

Roth: Oklahoma's Renewable Energy Potential

Energy has always been an essential industry to our state. Not only is Oklahoma an industry leader in oil and gas, our state is also at the forefront of the renewable-energy industry.

The primary source of renewable energy in Oklahoma is wind, as we have enjoyed continuing growth lately. Oklahoma's wind energy sector has seen a meteoric rise most recently. In 2002, Oklahoma had virtually no installed wind power capacity. Now our state has the sixth-largest installed wind capacity in the nation, with 3,134 megawatts.

The U.S. wind industry has experienced rapid growth recently, as well. In 2012, wind power constituted 43 percent of all electricity capacity additions, passing natural gas as the leading source of new capacity despite historically low natural gas prices. The United States trails only China in installed wind capacity, with 60 gigawatts.

In addition to wind energy, our state also utilizes many of our plentiful lakes and rivers to produce hydroelectric power. In 2012, Oklahoma had 805 megawatts of installed hydroelectric capacity. Three of Oklahoma's largest lakes, Grand Lake, Lake Eufaula, and Lake Texoma, produce electricity through hydroelectric dams. The U.S. produces about 10 percent of the world's hydropower, with a total capacity of 78,241 megawatts.

Oklahoma is also a leading state in geothermal energy, which involves using the earth's temperature to heat and cool buildings. Oklahoma State University's campus is home to the International Ground Source Heat Pump Association, which is a leader in geothermal research and development. The U.S. currently leads the world in geothermal energy, with 3,386 megawatts of installed capacity. Geothermal can be used for

electricity generation, but in Oklahoma its main application is for heating and cooling buildings. Most Oklahoma utility companies offer heat pump rebates to encourage the use of geothermal.

Despite Oklahoma's growth in renewable energy, we still have tremendous untapped potential, particularly with solar energy. In 2012, Oklahoma produced about 300 kilowatts of electricity from solar photovoltaic energy, but we have the potential for much more solar production. Maps of solar resources in the U.S. show that Oklahoma has above-average potential for solar energy, especially western Oklahoma. Thus, the door is open for Oklahoma to become a leader in yet another energy sector.

Oklahoma is helping push the U.S. to the front of renewable-energy development, creating a cleaner, more sustainable future for all, while bringing jobs, secondary income to some farms and real savings to many Oklahoma families' households.