

## Power Generation Poster [Elmore Abstract]

Historically renewable energy has been adopted by consumers at varying levels across the United States. For example, California is well-known for initiatives which have resulted in the widespread acceptance and use of wind and photovoltaic systems at all levels from utilities to individual households. Missouri has focused on biofuels, and wind development and solar development are not widespread. In response to an initiative to reduce the State's utility costs, the Missouri Office of Administration sponsored a demonstration of the use of a 10 kW-rated wind turbine and a 2-kW photovoltaic system at a regional Highway Patrol headquarters. Both systems are interconnected with the local utility provider. The project also includes environmental and system instrumentation. The straightforward demonstration project has resulted in several tangible benefits in addition to than the planned cost reduction: outreach to the general public as well as precollege outreach for potential university students; identification of liability issues related to utility interconnection permits; familiarization of facility tenants and state employees with renewable energy systems; familiarization of utility personnel with renewable energy systems; identification of unanticipated costs; collection of data to be used for performance prediction research; training of local tradesmen in relevant construction practices; and providing graduate and undergraduate education opportunities.