Electric Cooperatives, Investor-Owned Utilities Form New Pacts to Expand Rural Broadband

Electric cooperatives and investor-owned utilities are partnering with competitive providers and telcos to close the systemic rural broadband gap.

By Sean Buckley / *Broadband Communities*

When Colquitt Electric Membership Corporation (EMC) needed a solution to solve its community's broadband problem, it had two options: build a fiber network itself or partner with an area provider that already served its territory.

Dozens of co-ops provide fiber to the home (FTTH) themselves across the United States, but Georgia-based Colquitt chose to partner with Windstream, a privately owned, high-speed internet service provider.

"We recognized that while we couldn't do it on our own, we could not put our heads in the sand," says Danny Nichols, general manager of Colquitt EMC. "Colquitt looked at which providers had infrastructure on our system, and Windstream answered the call."

Joining Colquitt in the approach of providing broadband via a partner are Butler Rural Electric Cooperative (BREC) in Ohio, Mohave Electric Cooperative in Arizona and Warren Rural Electric Cooperative Corporation (WRECC) in Kentucky.

Electric cooperatives have become a new savior for rural towns that have few, if any, broadband options. According to a 2019 fact sheet from the National Rural Electric Cooperatives Association (NRECA), electric cooperatives could bring broadband to 6.3 million households. What's more, an Institute for Local Self-Reliance report revealed that 90 electric cooperatives have built FTTH networks.

Sheryl Riggs, CEO of the Utilities Technology Council (UTC), said during the **Broadband Communities** 2020 Virtual Summit that more of UTC's members are providing broadband.

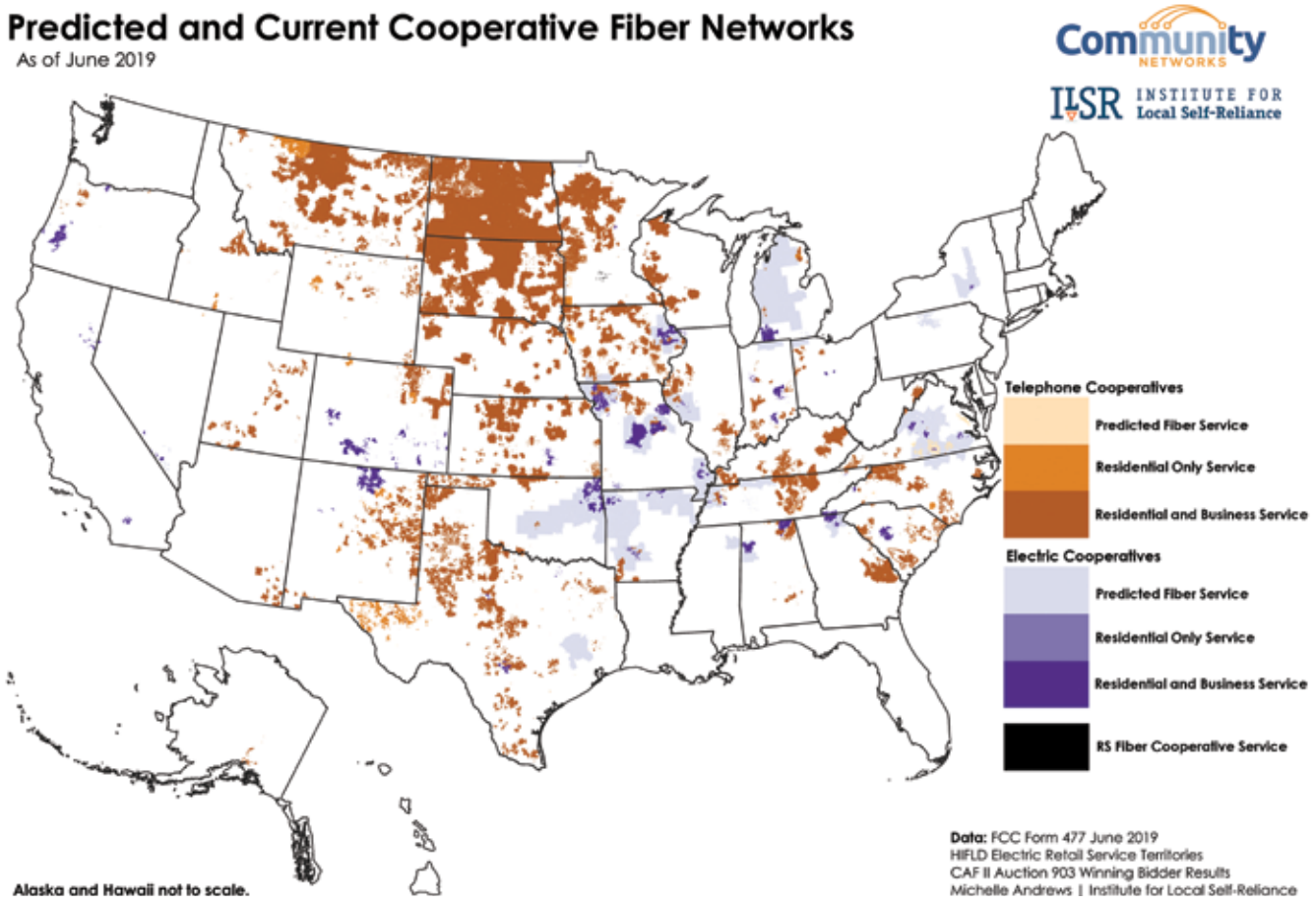
"Hundreds of utilities are leveraging existing infrastructure to provide wholesale and retail broadband access," she said. "Utilities have successfully bid for FCC Connect America Fund II funds, while others are awaiting the results of the Rural Digital Opportunity Fund auction."

Riggs noted, "We're also seeing investor-owned utilities bringing broadband to underserved and unserved areas."

Alabama Power and Entergy entered pacts with C Spire to deploy fiber in their respective electric service territories, and Appalachian Power is working with GigaBeam Networks to bring broadband to unserved customers in Grayson County, Virginia. "We have no desire to be an ISP," said Brad Hall, vice president of external affairs for Appalachian Power, during a UTC webinar. "It's not our core competency."

LAST-MILE PACTS

Service providers and electric utilities are making last-mile broadband expansion pacts. Because utilities and telcos use one another's facilities,



partnerships between electric utilities and telcos make sense.

Cincinnati Bell has partnered with BREC, which serves members in portions of Butler, Hamilton, Preble and Montgomery counties in Ohio.

During the first phase, Cincinnati Bell will make its Fioptics FTTH service available to more than 2,000 BREC members. BREC will notify members as addresses become eligible for Fioptics internet and is evaluating additional residential and business locations for future phases.

Jason Praeter, president of Cincinnati Bell's entertainment and communications business, says the partnership came after BREC wanted to expand service for its electric grid.

"It took a lot of collaboration to make the partnership work," he says. "We came up with an agreement to provide FTTH in areas that would not have that opportunity."

Praeter adds that Cincinnati Bell is looking at opportunities outside its serving area. "While having a contiguous network makes it convenient, we're talking to other co-ops outside of our footprint," he says.

Likewise, Windstream's agreement with Colquitt EMC extends its Kinetic FTTH service to some of Georgia's most rural areas. As an ILEC, Windstream provides copper services to parts of the territory where it overlaps with Colquitt.

"When rural electric cooperatives enter a for-profit business, an element of risk is introduced," says Jeff Small, president of consumer, small and medium-sized business for Windstream. "We structured a partnership that met the needs of the community, Colquitt EMC and Kinetic."

Colquitt agrees the risk isn't worth it. "Broadband is a very complicated business from a financial point of view," says Nichols. "We want to incentivize other providers, such as Windstream, but do not want to own the facilities."

Providers working with electric cooperatives may be the latest broadband trend, but TWN Communications has done it for more than 20 years. After starting with wireless broadband, TWN is now helping Mohave Electric Cooperative expand FTTH services to rural customers.

"Our focus is to work with electric cooperatives to deploy fiber networks," said Ami Rodriguez, vice president of sales/marketing and business development for TWN Communications, during a Fiber Broadband Association webinar. "These are state-of-the-art fiber networks we're building in partnership with the cooperatives."

CONNECTING THE MIDDLE MILE

Connecting middle-mile and last-mile networks has become important

as providers expand their reach. This includes connecting the backhaul network to the nearest aggregation point, and connecting the aggregation point to the operator's nearest core network point of presence.

Riggs said electric co-ops will be a new middle-mile option. "Utilities will become a source for middle mile. We are seeing more utilities provide middle-mile connectivity."

Some players are contracting connectivity with other providers to accommodate growth patterns. For instance, Midwest Energy & Communications (MEC) is working with middle-mile provider Everstream to get 100G capacity as it completes its fiber build in Southeastern Michigan and Northern Ohio.

By acquiring middle-mile bandwidth from Everstream, MEC will address broadband growth resulting from an increase in teleworking. In June and July 2020, subscriber installations were up 29 percent and 30 percent respectively over the previous year.

"If I have any advice for anybody getting into this business, it's to think big," says Terry Rubenthaler, CTO of Midwest Energy and Communications. "We grew from 500 Mbps, 1 Gbps and 10 Gbps, so we're increasing our bandwidth multiple times a year."

FOCUS ON UNSERVED, UNDERSERVED

A key reason utilities get into broadband is to serve communities that are either unserved or underserved. This is very much a reflection of the same spirit that took place in the 1930s, when the Rural Electrification Act passed.

But these same rural communities are constrained by the FCC definition of unserved and underserved. According to FCC mapping data, a census block is defined as served if even one residence has 25/3 Mbps service.

Rural Georgia has a large population of residents who can't get internet access. According to the Georgia Broadband Availability Map, more than 70 percent of unserved areas in Georgia are rural. The Georgia Broadband Map project, published in June by Georgia's Department of Community Affairs, represents a location-level methodology that precisely maps the availability of broadband services to every home and business in the state, which includes all 159 counties.

Colquitt EMC has 70,000 meters and 45,000 members that use its electric service, including families that could use multiple meters to power a farm.

"Maybe one-third of our members are underserved," Nichols says. "If we can help Windstream bring service to 150 members, for example, it is one small bite to help our communities grow."

In Virginia, the FCC's definition of underserved affected Grayson County, one of the most rural areas of the state. Compounding matters, Virginia law defines those customers with 10 Mbps/1 Mbps or slower speeds as being unserved. This service area of Virginia covers 11,000 Appalachian Power power meters.

"A large portion of the county can't get 25/3 Mbps," Hall said. "According to FCC data, there are only 3,700 meters that are unserved, but we have 11,000 customers we'll go by in Grayson County with this fiber route."

Appalachian Power received permission from the Virginia State Corporation Commission to install up to 238 miles of 96-strand fiber optic cable on its utility poles in Grayson County to serve as a middle-mile network. GigaBeam will rent capacity on this middle-mile network and connect last-mile facilities to homes and businesses.

LAWS CREATE CO-OP OPPORTUNITIES

A spate of new laws enabling electric co-ops to enter the broadband race also will help electric utilities extend broadband on their own or through partnerships.

In April 2019, Georgia Governor Brian Kemp signed Senate Bill 2, giving electric membership cooperatives in Georgia legal authority to provide broadband services. S.B.2 provides legal clarity to Georgia's EMCs, allowing them to look at how they can participate in efforts to improve broadband access in their communities.

Nichols says S.B.2 was key to paving Colquitt's broadband path. "When Senate Bill 2 was passed, we were able to get involved in the broadband business."

Georgia joins Mississippi, Indiana, Tennessee and Virginia in lifting legal hurdles for electric co-ops to deliver broadband access. Former Mississippi Governor Phil Bryant signed the Mississippi Broadband Enabling Act, removing a 1942 regulation that prevented electric cooperatives from offering anything other than electricity.

In 2019, Virginia signed a bill into law that clarifies that fiber can be hung by electric co-ops in an existing electric easement, even beyond their service territories. The new law says that providing communications services is in the public interest, and an electric co-op "can attach communications equipment, such as fiber, to utility poles and use existing easements to deliver broadband service throughout Virginia."

This law is already helping Appalachian Power, and the Southeast Virginia–based Prince George Electric Cooperative will also benefit from the new law because it enables the co-op to bring FTTH service to Surry County, which is in its electric service territory and has no internet service. The co-op is partnering with Dominion Energy to allow its subsidiary, RURALBAND, to hang fiber on its utility poles where necessary.

"Grayson County is a great example of the challenges we have with these maps," Hall says. "We think our approach will be a catalyst to solving the digital divide."

Cincinnati Bell's partnership with BREC aligns with Ohio's goal to expand broadband internet access to underserved areas. "If we established a partnership, we thought we could deliver services in rural areas that are too cost-prohibitive to serve with fiber in the current state," Praeter says. "The BREC and Cincinnati Bell teams were able to come up with something that would provide a fiber-to-the-home footprint in areas that probably would not have that opportunity for a couple of years."

SHARING ASSETS, LABOR

By working collaboratively, utilities can ease service providers' access to utility poles and rights of way. Though partnerships vary, cooperatives and public utilities will collaborate on three main issues:

Pole Attachments: To expand into unserved areas of their territories, utilities are allowing partners to attach to their poles. For instance, if Windstream has an existing copper wire on one of Colquitt's poles, the electric co-op does not charge for the fiber attachments.

Make Ready: Make ready is the process of preparing a utility pole to receive a new fiber attachment. A provider that wants to place a new attachment on the pole must contact the pole owner with the request. As seen by competitive FTTH providers such as Google Fiber, emerging service providers often have to navigate a complex make-ready process. This is because the utility poles are owned by an electric company or a telco.

If an owner concludes there are no issues, every entity that has something attached to the pole must move wires to make space for the new attachment. By having an agreement in place, the make-ready process can be streamlined. Utilities will conduct the make ready for the new fiber facilities by offering partners space on the poles.

"The way we looked at it is we don't have a lot of attachments on these poles that are already there," Nichols says. "If cable is already on a pole, then the area is not underserved. Cable technology allows cable operators to provide broadband if they are on that pole."

Appalachian Power is enhancing the make-ready process for GigaBeam by hanging fiber in the power space. Appalachian Power will build a point of presence for fiber and network aggregation and GigaBeam will light the fiber.

"If GigaBeam wanted to hang fiber, we would have to move things around because there might not be enough room in the communications space on the poles, meaning other providers would have to move their equipment," Hall says. "By hanging fiber in power space, we can speed up this process."

Installation: After a partner provides the fiber, the utility will install it on the pole. Provider partners are in many cases also providing the hardware and the materials to install the fiber. Installation partnerships between utilities and providers vary.

Colquitt will conduct fiber installation and will get involved with the fiber facilities only if there are problems with the poles. Windstream will then provide the design and the materials, including fiber, ONTs, splicing and other connections.

Nichols says Colquitt will provide estimates on the installation labor costs. "We have an idea of the labor costs of doing this type of work, and we're not going to stop being an electric co-op and start being a fiber installer," he says. "What we're doing is meeting with Windstream every quarter to discuss our labor cost limits. Windstream will bring forward projects that meet the requirements to serve underserved customers, but it can't harm us financially."

However, other providers, such as TWN, will perform all facets of FTTH builds, including designing, building and operating the networks.

"There are a lot of companies that will design a fiber network and build it and a few companies that will operate it, but there are very few that do all of that in one turnkey solution," Rodriguez says. "Investing alongside

ELECTRIC CO-OPS MAKE BIG PRESENCE IN RDOF

Electric cooperatives are set to make a big showing in the FCC's two-phase $20.4 billion Rural Digital Opportunity Fund (RDOF). Nearly 190 electric cooperatives have qualified to compete in what will be the FCC's largest reverse auction to fund rural area broadband. Qualifying bidders for the first round of RDOF auction included 10 individual electric co-ops and four consortiums representing 180 electric co-ops.

In October, the FCC released its list of 386 qualifying bidders, which included a large majority of electric co-ops and other types of internet service providers, for the first phase of the $20.4 billion RDOF program.

Providers could receive funds over a 10-year period to deploy broadband to unserved census blocks. The first phase of the bidding, which began October 29, is expected to connect to 6 million locations.

To qualify, providers must commit to offer at least 25/3 Mbps speeds. The FCC will use a weighted tier system to ensure applicants proposing superior service are not sidelined by internet providers with slower or spotty service.

The Phase II auction for the remaining $4.4 billion, plus any unused Phase I funds, is expected to take place after the commission gathers detailed census data and mapping information to determine areas that are unserved.

the cooperatives mitigates the risk, reduces project costs and ensures that both of us have skin in the game."

DRIVING ECONOMIC DEVELOPMENT

By expanding rural broadband, utilities make communities more attractive to consumers and businesses. As broadband is rolled out in remote rural areas, it attracts more people who want to work from home and increases home values.

Properties that have fiber present are becoming more valuable. According to a Fiber Broadband Association study, a home's proximity to a fiber network boosts its value by an average of $5,437.

It appears that the broadband industry could fiber-enable more properties. A separate joint study conducted by the Fiber Broadband Association and strategy consulting firm Cartesian revealed that by 2029, the industry can pass 90 percent of U.S. households by increasing current spending on all-fiber networks by approximately $70 billion.

Praeter says its partnership with BREC will support economic development opportunities for businesses and improve residential connectivity, particularly as more people work from home.

"BREC can drive up property values with FTTH service," Praeter says. "We are seeing people move out from the big cities and to rural areas that are eligible for fiber."

MEC is seeing new homebuyers asking for broadband.

"We want to make sure our customers have access to what's considered the fourth utility," says Patty Nowlin, vice president of corporate communications for MEC. "People should be able to choose the rural market and access everything their urban counterparts have."

The presence of fiber communications makes a community attractive to businesses looking for facility locations. Businesses increasingly rely on high-speed, fiber-based bandwidth to conduct their daily operations.

"We have some decent-sized rural businesses," Nichols says. "Having broadband would be valuable to work in real time markets."

TWN is also enhancing economic development by adding new jobs. "Building out fiber in Mohave Electric's communities will promote economic development," Rodriguez says. "We are looking at creating 30 new field and construction jobs in this area for this one project." ❖

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