



NEWS RELEASE

More Farmers May Go Off the Grid

Solar energy expected to gain ground as costs become more competitive

DENVER (June 14, 2018)—As on-farm solar becomes more competitive with retail electricity, solar panels may be a common sight across U.S. farm fields and livestock operations. Lower costs, along with federal tax credits, state incentives and a stronger ag economy, could entice more farmers to install on-farm solar generation in the decade ahead.

“As sure as the sun rises, the price of solar will fall,” said Taylor Gunn, CoBank lead economist. “The U.S. farm economy is currently at the bottom of a business cycle, which has slowed the adoption of on-farm solar generation. But when markets reverse, we expect interest in on-farm solar to increase.”

A new report from CoBank’s Knowledge Exchange Division predicts that solar energy use will accelerate among ag producers when the cost of installing and operating distributed solar energy systems is the same or less than commercial electricity rates. This rate convergence is known as “grid parity.” Grid parity is based on the levelized cost of energy (LCOE), which calculates the cost of building and operating a solar generation system.

“In most states, grid parity for on-farm solar will likely occur by 2025 to 2030, and could happen even sooner in areas with strong solar resources,” Gunn said.

Incentives drive use

CoBank experts expect federal and state incentives to continue to drive solar adoption as well. The federal Investment Tax Credit (ITC) now provides solar system owners a tax credit equal to 30 percent of the cost of the system. The credit drops to 26 percent in 2020, 22 percent in 2021 and 10 percent from 2022 forward.

When installing solar energy systems, farmers also may be able to take advantage of the federal Rural Energy for America Program (REAP), which provides guaranteed loan financing and grants to agricultural producers and rural small businesses for renewable energy systems or energy efficiency improvements.

In addition, most states have net metering policies, whereby local utilities compensate owners for the kilowatt-hours (kWh) of energy the solar system produces above the owners’ needs. Currently, 38 states have mandatory compensation rules, although states differ in compensation rates and system size limits. For example, in Minnesota, systems below 40 kilowatts (kW) in size are compensated at the utility’s full retail rate.

“State-level net metering policies will continue to spur growth of on-farm solar,” Gunn said.

Who gains from solar

Agriculture is an energy-intensive business, and livestock production is at the top of the user list. Dairy and livestock farmers pay hefty electric bills that average \$12,000 to \$13,000 annually—powering feed equipment, ventilation, lighting, heating systems, and milk pumps and coolers. The total energy that U.S.

dairy, poultry and swine producers purchased in 2017 could support 1.1 million single-family homes for a full year.

“This level of energy consumption makes these producers prime candidates for solar energy adoption, especially since their needs are year-round,” added Gunn. “They have the most to gain from the increasing competitiveness of solar energy. Future recoveries in the hog, dairy and poultry sector will signal a strong growth period for on-farm solar generation.”

Electric utilities to respond

Electric co-ops have a long history of demand-side management—controlling members’ loads during times of peak demand in exchange for more attractive rates.

“Providing competitive energy rates for agricultural producers through demand response does help electric cooperatives reduce the risk of losing sales to on-farm solar generation,” said Gunn. “But even these rates could face competition from on-farm solar by 2030.”

For a brief video synopsis of “Load Defection Among Agricultural Producers” click [here](#). The full report is available at CoBank.com.

About CoBank

CoBank is a \$133 billion cooperative bank serving vital industries across rural America. The bank provides loans, leases, export financing and other financial services to agribusinesses and rural power, water and communications providers in all 50 states. The bank also provides wholesale loans and other financial services to affiliated Farm Credit associations serving more than 70,000 farmers, ranchers and other rural borrowers in 23 states around the country.

CoBank is a member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agriculture, rural infrastructure and rural communities. Headquartered outside Denver, Colorado, CoBank serves customers from regional banking centers across the U.S. and also maintains an international representative office in Singapore.

For more information about CoBank, visit the bank's website at CoBank.com.

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