

**Joint Conference between  
The PA Association of Conservation Districts  
and the  
State Conservation Commission**

Scranton, PA  
Tuesday, July 17, 2007



*Talking Points:*

***Ben Wootton, President of Keystone BioFuels Inc.***

Good Morning,

My name is Ben Wootton, and I am the president of Keystone BioFuels. Our firm is based in Shiremanstown, Cumberland County. We were the first company in Pennsylvania to manufacture and ship biodiesel fuel made from Pennsylvanian grown soybeans.

Biodiesel is the only product that we make. When we talk about biofuels we are really talking about a collection of different technologies with one goal in common. That goal is to create a liquid fuel that is derived from renewable, environmentally friendly and energy efficient sources. When we talk about biofuel, we are talking about any fuel that falls within those objectives. There are several reasons for this distinction. First – there is more than one biofuel product and they each meet different needs. The two primary biofuel products in the market today are biodiesel and ethanol – and I will discuss each of these in a moment. Second - it is important to understand what we mean when we say what a biofuel is because there are additional technologies that are developing liquid fuels which are NOT necessarily environmentally friendly or made from renewable sources. A good example is the research and development going into the creation of liquefied coaled-based fuels. Now that's not to say that such fuels don't have other alternative energy impacts. For example, if your goal is to solely reduce our nation's dependence on foreign sources of fuel, than a sole-based fuel would be an attractive technology. However, in our discussion here, we are obviously trying to focus on something that is environmentally friendly, sustainable, and based upon renewable sources. So, keep in mind when you're looking at the overall issue of energy policy, that alternative fuels and biofuels can mean very, very different things.

When biofuel is discussed in the press, you'll notice that we generally don't hear further details about what that means. Usually, the policy discussions that are covered in the papers and other forms of

media paint with a broad brush describing the overall issue using terms such as biofuels. So, let's talk about the difference between a couple of the major biofuel technologies – ethanol and biodiesel. Then I'll spend the remainder of our time delving into biodiesel, the fuel that we produce.

Ethanol and biodiesel are both very important to the future of our nation's energy policy because they fill the two primary needs for today's liquid fuels. Those needs being the replacement of gasoline derived from petroleum and the replacement of diesel fuel derived from petroleum. What ethanol and biodiesel have in common is a shared objective of replacing petroleum as the source of our liquid fuels. Ethanol is the silver bullet technology in some people's minds because we tend to think of Americans and their dependence upon their cars as the critical issue which need to be addressed in discovering, enhancing, and deploying a biofuels policy. However, consider that ethanol still has a number of hurdles to overcome in order to be a viable solution for the future. Even today, despite all of the research and development, ethanol faces a number of significant challenges. Number one – it requires significant modifications to automobile engines in order to function as your fuel source. In other words, you can't take a regular car and use ethanol fuel in that vehicle. Number two – ethanol is very complex to manufacture. In a process that in some accounts actually utilizes more energy than it creates in the fuel. This is what we call energy balance, and we will cover energy balance more in our biodiesel discussion. Number three – there are challenges with the transportation and distribution of ethanol. For example, you can not use pipe-line system for ethanol fuel in most cases. And Number four – there is a significant economic risk involved in ramping up ethanol production dramatically. This is because the only feed stock, or agricultural product, which has been shown as being efficient in providing the bases for ethanol is corn. The uses for corn are wide ranging and include being used as a primary ingredient for animal feed, in food additives, and in other contexts. Therefore, significant shifts in the economics of the corn sector, driven by price increases as the demand for corn as an ethanol feedstock increases, has a significant negative impact on the affordability of other products that rely on corn – namely foods. This could have a very dangerous impact upon our agriculture sector. In fact, some reports are showing that this has already become the case, as the price of corn has risen. So, ethanol is a significant technology and it will be important in one way or another in our future. But it is not necessarily the technology of today.

In contrast, biodiesel presents a very different picture. Let's remember that biodiesel and ethanol are solutions to different needs – one is the need for diesel technology, the other the need for gasoline technology. We're certainly not pre-supposing that the future would rely on one or the other. The reality is that both will be needed. However, when we talk about the policies and economics needed to achieve this future of "energy independence", as the Governor refers to it, it is important to consider how biodiesel is in a very different place today than ethanol.

Biodiesel is the oldest form of diesel fuel. When Dr. Rudolph Diesel first developed the diesel engine he initially used oil derived from plants and seeds, in other words, he used biodiesel.

So, what is biodiesel? Biodiesel is a clean burning fuel that is derived from vegetable oils or animal fats, all of which are environmentally friendly and renewable sources. The primary feedstock for biodiesel is virgin soybean oil. In addition, other vegetable oils can be used, such as those derived from corn,

canola, palm, coconut, cotton seed, sunflower, and rapeseed. There are current efforts under way to produce biodiesel from various animal fats. Primarily fats derived from waste oils, such as trap grease collected from restaurants and other users of animal fats.

Biodiesel is produced through a chemical process called transesterification. There are a number of distinctions when it comes to distinguishing biodiesel-the technology of today-- as opposed to a technology of tomorrow. The most important of these is that biodiesel is currently being produced in a number of active manufacturing facilities across the commonwealth of Pennsylvania, including, of course, our own facility, in Cumberland County.

Some aspects make biodiesel unique, particularly in comparison to ethanol, like the fact that biodiesel has a clear positive energy balance. You will recall that we discussed energy balance during our review of ethanol. According to the US Department of Energy, for every unit of energy needed to produce biodiesel fuel, 3.2 units of energy are gained. In contrast, traditional petroleum diesel fuel is created on a virtually one-to-one process. When you add in the energy gained with the existing efficiency of biodiesel that means that every gallon of biodiesel used has the potential to displace up to four gallons of imported petroleum.

Some other advantages of biodiesel include the fact that it can be used in diesel engines without modification and in fact because it is not petroleum based it has a positive lubricant and cleansing quality in diesel engines. In addition, biodiesel is easy to transport via trucks pipelines and other methods of distribution. And it is derived primarily from soybeans rather than corn. This is significant because corn is a net import crop for the Commonwealth of Pennsylvania. By which we mean that there is more need for corn in the state than there is corn in the state. In contrast Pennsylvania soybean farmers export the vast majority of their product. This means that creating a new demand for the in-state utilization of soybeans would actually create a positive economic impact for the agricultural community.

So, it's significant to note that a lot of the policy issues surrounding the development of alternative and biofuels technologies are really not relevant for biodiesel because it has already addressed and solved the vast majority of those issues. In short, biodiesel is a practical alternative. You could go to a biodiesel fuel store, pump into your biodiesel engine and drive away with little concern, knowing that it's actually going to be more energy efficient, easier to use, positive for your vehicle engine, and environmentally friendly and sustainable, as well. All of this creates a very positive economic opportunity for the people of Pennsylvania, particularly Pennsylvania farmers. We know that Pennsylvania farmers see soy biodiesel as a high quality product and as a positive source of new business.

The other significant thing to consider about biodiesel is the types of problems that it solves in terms of where it is used. Biodiesel becomes the environmentally friendly solution to many of the pollution concerns that plague Central Pennsylvania and to some extent impact the state as a whole. For example, in this region there have been grave concerns expressed by many citizen groups about air quality, as the result of diesel pollution from tractor trailer trucks. Biodiesel can solve this problem today. Similarly, there has been a national effort to address concerns of childhood health impacted by

the diesel exhaust from school buses. Again, biodiesel solves this problem. Construction equipment, fire trucks, farm vehicles, transit buses, and municipal road fleets all are examples of users of biodiesel fuels, who not only solve an issue of energy dependence problem for our nation by switching to biodiesel but also have a direct, positive impact upon the public health.

We have recently formed a statewide organization to further develop and enhance awareness and support for biodiesel. It is called the Pennsylvania Biodiesel Producers Group. We're working on a number of initiatives as a statewide team of biodiesel producers to ensure the future of biodiesel technology. These initiatives include establishment of a quality standard that integrates with the PA Preferred mark and other Pennsylvania marketing initiatives for our state's products, as well as efforts to form public policy and industry support in the legislature, with the administration, and in the general public. I encourage you to visit our website at [www.pabpg.org](http://www.pabpg.org) to learn more about our organization, the issues we seek to address, and the further development of biodiesel in Pennsylvania.

As conservation districts, there are a number of things that you can do to promote biodiesel as a solution within your community. First and foremost, get to know the Biodiesel Producers Group members, who are spread throughout the Commonwealth from Pittsburgh to White Deer to Middletown to York to Shiremanstown and Harrisburg and beyond.

The other thing that you can do is encourage your partners in agriculture, county government, and conservation to implement biodiesel buying programs and make the switch to Pennsylvania's sustainable and environmentally friendly diesel fuel solution. We would also love to have the opportunity to make similar presentations to your constituents and partners and to develop new opportunities to work together for the betterment of biodiesel and the environment in Pennsylvania. I will be posting a copy of my remarks here today on the Pennsylvania Biodiesel Producer's Group website. So, again, I encourage you to take a look and feel free to follow up with any question that you may have of me directly after the program.

Thank you.