

Broadband-based Rural Programming: the Wisconsin Experience, 2017-18

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Public Service Commission of Wisconsin

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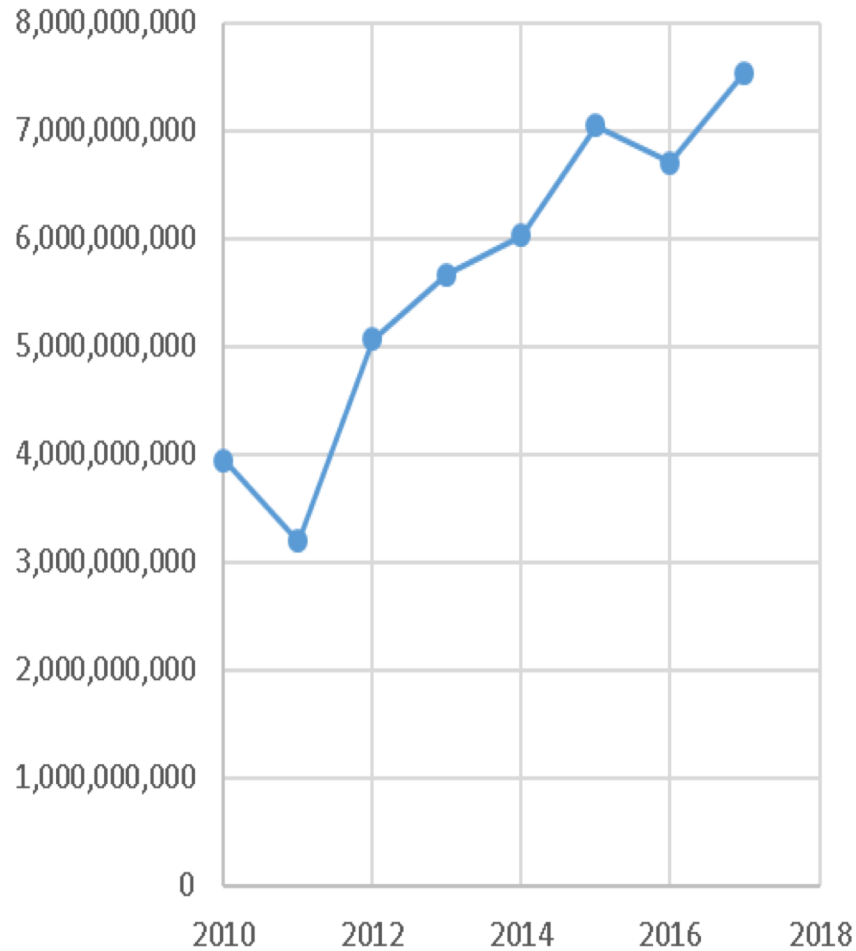
Partnering with Wisconsin utilities

Focus on Energy Overview

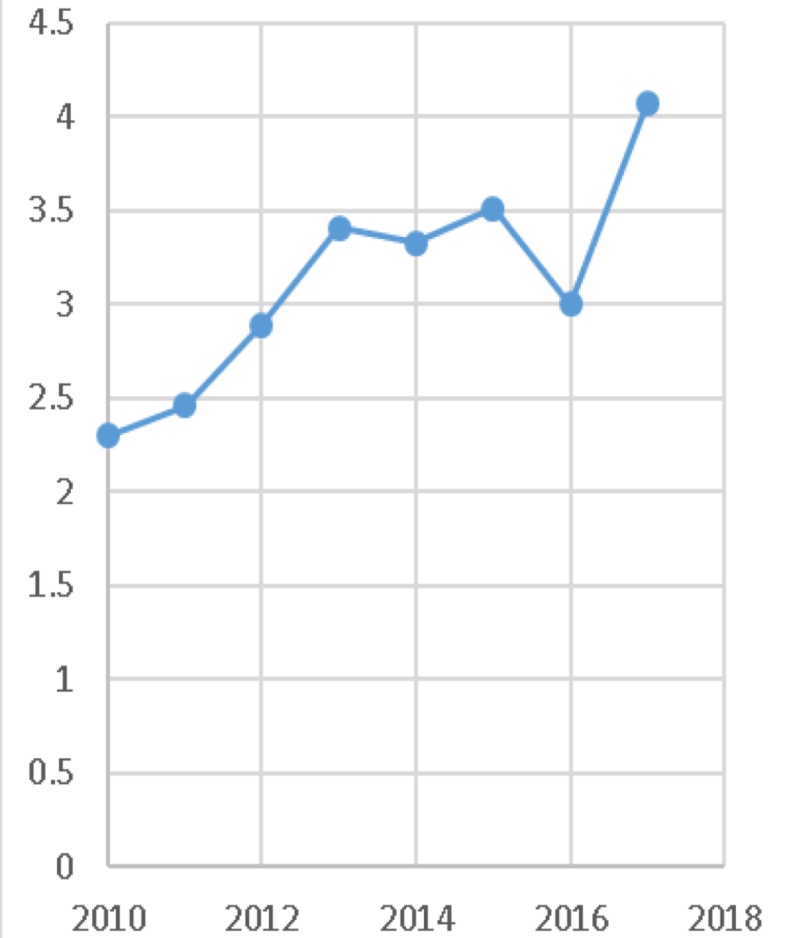
- Wisconsin's statewide energy efficiency and renewable resource program since 2001
 - 108 participating utilities- IOUs, municipal utilities, cooperatives
 - Some cooperatives choose not to participate
 - Utilities contract with third-party administrator
- ~\$95 Million Annual Budget for electric and gas programs
 - Utilities pay in specified amounts collected from ratepayers
 - Clear statutory requirements to provide equitable participation opportunities for all ratepayers who pay into the program
- Historical success in achieving increased savings, cost-effectiveness

Focus on Energy Performance, 2010-17

Electricity Savings (lifecycle kWh)



Benefit-Cost Ratio



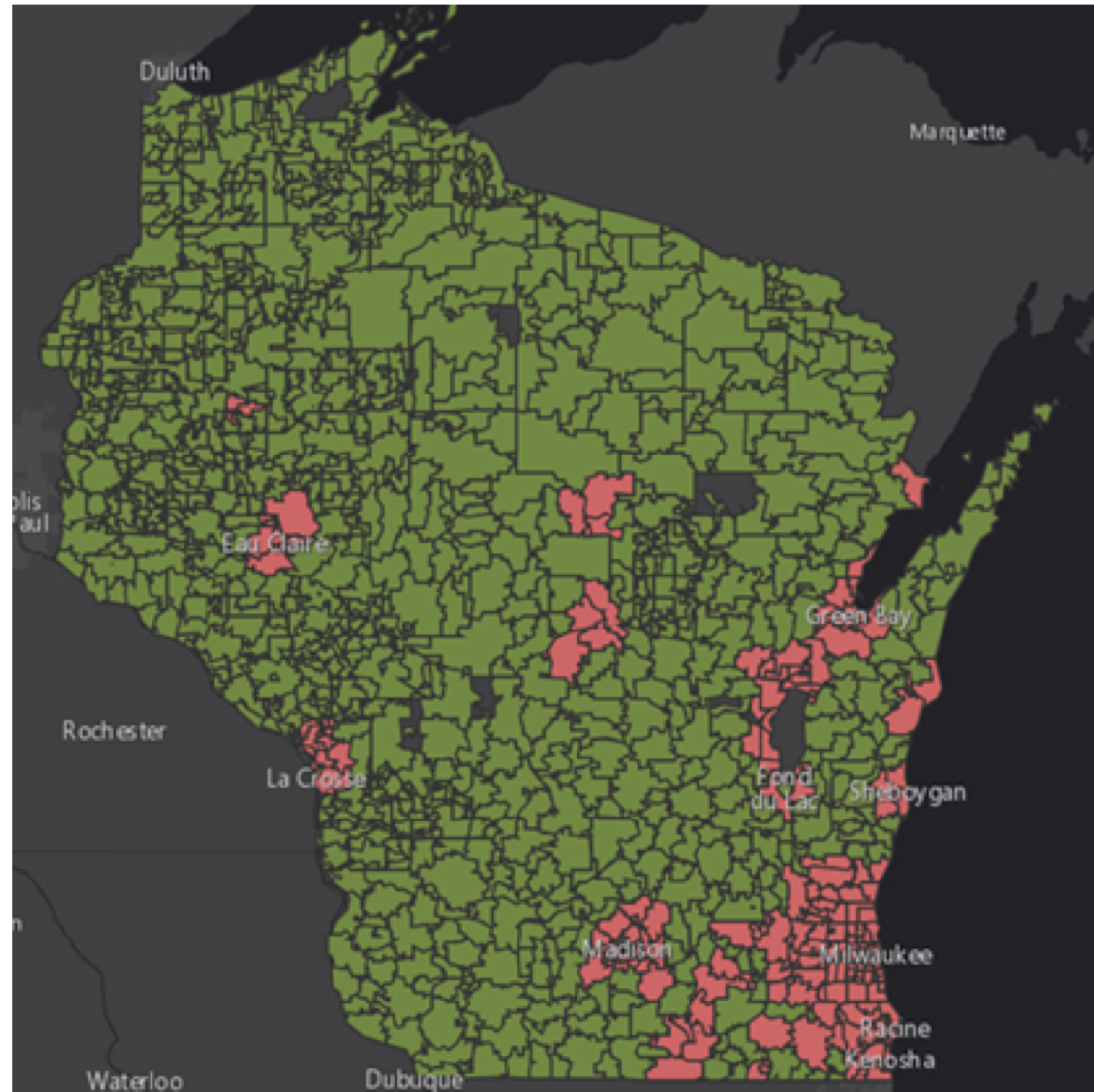
Rural and Broadband Issues

- Focus on Energy's historical priority was maximizing cost-effectiveness- but reaching rural customers can be costly
 - Deliver programs through contractor network, which is sparser in more rural areas
 - Direct install programs focused on densely populated areas
 - Marketing less cost-effective in rural areas due to media market complications, non-participating coops, other factors
- PSC regulates broadband providers as well- and in past few years, growing emphasis on rural broadband efforts in Wisconsin
- Increasing prevalence of broadband-enabled efficient devices (i.e. smart thermostats)
 - Noted by FCC National Broadband Plan

Developing a Rural / Broadband Program Package

- 2016 Commission docket : “Investigation into Improving Access to [Focus on Energy Programs] in Rural areas of the state that are Underserved by Broadband Service Providers”
- Docket research demonstrated underservice of rural customers using broadband-based definition
 - \$2.75 Focus incentives per capita for residential customers in CAF/ACAM census blocks
 - \$4.83 Focus incentives per capita in the rest of the state
- Developing a package of programs led us to a mix of broadband-specific programs and more general rural-support programs
 - Revised rural definition: 591 zip codes that:
 - Are more than 50% rural per Census Bureau definitions, or
 - Contain a significant proportion of CAF-ACAM census blocks

Eligible Rural Zip Codes



2017-18 Rural Broadband Programs

Program	Budget
Connected Device Kits	\$16.0 million
Communications Provider Retrofits	\$4.0 million
Community Small Business Offering	\$3.17 million
Rural Home Performance Program	\$1.1 million
Outreach and Engagement Support	\$950,000
Small Business Online Energy Analytics	\$580,000
Direct-Mail Home Energy Assessments	\$200,000
Total	\$26.0 million

Connected Device Kits

- Multiple kit options: connected lighting/smart strip, programmable thermostat, smart thermostat
- In 2017, marketed through Internet Service Providers to seek mutual benefits
 - \$50 voucher for broadband service if you upgraded at the same time
- ...but uptake through that route was limited for a variety of reasons- institutional adjustments, concerns about competition
- Marketing through utilities in 2018 has resulted in greater uptake

Other 2017-18 Rural Broadband Programs

- Communications Provider Initiative- successfully supported broadband upgrades to support provider investments
 - Facilitated through WI State Telecommunications Association
 - New energy efficiency measures! i.e. soft switches
- Online Energy Analytics Platform- Outcomes TBD
 - Sharing data between utilities and third party contractors delayed launch
- Community Small Business Offering- targeted to selected areas
 - Direct outreach in partnership with local organizations
 - Increased participation in all areas
 - Targeting updated to address 2018 flooding damage

Looking Forward

- Successful 2017-18 offerings folded into standard Focus programs beginning in 2019
 - Communications Provider offerings across business programs
 - Targeted small business outreach will continue
- New 2019-2022 rural package- shift emphasis to rural customers that weren't targeted in 2017-18
 - Agriculture and industrial programs receive greatest emphasis
 - Less emphasis on residential, small business, broadband

Questions?



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Communications Provider Initiative Case Study

MAKING CONNECTIONS SINCE 1950: SEE NORVADO'S ANNUAL ENERGY SAVINGS

OVERVIEW

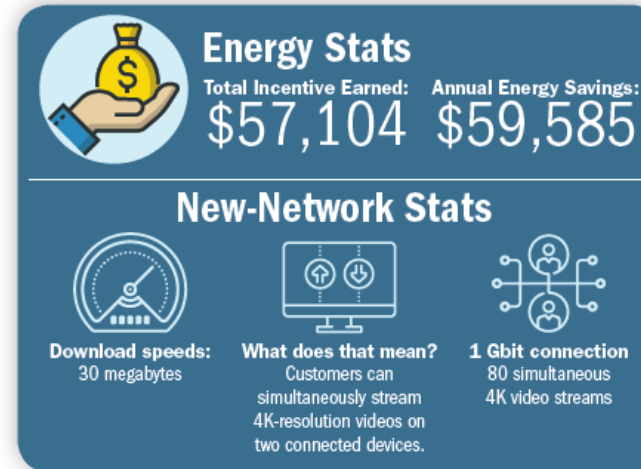
Founded in 1950, Norvado provides premier internet, TV, phone and smart home technologies to customers in Northwestern Wisconsin. Focus on Energy staff had been in contact with Norvado's technical leadership for several months through the Wisconsin State Telecommunications Association (WSTA). So, when Norvado decided to upgrade its primary router and transport locations on its broadband network, Focus on Energy was there to help evaluate the system and identify the company's most energy-efficient option.

RESULTS

After completing the recommended upgrades, Norvado's **network capacity grew tenfold**, achieving a 100-gigabit (Gbit) backbone and performance that rivals large metropolitan systems.

Norvado also:

- Reduced annual utility costs by over \$59,000
- Received an incentive of \$57,104 from Focus on Energy



- Boosted customer broadband by offering "triple the speed at a lower price"
- Decreased operating costs while enhancing customer internet speeds

Increased broadband capacity can provide improved internet access to all users through **faster download times**,

less buffering for streaming videos and more connected devices.

The efforts do not stop here. Norvado continues to invest in projects that increase the efficiency of its power system rectifiers and by installing more efficient cooling units at each of the network connection locations.

... [T]he strides Focus on Energy has helped us achieve in the last year alone are incredible. Their help in documenting, comparing, calculating and applying custom incentives has helped fast-track several projects, which resulted in both CapEx ROI and operating expense ROI [from] day one. We consider them a consulting partner [that] helps us take the right path ... and the incentives just helped ice the cake.

— Jeff Lee, Director of Operations, Norvado