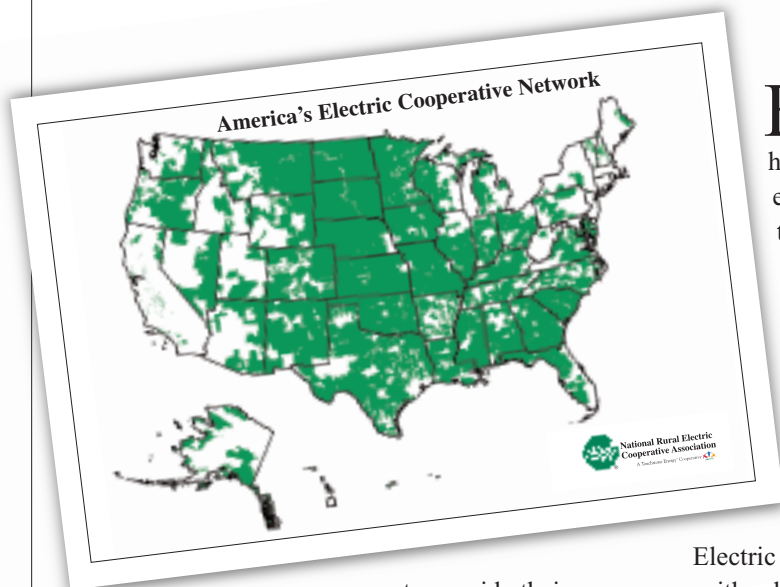


ELECTRIC COOPERATIVES AND ALTERNATIVE ENERGY

a snapshot



Electric cooperatives are private, independent electric utilities, owned by the consumers they serve. This local connection has resulted in electric co-ops' establishing themselves as leaders in developing and offering alternative energy programs to their consumer-owners.

Locally owned and operated distribution cooperatives deliver electricity to the consumer. Generation and transmission cooperatives (G&Ts) generate and transmit electricity to their member distribution coops. Today there are 865 distribution and 65 G&T cooperatives serving 37 million people in 47 states, or 12 percent of the U.S. population, in 80 percent of the nation's 3,100 counties.

Electric co-ops are unique consumer-focused businesses with a mission to provide their consumers with reliable, affordable electric service. To fulfill that mission, they –

- ▶ own assets worth \$82 billion,
- ▶ own and maintain 2.4 million miles, or 43%, of the nation's electric distribution lines, spanning three quarters of the nation's landmass,
- ▶ serve an average of 6.6 customers (meters) per mile of line, while investor-owned power companies average 34 customers per mile of line, and publicly owned or municipal utilities average 44 customers per mile of line,
- ▶ deliver 10 percent of the total kilowatt hours sold in the U.S. each year,
- ▶ generate 5 percent of the total electricity produced in the U.S. each year,
- ▶ employ 63,000 people in the United States, and
- ▶ pay more than \$707 million in state and local taxes.

COMMITMENT TO COMMUNITY AND THE ENVIRONMENT

While electric cooperatives own and operate some of the nation's cleanest and most modern generating facilities, they continue to explore new technologies and fuel sources to control or reduce emissions. Distributed generation technologies, such as fuel cells, and renewable resources like wind, sun, biomass (landfill methane gas, wood waste, farm by-products, and ethanol from corn) offer generation alternatives that promise economic as well as environmental benefits for residential and business consumers alike, especially those in rural areas.

Electric co-ops have expanded their non-hydroelectric renewable generation capacity to more than 60,000 kilowatts and look to add more capacity during 2004. They purchased more than 200 megawatt hours of energy from renewable resources operated by various developers in 2003. Nearly 250 co-ops offer renewable energy options allowing consumers to buy green power from solar, wind, low-impact hydroelectric, and biomass generation. As a result, electric cooperatives hold a significant share of the green power market in terms of customer participation. For example, Holy Cross Energy, an electric co-op in Glenwood Springs, Colo., was recognized by the U.S. Department of Energy and NRECA's Cooperative Research Network for one of the earliest and most successful green pricing programs. The co-op's approximately 5 percent participation rate ranks it in the top five utilities nationally.

WIND ENERGY

Basin Electric Power Cooperative, a G&T system in Bismarck, N.D., has made a long-term commitment to buy all of the energy generated by two 40 megawatt wind farms located in North Dakota and South Dakota. Basin Electric and its partners East River Electric Power Cooperative, Madison, S.D., and Central Power Electric Cooperative, Minot, N.D., offer the PrairieWinds program as part of their power portfolio serving 124 distribution co-ops in nine states.

(over)

Great River Energy, a G&T in Elk River, Minn., and its member co-ops offer the Wellspring Renewable Energy Program from nine giant turbines generating 6 megawatts at the Chandler Hills Wind Farm. To date, more than 3,500 co-op members participate. Great River is finalizing negotiations with Trimont Area Wind Farm to develop 100 megawatts of wind energy in southwestern Minnesota. Trimont Wind is a coalition of local citizens, and it is believed this will be the largest locally owned wind project in the nation.

Thirty miles above the Arctic Circle, Kotzebue Electric Association installed the first of 11 wind generation turbines in the tundra outside the town in 1997. Today, those turbines produce nearly 7 percent of the co-op's electricity, enabling it to save more than 100,000 gallons of costly diesel fuel generation each year.

BIOMASS ENERGY

Biomass energy includes landfill methane gas, wood waste, farm by-products, and ethanol from corn. Of these resources, landfill methane gas is particularly promising for electric cooperatives.

Washington Electric Cooperative, East Montpelier, Vt., began its move toward renewable energy in 2002, when it ended its contract with Vermont Yankee for nuclear-powered electricity. After exhaustive research, the co-op's board of directors concluded that methane gas offered the best choice for reliable, low-cost, and predictable electricity generation. WEC plans to build Vermont's first methane-powered electric generation plant at the Coventry Landfill. When complete, it will supply WEC with 3.2 megawatts of electricity per month.

Dairyland Power Cooperative G&T in La Crosse, Wis., is expanding its EvergreenSM Renewable Energy Program, which began with wind generation and most recently brought a 3 megawatt landfill gas-to-energy plant online to provide electricity to 2,600 homes. Several animal waste-to-energy projects also are in development on dairy farms in Dairyland's service territory. Manure is the resource and methane gas, its byproduct through anaerobic digestion, will generate renewable energy for 3,000 homes.

East Kentucky Power Cooperative, a G&T in Winchester, markets environmentally friendly energy through its EnviroWattsSM program, which includes three landfill-gas-to-electricity generating facilities. East Kentucky estimates that signing up for only one block per month of the EnviroWatts for a year has the same benefit as reducing imported crude oil by more than two barrels per year, or taking the family car off the road for three months, or planting about 1.5 acres of trees.

FUEL CELL ENERGY

The Cooperative Research Network's Transportable Fuel Cell Demonstration was a three-year national tour of a 200-kilowatt mobile fuel cell, which accumulated more than 20,000 hours of clocked operation at three highly diverse co-op sites. This experience laid the foundation for constructing a 1-megawatt Phosphoric Acid Fuel Cell Power Plant, dedicated in August 2000 by Chugach Electric Association, which operated the system for the Post Office in Anchorage, Alaska.

SOLAR ENERGY

In Texas, electric co-ops have adapted solar power systems to provide electricity for stock wells located in remote areas not close to power lines. Four co-ops have installed 65 solar electric systems that generate more than 30 kilowatts of capacity. Of the 75 electric cooperatives in the state, 57 have given their consumers the option to buy electricity through photovoltaic power programs, and several cooperatives have consumers on waiting lists. Many cooperatives across the Great Plains and the West sell or lease photovoltaic systems that operate water pumps for ranchers and farmers. In other instances, electric co-ops provide photovoltaic systems to homes in remote regions that are not connected to power grids.

