

For more detailed data, see the Census of Agriculture found at www.agcensus.usda.gov

The 2009 On-Farm Renewable Energy Production Survey (OREPS) was the first energy survey conducted. Conducted as a follow-on to the most recent Census of Agriculture, the 2009 On-Farm Renewable Energy Production Survey focused on three principal renewable energy systems: solar panels, wind turbines and methane digesters. The survey expanded upon the energy questions asked in the census to provide a deeper analysis of American on-farm renewable energy production practices. Highlights include data such as producers on 8,569 farms in the United States reported producing renewable energy on their operations in 2009 and farmers whose operations produced on-farm energy saved an average of \$2,406 on their utility bills in 2009. Full results of the 2009 On-Farm Renewable Energy Production Survey are available online at www.agcensus.usda.gov.

On the state level, California leads the nation with 1,956 operations producing renewable energy, accounting for nearly a quarter of all operations in the United States participating in this practice. Texas, Hawaii and Colorado were the other major states where farmers on at least 500 operations were producing their own renewable energy. The survey results also show an economic upside to producing energy on the farm. Farmers in nearly every state reported savings on their utility bills. The savings were especially noticeable in New York, where utility bill savings reported by respondents topped \$5,000 for 2009. The survey results show increasing participation in on-farm energy production over the years. During the last five years, from 2005 to 2009, 72 percent of the digesters, 50 percent of the small wind turbines and 63 percent of the solar panels currently in use were installed.

All farms that reported using **methane digesters** on the 2007 Census of Agriculture, plus all farms included on the Environmental Protection Agency's (EPA) AgSTAR list, were included in the survey to ensure better coverage of this small, but growing industry. Across the country, 121 farms reported owning and operating 140 methane digesters in 2009. On average, each digester produced just over 30.5 million cubic feet of methane during 2009. The average installation cost of a methane digester was \$1.7 million. The states with the largest number of digesters were Wisconsin (25), New York (16), Pennsylvania (16), and California (14).

In 2009, there were 7,968 farms using **solar panels** to generate energy in the United States. Of those, 91 percent had photovoltaic (PV) and 23 percent had thermal solar panels. The average generating capacity of photovoltaic panels was 4,449 watts with an average installation cost of \$31,947 per farm for all panel types. On-farm energy production using solar panels was reported in all 50 states. The number of farms using solar panels in each state ranged from four farms in Delaware to 1,906 farms in California. Farmers who reported using solar panels were primarily in the western United States.

According to the survey results, in 2009 there were 1,420 operations reporting 1,845 **wind turbines** that were owned and operated by farmers and ranchers. The survey excluded commercial turbines located on farms under wind rights lease agreements.

