



A Virtual Renewable Energy Education Field Day

*Anaerobic Digesters as a tool for energy production,
manure/nutrient management and revenue generation*

Oct. 26, 2011

Speaker Biographies

David Belcher is a registered Professional Environmental Engineer with over 20 years of environmental and agricultural project development and management experience. For the past year, he has been managing the DOE-sponsored Feasibility Study for the Pecos Valley Biomass Cooperative to identify and evaluate manure management technologies for the New Mexico dairy industry. His previous experience includes renewable and carbon credit project development for the independent power producer AES, management of aquaculture facilities, and environmental engineering consulting.

Jeff Bingaman is a Democratic U.S. Senator from New Mexico, serving his fifth term in office. He chairs the Senate Energy and Natural Resources Committee, as well as the Finance Committee's Subcommittee on Energy, Natural Resources, and Infrastructure. He is also a member of the Health, Education, Labor, and Pensions Committee and the Joint Economic Committee. Prior to his Senate position, Bingaman was Attorney General of New Mexico. He earned a B.A. in government from Harvard University and a law degree from Stanford University.

Jerry Bingold is director of Renewable Energy for the Innovation Center for U.S. Dairy. He is responsible for analyzing and communicating information to strategically develop anaerobic digesters in the dairy industry. Bingold works with key stakeholders to establish project goals and milestones, direct national market analysis and business modeling while coordinating industry volunteers and providing overall project support. The Innovation Center's goal is to have 1,300 digesters operating in the U.S. dairy industry by the year 2020. Bingold has experience in renewable energy, energy efficiency and power contracts with rural electric cooperatives, investor-owned utilities and large commercial and agricultural companies. Most recently, he was principal of commercial and industrial business development for the National Rural Electric Cooperative Association. Bingold has served in business development, energy consulting and project origination roles for Chevron Energy Services, Dynegy, Illinova Energy Solutions (Illinois Power) and Portland General Electric. He earned his bachelor's degree in biology from the University of Oregon and received a U.S. Department of Energy national award for energy efficiency and the environment.

William Boyd, a professional engineer with the USDA's Natural Resource Conservation Service, is the leader of the National Manure Management Technology Development Team in Greensboro, North Carolina. Since graduating from the University of Tennessee as an agricultural engineer, he has served the Soil Conservation Service and NRCS as a field and project engineer in Tennessee, Missouri, and Florida, and as an environmental engineer with responsibilities for manure and nutrient management at the Midwest National Technical Center in Lincoln, Nebraska, and the National Water Management Center in Little Rock, Arkansas.

Nolan Clark is a retired agricultural engineer from the USDA's Agricultural Research Service. He conducted research on irrigation technologies and wind energy systems at the USDA Conservation and Production Research Laboratory in Bushland, Texas for 38 years. His research experience includes wind power for irrigation pumping, wind power for domestic and livestock water pumping, wind turbine performance, wind/hybrid generating systems, wind effects on sprinkler irrigation, groundwater management, microclimate, plant-water relationships, and animal waste management. He currently serves on the Panhandle Regional Water Planning Group as chair of the Agricultural Water Use Committee. Clark earned a B.S. in agricultural engineering from Texas Tech University, an M.S. in agricultural engineering from Mississippi State University, and a Ph.D. in agricultural engineering from Texas A&M University.

Jim Fischer holds a Ph.D. in agricultural engineering from the University of Missouri-Columbia. As a USDA research engineer in the 1970s, he published the design specifications for the original integrated on-farm energy system. He has served at three universities—Missouri, Michigan State, and Clemson—and provided leadership for numerous national organizations. In 2003, he was appointed to the Board of Directors for the Energy Efficiency and Renewable Energy programs of the U.S. Department of Energy. In 2007, he formed James R. Fischer and Associates; a company focused on technology and management issues at the agriculture/energy/environment intersection. He also assists the Council on Competitiveness's Energy Security, Innovation & Sustainability Initiative and serves on the Missouri Energy Council. Fischer works with Farm Foundation, NFP as Project Director-Energy.

Gerry Greathouse has for 33 years owned and operated a dairy near Roswell, N.M. He is currently milking 2,300 cows. Greathouse is also President of the Pecos Valley Biomass Cooperative. The cooperative's members are 23 dairies in Chavez County, N.M., with a total of more than 60,000 cows. The cooperative is seeking environmentally and economically feasible options for manure and nutrient management. A native of Texas, Greathouse is a dairy science graduate of the University of Arizona.

Robert Hagevoort, is an Extension Dairy Specialist at New Mexico State University. He was awarded NMSU's first Endowed Dairy Chair this year. He works closely with the dairy industry in New Mexico on environmental and regulatory issues, and initiated an effort to rebuild a dairy program at NMSU through the formation of the Southern Great Plains Dairy Consortium. Prior to joining the university, Hagevoort served for

over 10 years as an independent dairy management consultant, primarily in California's southern and central Valley. A native of The Netherlands, he earned his bachelor's degree in tropical animal production from the Deventer College for Tropical Agriculture, and a master's degree in range nutrition and a doctorate in animal nutrition from Texas A&M University.

Bill Hagy is the Special Assistant for Alternative Energy Policy at USDA Rural Development. He provides support to the Secretary and the Under Secretary Rural Development on policy matters relating to alternative energy development, and provides leadership for various boards and committees, such as the Biomass Research and Development Board and Technical Advisory Committee. Prior to his current position, he served as deputy director of the Rural Development Business Programs. Hagy was a recipient of Vice President Gore's National Performance Review Hammer Award for his efforts in streamlining the B & I Guaranteed Loan Program regulation, which reduced the number of application forms and automated the application process. He has twice received the Secretary of Agriculture Honor Award and also received the 2007 National Rural Economic Developers Association President's Award. In 2010, the *Biofuel Digest* recognized Hagy as one of the "Top 100 People in Bioenergy."

Bob Joblin is president of Cenergy USA, which is an investor in AgPower Group, LLC. He has been involved in the financing and developing of anaerobic digester projects since 2005. In addition to projects in California and New Mexico, AgPower Group is currently developing the largest dairy digester project in the nation on an Idaho farm. It is projected to process about 500,000 gallons of waste a day and a continuous power production of approximately four megawatts. The project is expected to generate about 50,000 carbon credits a year and produce over 100,000 cubic yards of digested fiber, which can be used as a sustainable alternative to peat moss.

Mike Kotelko is Vice-President of Highland Feeders Ltd. in Alberta, Canada. From a small mixed farming operation, it has grown to a \$60 million agribusiness. He is also general manager of Highmark Renewables and a director of the Alberta BioProducts Association. He is the co-inventor of the Integrated Manure Utilization System (IMUSTTM), an anaerobic digestion technology. He holds a degree in agricultural engineering.

William Lazarus is a professor and Extension economist in the University of Minnesota's Department of Applied Economics. He works in farm management research and extension, with a general focus on crop and livestock production economics. He became interested in digesters ten years ago when he was involved in a project to analyze the economic performance of a digester on a dairy operation outside the Twin Cities. Since then, he has since visited digesters in California, the upper Midwest and Europe. Lazarus holds a Ph.D. in agricultural economics from the University of Illinois.

Mike McCloskey is co-owner/manager of Fair Oaks Dairy Farm in Indiana. The operation includes four units on 19,000 acres of property, each unit housing about 3,000 cows. He is also involved in the ownership and management of dairies in New Mexico

and Michigan. He was instrumental in the formation of the Southwest Agency, which is Marketing Agency in Common (MAC) created under the Capper-Volstead Act to allow private dairy farmer cooperatives to collectively bargain to maximize marketing efficiencies. McCloskey serves on the board of National Milk Producers Federation and participates in the Federal Order Policy and Dairy Export Policy committees. He earned a D.V.M. degree from the University of Mexico and completed a specialty in dairy production medicine from the University of California.

Bob Monley is the general manager of Farm Pilot Project Coordination. FPPC's mandate is to oversee the implementation and administration of a Pilot Project Program to demonstrate economically viable innovative treatment technology systems that reduce the nutrient content of the waste stream from AFOs by 75% or greater. Funding for approved Pilot Projects comes from monies appropriated by Congress and overseen by USDA's Natural Resource Conservation Service. Prior to joining FPPC, Monley was responsible for the nation's largest commercial fuel fabrication facility for Westinghouse in Columbia, SC. There, he was accountable for managing 900 workers, the safe operation of a non-stop chemical facility, control of all special nuclear material and strict compliance with all regulatory and environmental requirements.

Saqib Mukhtar is a professor and Extension agricultural engineer in the Biological and Agricultural Engineering Department at Texas A & M University. He has 21 years of experience in the area of animal manure and wastewater management. His current research concerns the assessment of new manure treatment technologies to reduce greenhouse gases, ammonia and other air and water pollutants from AFOs. He earned a Ph.D. in agricultural engineering from Iowa State University.

Jacob Penn is an Assistant Vice President of Farm Credit of New Mexico. He manages a large commercial agricultural portfolio consisting of dairy, row crops, orchards and cow/calf operations. Penn has been on the staff of Farm Credit since January 2004. He has a degree in agricultural economics and agricultural business from New Mexico State University. He was reared on a diversified vegetable, cotton and alfalfa farm.

Tom Vilsack was appointed USDA Secretary of Agriculture in 2009. His responsibilities include oversight of the U.S. Forest Service, the Food Safety and Inspection Service, the Food Stamp Program, and the Cooperative State Research, Education and Extension Service. He is especially interested in issues concerning expanded broadband access in rural communities, renewable energy, increasing agricultural exports, taking advantage of ecosystem markets, capitalizing on outdoor recreation, and linking local farm production to local consumption. Prior to his appointment, Vilsack served two terms as Governor of Iowa. A native of Pittsburgh, Pennsylvania, he earned a bachelor's degree from Hamilton College and a law degree from Albany Law School.

Chris Voell is National Program Manager of the U.S. Environmental Protection Agency's AgSTAR, a voluntary outreach and educational program that promotes the recovery and use of methane from animal manure through biogas recovery systems. The

program was established in 1994 in collaboration with the USDA, and by the end of 2010 the number of operational anaerobic digester systems had reached 162 systems across the U.S., representing approximately 453,000 MWh equivalent of energy generation. Voell is responsible for the program's work in 20 states across the Midwest, Northeast and Southwest.

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