

MINUTES
ARKANSAS ALTERNATIVE ENERGY COMMISSION
[Established by ACT 1301 of 2009]
State Capitol, Room 171, Little Rock, Arkansas
Thursday, June 21, 2012

The Arkansas Alternative Energy Commission (AAEC) met Thursday, June 21, 2012, at 10:00 a.m. in Room 171 of the State Capitol in Little Rock, Arkansas.

Commission members present: Leo Hauser, Chairman; Kathleen Alexander; Warren Allen, Stanley Baker, Jessica DeLoach, John Gallegly, Audrey House, Mikel Lolley, Debbie Moreland, and Rita Potts (via telephone).

Also attending: Representative Walls McCrary

Mr. Hauser called the meeting to order.

Mr. Hauser introduced John Gallegly and Kathleen Alexander, the newest members of the commission. Mr. Gallegly worked with Southwestern Bell Telephone Company for 30 years and now represents Empire District Electric Company. Ms. Alexander had an extensive career with Southwest Energy Power Company (SWEPCO) and Arkla Gas. She is a lobbyist for Centerpoint Energy.

CONSIDERATION TO APPROVE APRIL 19, 2012, MINUTES [EXHIBIT C]

Mr. Gallegly made a motion to approve the April 19, 2012, meeting minutes. Mr. Allen seconded the motion, and the motion carried.

CONVERSION OF ANIMAL FATS INTO FUEL

Mr. Andy Rojas, Vice President of Renewable Energy, Tyson, presented a Powerpoint entitled, "DynamicFuels – Conversion of Fats, Oils & Greases Into Fuel" [ATTACHMENT 1] and said Tyson "values up" by-products to increase margins. In 2007, Tyson recognized potential around biofuels when other companies were successful using animal fat to make fuel. Around the same time, the government identified renewable energy as a strategic point and implemented Renewable Fuel Standard 2. The mandate had two primary objectives:

- It required companies to purchase certain amounts and kinds of biofuel and begin developing its use.
- It identified different types of fuels and focused on advanced biofuels.

Tyson is the world's largest chicken, beef, and pork processor and marketer, so it owns an extensive raw material supply. Syntroleum is a leading synthetic-fuels technology developer. To meet the mandate, the companies collaborated to form DynamicFuels (DF). The company focuses on producing a drop-in bio-fuel that operates in extremely cold weather. Today, DF produces 75 million gallons of fuel per year. (Renewable Diesel – 85%; Naphtha – 10%; Liquefied Petroleum Gas – 5%)

DF uses a distinct process that involves isomerization and hydrocracking (bombing feedstock with hydrogen) to produce a unique drop-in fuel that is able to withstand extremely cold environments. The company's renewable diesel is chemically identical to petroleum-based diesel, so standard diesel engines need no alterations to process the fuel. Biodiesel, renewable diesel's number one competitor, is not a petroleum equivalent. DF promotes its products outstanding cold-flow properties, fungibility, and long shelf life.

In the fall of 2007, DF selected its plant site in Geismar, Louisiana. The location appealed to the company because it has extensive access to hydrogen, a workforce with relevant experience, access to terminal storage, and a brownfield site that was ready for development. There is potential in Geismar for DF to invest in rail and barge operations, a cheaper way to store and transport product. The company recognized its first sale in November 2010, and has been operating since. Mr. Rojas said DF is a \$170 million investment that produces a very specialized product. Purchasing the company's fuel involves extensive conversations and a variety of contract structures.

ENERGY ALTERNATIVES FOR ARKANSAS

Ben Thorp, Vice President and Board Chairman, Bioenergy Deployment Consortium (BDC) and Harry Seamans, Operating Officer and Board Member, BDC, presented a PowerPoint entitled, "Energy Alternatives for Arkansas." [ATTACHMENT 2] BDC is a group of companies comprised of representatives from the forestry/paper, corn ethanol, technology, service, educational, and governmental sectors. The company promotes an efficient sustainable bio-economy through education and partnership brokering. It helps partners deploy successful sustainable bio-projects that serve them well into the future. Mr. Thorp said bioenergy is a national security issue, so BDC concentrates on projects that do not depend on government subsidies for economic viability. BDC believes the best way to incent less fossil fuel use is to reduce total energy use. He explained the industrial sector provides the best opportunity to reduce energy use because it is concentrated, organized, and uses the most energy.

Mr. Seamans said the U.S. industry sector is only 65% thermally efficient. Higher numbers are common in other countries and are achievable in the U.S. BDC believes encouraging industries to be more efficient is the key to achieving better ratings. Mr. Thorp cited Wisconsin's "Focus on Energy" program that helps industries deploy successful energy efficient projects while focusing on best practices and emerging technologies. He noted most states have similar programs.

Combined heat and power (CH&P) is a common tool in the pulp/paper and utility industries that improves a company's thermal efficiency by optimizing its assets. The process captures heat from a power generating station and puts it in an "exchanger" that converts the heat to power, usually in the form of steam. The average thermal-efficiency rating for a U.S. utility station is 34.8%. With an integrated CH&P system, 70% to 80% is common. Mr. Thorp said biomass-based stand-alone units only rate about 20% thermal efficiency, because biomass is full of moisture, it burns at a lower temperature, so the furnace is cooler and it releases steam at a lower pressure. Mr. Seamans cautioned against regulatory commissions mandating renewable power, because at 20% thermal efficiency, large-scale development is not sustainable.

Mr. Thorp said economics make selecting the right renewable projects complicated, and BDC recommends forming a review committee with significant industrial representation to review potential projects. The company suggests four critical criteria for the review process:

- Low cost feedstock is available long term.
- Product mix value is sufficient for good return of investment.
- Process costs are sufficiently low, and the term is long enough to be competitive.
- Management team is well qualified.

He noted Arkansas could attract investors by comprising an inventory of its abundant low-cost feedstock sources.

Kristin Higgins, Public Policy Center Program Associate, UA Division of Agriculture, Cooperative Extension Service, presented a Powerpoint entitled, "Renewable Energy Portfolio Standards – The Big Picture." [ATTACHMENT 3] Ms. Higgins said renewable energy is the backbone of the renewable portfolio standard (RPS). She defines renewable energy as a source of energy not depleted by its use, but said renewable energy has many definitions, and some specify the source must be environmentally friendly. The U.S. has no federal energy policy, so each state designs its own. She said energy policies should guide energy infrastructure planning and act as an economic development tool.

According to a study from 2011, the U.S. relies mostly on petroleum for energy (36%) followed by natural gas (25%), then coal (20%). Renewable energy consumes about 9% of the U.S.'s energy sources. In Arkansas, petroleum supplies 33% of the state's energy, coal provides 24%, and natural gas supplies 20%. About 10.2% of Arkansas's consumed energy comes from renewable sources.

Ms. Higgins said the RPS is usually a state law requiring electricity providers to generate a certain percentage of their energy from renewable sources by a certain date or face financial penalty. In the U.S., 29 states have RPS; eight have adopted renewable energy goals (REG). Renewable standards come with penalties if companies fail to achieve requirements; renewable goals are voluntary and with no penalties.

Missouri's RPS requires 15% of the state's energy to come from renewable sources by 2021. Of the 15%, 2% must come from solar. Missouri allows net metering.

Oklahoma legislators adopted a REG in 2010 that 15% of the state's energy will come from renewable sources by 2015. Of the 15%, 25% can come from attained energy efficiency. Oklahoma allows net metering.

The RPS in Texas mandates 5,880 megawatts (MW) of the state's energy will come from renewable sources by 2015; 10,000 MW by 2025. The Texas legislature authorized penalties for companies that fail to comply, but has not determined the specific consequences. Wind represents half of the renewables in Texas, and the state allows net metering.

Louisiana has no RPS or REG in place, but has a pilot study underway that considers an RPS. The state is deciding if an RPS is in their best interest and if they should require utilities to purchase or generate their own renewable energy.

Neither Mississippi nor Tennessee has RPS, REG, or net metering.

Arkansas has no RPS or REG, but the governor is developing a state energy plan. In 2009, Arkansas state agencies were required to begin reducing energy use in their buildings. Net metering is available in Arkansas.

Ms. Higgins said SWEPCO has a de facto RPS in Arkansas as part of a lawsuit settlement with the National Audubon Society, Audubon, and Sierra Club that surrounded opening the John W. Turk Jr. Power Plant in Fulton. The company agreed to purchase 400 MW of wind or solar power to use as part of its generation portfolio. SWEPCO purchased 407 MW of wind from Kansas, Oklahoma, and Texas. When Ms. Higgins asked a SWEPCO spokesperson, why wind not solar, and why not Arkansas, he said SWEPCO has interest in wind farms in these other states, so it makes sense to purchase power from those organizations. Secondly, even if SWEPCO wanted to purchase power in Arkansas, the state has no grid in place.

Advantages of RPS:

- Environmental benefits
- Creates a demand for renewable energy
- Stimulates Renewable Energy Credit market and technology development
- Diversifies energy sources
- Promotes economic development
- Boosts investor confidence in renewable energy
- Can be tailored to local desires and policies

Disadvantages of RPS:

- Very complex to design and implement
- Costs are not known until the standard is implemented
- Utility costs are passed on to customers in higher rates
- Would dissuade the use of other renewable sources
- Promotes least-cost source development, not necessarily best source
- Does not stimulate large volumes of capacity alone and often requires additional policies and subsidies
- No one has determined that the RPS is successful.

Ms. Higgins explained the main difference between the RPS and Clean Energy Standards (CES) is the RPS is more specific about included sources. CES are more inclusive as it pertains to sources. She said the key to deciding which is best for you, is to determine the outcome you are seeking.

Mr. Hauser said the next commission meeting is August 16, 2012.

Mr. Baker made a motion to adjourn, Ms. Moreland seconded. With no further business, the meeting adjourned at 12:15 p.m.