

MINUTES

HOUSE ENVIRONMENT, ENERGY, & TECHNOLOGY COMMITTEE

DATE: Tuesday, March 20, 2012
TIME: 1:30 pm or Upon Adjournment
PLACE: Room EW41
MEMBERS: Chairman Raybould, Vice Chairman Harwood, Representative(s) Anderson, Eskridge, Hartgen, Simpson, Schaefer, Vander Woude, Block (Block), DeMordaunt, Gibbs, Nielsen, Thompson, Smith(30), Jaquet, Cronin
ABSENT/EXCUSED: None
GUESTS: Matt Wiggs, Office of Energy Resources; Brent Olmstead, Milk Producers of Idaho; Melinda Hamilton, Bio-Energy Lead, Center for Advanced Energy Studies, Idaho National Laboratories

Rep. Raybould called the meeting to order at 1:36 p.m.

MOTION: **Rep. Harwood** made a motion to approve the minutes of the March 12, 2012 meeting. **Motion carried by voice vote.**

Melinda Hamilton, Bio-Energy Lead, Center for Advanced Energy Studies (CAES), Idaho National Laboratories, spoke to the committee regarding the Anaerobic Digesters. She explained that anaerobic digestion was not new and that it had been around for a long time. Using a PowerPoint presentation, she explained the process and technology of transforming organic residue into biogas by use of anaerobic digesters. The more common digesters are the "covered lagoon" and the "plug flow" which is used in the Midwest. The most efficient is the "complete mix" digester because of the ability to control the products and to reach 60-80% efficiency. Ms. Hamilton said that the uses of biogas can be: medium BTU gas, electric power, High BTU gas and chemicals such as methanol, ammonia and urea. She noted that Idaho is interested in anaerobic digestion because it is the third largest producer of dairy products in the nation. And since the largest concentration of the dairies is in the Magic Valley, the estimated potential in that area is 10M kilowatt hours of power per day. She also said the benefits to anaerobic digestion of dairy waste are: (1) there is an abundant resource, and (2) there are environmental benefits in reducing greenhouse gas, reducing nitrogen loading, abating odor and recycling the solids for bedding and compost. (A copy of the PowerPoint will be in the Committee Secretary's office until the end of the session. Following the end of the session, this will be filed with the minutes in the Legislative Services Library.)

Ms. Hamilton spoke of the successful Idaho Dairy Anaerobic Digesters and those dairies which have recently been approved for digesters throughout the Magic Valley. She said the dairies with 5,000 or more cows are the most successful financially in using the business model for sustainable dairy digester systems created by the Innovation Center for U.S. Dairy. However, small scale digester operations are being used in New York and Vermont. (See PowerPoint.)

In addressing the barriers, **Ms. Hamilton** said that it all boils down to money. She said the high capital costs of digesters can be \$1M and beyond. It can cost \$400 per cow to build and operate biogas facilities. The interconnect agreements and permitting are costly and difficult. Also, the advanced technology and the unreliability of gas quality and flow makes for a 50% failure rate overall. The more successful operations bring in a third party to manage the digesters and the marketing of products, including the exchange of renewable energy credits (RECs). Then the dairymen go back to what they know best: milk.

Responding to questions from the committee, **Ms. Hamilton** said the permitting process of the state public utilities creates the greatest obstacles for the dairies. She noted that dry ration produces the better waste for production of biogas because it provides more solids for loading. The wet ration, such as silage, contains other constituents that have to be cleaned from the dairy waste, making it less cost effective. She also said the heating treatment can destroy the contaminants from the effluent stream, but the effluent is not guaranteed to be disease-free. In response to further questions, Ms. Hamilton indicated there is a workforce issue and that the College of Southern Idaho is partnering in the technology training for digester operators. Other community colleges are also creating curriculum wherein technology necessary for digester operators is incorporated into other established degrees. She stated that energy people cannot be unskilled.

In response to questions from the committee, **Ms. Hamilton** said that the cost per kilowatt hour was difficult to determine because it depends on the size of the herd and the size of the digester. She also said the model developed in Israel was one which has been studied by CAES but that the incorporation of greenhouses which produces hydroponic tomatoes does not produce enough revenue in the "dairy waste to power" scenario.

Rep. Raybould recognized the service of **Candace Aguirre**, House Page who has been assigned to the committee for the second half of the session. He also recognized the contribution of **Jean Vance**, House Environment, Energy, and Technology Secretary for the 2012 Legislative Session.

ADJOURN: There being no further business to come before the committee, the meeting was adjourned at 2:25 p.m.

Representative Raybould
Chair

Jean Vance
Secretary