How Broadband Can Enable Energy & Cost Savings in Rural America





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ACEEE 2018 Rural Energy Conference Program Monday, October 22, 2018

The Evolving World of Energy



Rural America in 2018

- 15% of the United States population lives in rural America
- This is the area served by America's electric cooperatives
 - 42 million people in 47 states
 - 13% of our nation's meters
- It worries us that, for the first time in our history, rural areas are losing population (USDA Annual Report on Rural Economic and Population Trends 2017)

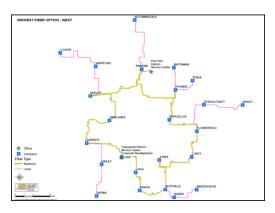


One Reason for Rural Decline

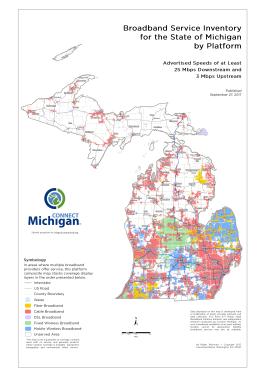
- Roughly 25 million people in the U.S. have little or no access to high-speed/high-capacity broadband
- A definite rural/urban digital divide exists in this country and we're only beginning to address it
- A high-speed broadband connection is the new expected utility
- If you don't have it, you move or struggle
 - Telehealth
 - Telecommuting
 - Libraries & Schools
 - E-Commerce
 - Whole Home Automation
 - Precision Farming (Fiber-to-the-Farm)
 - Daily Life

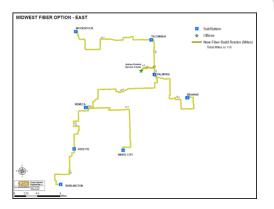


How MEC is Addressing Rural Decline



243 Miles Through Substations & Facilities 1,800 Miles of Primary Lines 15 Miles of CAF Phase II 2015 - 2019





118 Miles Through Substations & Facilities 400 Miles of Primary Lines 85 Miles of CAF Phase II 2019 - 2021

Benefits of Fiber Optic Broadband

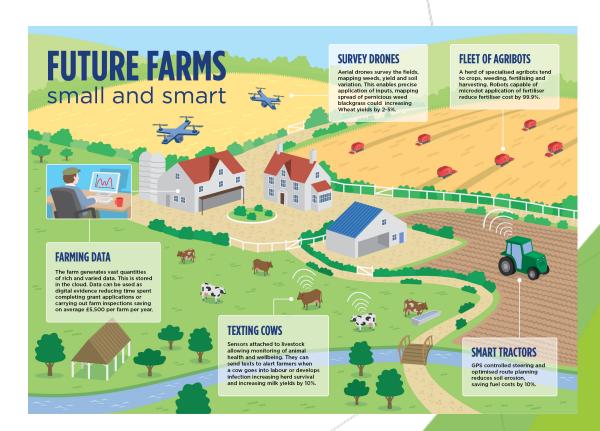
- Fiber for the Smart(er) Grid
 - Distribution Automation (FLISR)
 - Lessens Outage & Non-Productive Time – Saves \$\$\$ on Both Sides of the Meter
 - Energy Efficiency
 - Help People Manage Energy Use Better
 - Load Control
 - Reduces Demand During Peak (Expensive) Usage Times



- Fiber for the Smart(er) Grid
 - Dynamic Voltage Control
 - Enables More Efficient Consumption of Energy
 - Distributed Generation
 - Balance Flow of Both Base Load & Renewable Energy Based on Weather & Other Factors
 - Smart Metering
 - Provides Accurate & Real-Time Data Enabling Energy Savings
 - SCADA
 - Monitor, Gather & Process Real-Time Usage Information

Benefits of Fiber Optic Broadband

- Fiber for Voice, Data and Video
 - Aging in Place (Telemedicine)
 - No More Trips to McDonald's For WiFi
 - Whole Home Automation & IoT
 - "Alexa, close my drapes."
 - NEST Devices
 - Connected Appliances
 - Precision Farming
 - Connected Cows
 - Smart Tractors
 - Work/Life Balance
 - Telecommute From The Lake
 - · Cut the Cord
 - · Video Options Beyond Cable







Questions?

"When you live out in the country, you learn that not all things are easy, not all things are accessible at a moments notice. The country teaches you patience and understanding. Today, with a blink of an eye, something we were told would never happen to the rural people actually happened. We have internet, not by a tether of a phone, or an air card with an astronomical price tag on it. Thank you Midwest for being the stand-up people that you said you were. I can not thank you enough." – Laura W.