylvania market place, resulting in Pennsylvania taxpayers and consumers sending their revenues elsewhere instead of keeping those dollars here with Pennsylvania business interests. The states to the immediate west of us have adopted very strong programs with relatively large resources to promote and capture their share of the national marketplace. Many of those programs are already targeting western Pennsylvania and will make it very difficult for Pennsylvania entities to obtain financing and a place in the marketplace unless policy makers act in a timely fashion. Financing for several potential Pennsylvania projects has dried up already because investors favor those state sites where government participation is not only well defined but targeted.

## ERG RECOMMENDATIONS

The companies ERG is working with have recommended these programs be included in future state energy development programs. The industry wants state government to stand shoulder to shoulder with it, providing a floor of support – not to guarantee a profit; not to arbitrarily lift one company's prospects above another, regardless of that individual company's projected financials; and finally, to avoid placing additional burdens on them while they seek financing. In line with that last item, the industry would support development of a general permit for biodiesel and ethanol facilities, which would be like money in the bank when meeting with investors.

The industry believes that any legislation authorizing expenditures for alternative energy projects clearly spell out the programs and uses of funds, including dedicated funding for the biofuels industry. :

- **A Biofuels Seed Capital Program to provide a 50-50 state match in funding for qualifying biodiesel and ethanol operations for the first \$1 million raised privately to develop a production facility.** ERG's partners have worked with several companies which could have been in operation in Pennsylvania today were it not for their inability to secure the first and second tranch of funding without going the angel or VC route. Major investment banks have made it clear that their requirements for participation include actions which essentially eliminate much of the risk for these operations – that means having options on land, feasibility studies completed, financials based on letters of intent from both feedstock and offtake partners, preliminary site and process engineering. For a large scale plant, just complying with these requirements may cost a company \$4-5 million. Once these are secured, Wall Street and major banks have thrown up another hurdle for the companies – their investments are contingent on a requirement that the company maintain a strong ownership in equity. VC funding normally requires giving up a significant share of that initial equity, and precludes the participation of a major lender, who wants that as a guarantee for its investment.
- **A Biofuels Guaranteed Loan Program, for up to 80 percent of the estimated cost of any one project, limited to a maximum of 20 years and \$80 million of capital cost.** This guaranteed loan program would encourage loans by private businesses for the construction of facilities to process feedstock oils, biofuels and commercial byproducts. Under this program, Pennsylvania would appropriate funds of as little as five (5) percent of the amount of the loan to provide assurance of repayment. Recipients of these loan guarantees would deposit an amount determined by the state to be sufficient to cover administrative costs relating to the loan guarantee, but not to include the cost of capital. A program funded at as little as \$50 million, would generate more than \$1 billion in investments.
- **A targeted rail program for development of biofuels production facilities to support development of essential rail freight infrastructure improvements for these sites.** The industry recommends that this rail component be organized with guidelines similar to

Pennsylvania's Rail Freight Assistance Program. The rail requirements for commercial oilseed processing, ethanol and biodiesel production facilities and terminal/distribution sites are significant - economics dictate delivery of feedstock and transportation of finished product in unit trains. Pennsylvania is blessed with one of the nation's best short line regional and class one rail systems, but simply having a line pass a production site is not enough to support these plants. And acknowledging the need to develop a statewide distribution and delivery system, this provision would enhance that capability without marrying the state to the one or two existing distribution systems. Some trends should be very obvious for those willing to review existing data. The American Association of Railroads recently released a report in cooperation with chemical manufacturers showing the nationwide carloadings for chemical products for the period of 1997 thru 2006. Ethanol shipments during this period quadrupled to more than 16,075,000 tons and this does not include the shipment of raw materials. Another 20% increase is expected in 2007 and an even greater amount in 2008. Ethanol is about to exceed all other categories of chemical shipments and it is the fastest growing, with or without Pennsylvania production on line.

- **Creation of a quality assurance program to insure biodiesel fuels produced in Pennsylvania meet, or exceed standards and are successful in adaptation.** Fuel quality is particularly important to the biodiesel industry, as consumers and manufacturers consider its utilization. Major corporations, fleet operators and engine manufacturers are now conducting research to ultimately approve biodiesel blends for use under their warranty programs. But this effort has been hampered by past problems which resulted from poor quality product entering the market. Today, biodiesel is being made with soy oil, canola oil, yellow grease, animal fats, waste oils, and even algae on a test basis. Some facilities are switching production from batch to batch from one feedstock source to another. This can be problematic in quality assurance, and quality is a critical component of customer satisfaction. One glaring example was that Minnesota faced a shutdown of its trucking industry in the winter of 2005 because of clogging problems in some local biodiesel – the state was forced to suspend its B2 mandate because of those problems. The standard for biodiesel, ASTM D 6751, has been adopted by many States for pure biodiesel (B100) that is used in blends up to 20% with diesel fuel. Producers fear, however, that it is not enough simply to require that standard be met. We strongly recommend that Pennsylvania develop an enforcement program, and regulations under the Department of Agriculture to ensure regular testing of biodiesel and biodiesel blends to ensure all biodiesel entering the market meets accepted quality standards.

We would recommend that certification take place on a continuing basis, and that each time a producer changes feedstock, or supply source, that new batch be recertified. Pennsylvania should strongly encourage all biodiesel producers and marketers to achieve and maintain accreditation under the BQ-9000 program. BQ-9000 is a voluntary quality control program for biodiesel producers and marketers. Quality control practices and programs such as BQ-9000 help ensure biodiesel is produced, stored, distributed and blended according to ASTM specifications.

- **Funding to support state promotion and consumer education on the value and use of ethanol and biodiesel.** Our existing biodiesel producers have clearly told us that their markets will be driven by consumer demand – and they have done an admirable job locally of educating their customers about the benefits of clean energy. But to support a statewide industry, funding is essential to conduct outreach programs to the general public, local and state governments, educational institutions, environmental groups, and with the retail petroleum industry. Unsupported fears about biofuels are driving public debate in many places, and threatening to prevent Pennsylvania from fully benefiting from biofuels production. It’s time to educate ourselves and the public using sound science, not anecdotal references and apocryphal visions. This public awareness and education program should focus toward quality issues, providing consumers with quality standards to demand.
- **Production Incentives for biofuels production which benefit the manufacturer AND the farmers who are providing the feedstock.** Pennsylvania currently has a production incentive program in place. The Alternative Fuels Incentive Grant Program now provides \$0.05 per gallons for production of ethanol and biodiesel. We sense confusion over production incentive payments, production tax credits and wholesale/retail tax credits, confusion that is understandable, given the wide variety of programs in other states. For example, Indiana and Kentucky have \$1.00/gallon production tax credits – Iowa has a three cent per gallon tax credit for sales of B2 and higher, which translates to \$1.50 per gallon of B100. Another 15 states have production incentive programs, including direct payments to producers of from \$0.05 per gallon to \$0.40 per gallon. Among neighboring states, Maryland has a \$0.10-\$0.20 per gallon incentive payment, depending on the source of feedstock. In Maryland, for example, soybean oil biodiesel gets a \$0.20 credit, while other feedstocks (greases, renderings, waste oils, etc.) get \$0.10 per gallon. Several states have incentive tax credits for producers, blenders or retailers, depending on where they want to encourage growth – production, distribution or consumption.

In order to “level the playing field” with other states, Pennsylvania must take action to provide additional incentives for biodiesel producers or blenders to promote biodiesel manufacture. Ethanol companies and biodiesel companies support tax credits as a viable alternative to foster growth in this industry. The PA Biodiesel Producers Group is supporting direct payments to producers. I suspect the state’s retailers would support retail incentives. We encourage expansion of the existing Alternative Fuel Incentive Grant (AFIG) Program as well. For example, an expanded AFIG Program that provides reimbursement for up to 20 cents per gallon of biodiesel produced for three years, not to exceed 15 million gallons in a calendar year, will have a positive impact in attracting more private capital to build new and expand existing biodiesel refining capacity in Pennsylvania. This modest expansion of the AFIG Program would help level the playing field for PA biodiesel producers with biodiesel producers in most other states.

There are a series of choices you face in the biofuels arena that revolves around the choice between programs that support growth of production capability in the Commonwealth and programs that support the existing producers of biodiesel.

Your public policy decision may come down to whether the Commonwealth should set the stage to support expanded PA production of these biofuels as well as the state's agricultural community, or simply support growth in consumption of these products. The market for biofuels will grow significantly whether or not state mandates or new incentives exist.

We would ask you to take the necessary steps to allow our existing biodiesel producers to remain viable, while recognizing that federal RFS mandates will continue to promote development of large production facilities each producing 50 to 100 million gallons a year.

All biodiesel/renewable diesel is not in fact created equal. Incentive programs should assign different values according to the sustainability and other external benefits of the product. A state program should include incentives for biodiesel production based on sustainable & local feedstocks.

We would be happy to work with you to develop a program that accomplishes both goals.

- **Support for research, development and demonstration on alternative and advanced energy projects.** This is critical to future development of the state's alternative energy industry in general, and particularly as it relates to biofuels. R, D, & D programs can assist the state's farmers, enhance our processing capacity and support development of new processes that can provide further economic stimulation to the industry. There is no question that research is essential to development of second generation biofuels, including biobutanol, agricultural crops and plants. For example, a critical need exists to develop more feedstock to support these industries in Pennsylvania. If every drop of oil from every Pennsylvania soybean harvested in 2006 were converted to biodiesel, our base feedstock could only support production of 23 million gallons of biodiesel.
- **Support for farm production of crops and capacity to support clean energy fuels.** We encourage you to consider programs that promote and support farmers to produce and process crops as feedstock. Feedstock cost is the single largest component of biofuels production, (up to 80 percent of the cost of final product). Beyond biodiesel and corn based ethanol, the future in Pennsylvania can include other crops like sweet sorghum, sugar beets, canola, sunflowers, camelina, grasses, fast growing poplar and willows, and even wood. Reclaimed minelands can provide an environmentally sound yet fertile resource for these crops. Stakeholders such as the PA Farm Bureau, University Extension Services, farmer cooperatives, and private companies should be supported in building more capacity for oilseed crushing and oilseed production, and alternative crops through the First Industries and Energy Harvest programs.
- **Support for development of biofuels distribution capabilities.** This may go without saying, but 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 strongly recommend you



support a comprehensive strategic approach to increasing 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.

## **MANDATES**

We have been asked consistently about mandates as a means to support the biofuels industry in the Commonwealth. We are working with companies which are in full support of the mandate concept, and with companies who don't see how mandates will help them. We understand the desire to enable Pennsylvania to produce amounts of biofuels that offset what now comes to the state from the Middle East. Existing federal mandates through the RPS would require use of almost 300 million gallons of renewable fuels in Pennsylvania by 2012.

We know first hand that these federal mandates don't automatically generate the funding that is required for these extremely expensive operations, having been directly involved in meetings with institutional and investment banks with clients. Local companies which have spent several years and invested much in programs to establish their markets and branding of their products may see their current competitive differentiator undermined.

A guaranteed market may eliminate some investment risks, but unless a company's financial projections show a significant return on investment, mandates in themselves will not open up flood gates for financing. From a strictly business bottom line standpoint, we have to say that mandates may or may not accomplish what supporters want.

Without a package of incentives to all biofuels parties needed to meet the mandate, we may create a system that encourages consumption without support for the state's agricultural and bioenergy economy. The first mandate triggers in the Governor's proposal should be met in 2008 with Lake Erie Biofuels' 45 million gallon per year production.

We would urge a coordinated plan for the growth and development of this new industry. Yes a mandate creates demand for fuel and venture to fund it, but we need a plan for all the parts of the industry to be built at the same time, in the correct order.

Thank you again for the opportunity to present this information to you this morning. We look forward to working with you to help develop a coordinated program of incentives that encourages production of feedstock and biofuels, supports development of manufacturing and distribution capabilities, and promotes consumption of these products as critical to our economic security.