




Roanoke Electric Cooperative

Your Touchstone Energy® Partner 

# Broadband Communities Summit

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# Roanoke Connect Background and Overview

- Phase 1
  - Fiber backbone connecting 12 substations to REC's offices
  - Completed in 2016
- Phase 2
  - Pilot
    - ECC Technologies chosen to support effort initiated in 2014
    - Completed December 2017
  - Currently deploying fiber/fixed wireless last-mile broadband and energy savings devices to **all REC member-owners**
  - Estimated completion December 2021
- Phase 3
  - Out-of-market expansion / deployment
  - Currently evaluating and having preliminary discussions with municipal-owned systems to replicate REC's model

# Roanoke Connect Background and Overview

- Phase 2 considerations
  - Initially planned to establish an Open Access network
    - Only serve anchor tenants – major ring designed with that in mind
    - Lease dark fiber to ISPs, Cell Phone providers, etc.
  - Later decided to explore providing last mile services
  - Informal conversations with CenturyLink
  - Initiated CrowdFiber Campaign
    - Goal of 30 percent of members in each county
    - Exceeded in all counties
- Phase 2 considerations (cont'd)
  - Sought a partner willing to leverage our Phase 1 infrastructure to build out a broadband network to serve **100 percent** of REC's member-owners
  - Issued July 2016; submission deadline Aug 2016
  - Sent to all reasonably capable ISPs and WISPs
    - CenturyLink, Suddenlink, CloudWyze, SkyRunner, NC Wireless, Agile Fractal Grid, all Telephone Cooperatives, especially Wilkes Communications
  - No reasonable responses
  - Decided to do it ourselves with the support of consultants
  - Initiated a Pilot Project

# Roanoke Connect Background and Overview

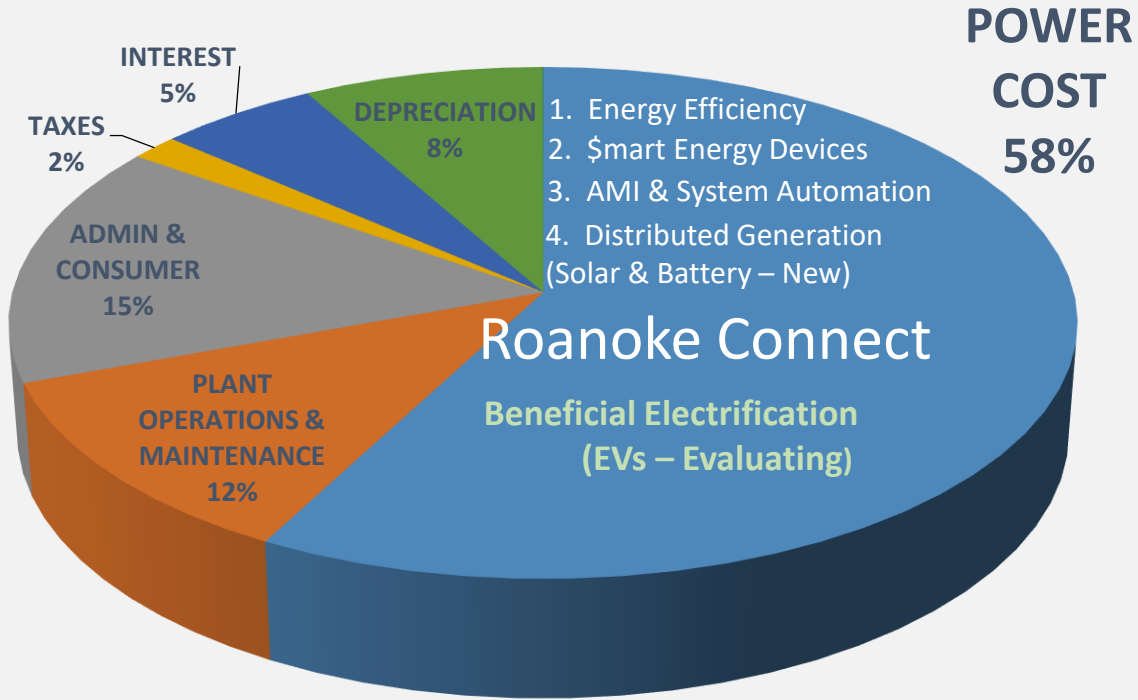
- Major Concerns

1. Easements

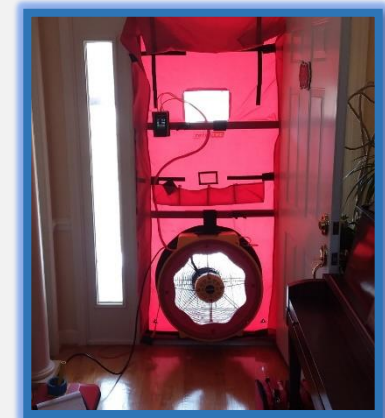
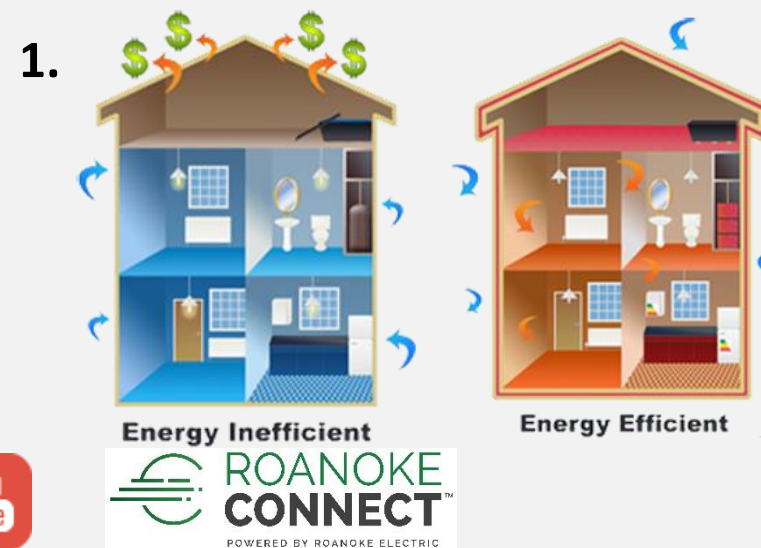
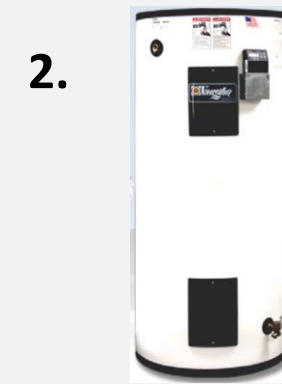
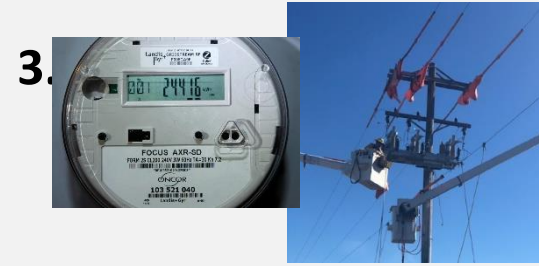
2. Financial feasibility

3. Bandwidth / Ability to manage the project

# Broadband as an "Enabler"



**Roanoke Connect** broadband deployment is the primary enabler of all of the above; creating cost savings for Roanoke EC and our member-consumers while reducing carbon emissions



# Project Priorities

## Primary Focus

- Distribution reliability and resilience
- Lower cost through efficiency
  - Wholesale
  - Distribution
  - Member-owner
- Member-owner satisfaction
  - Member centric
  - Meeting member-owner expectations
- Converging telecommunications into our utility business model

## Secondary Focus

- Providing Internet service
- Creating a new telecommunications revenue stream
- Creating new competition for incumbent telecom providers

# Incentives to drive down energy savings

- I. Participate in our **Smart Energy Savings** thermostat program and/or
- II. Participate in our **Smart Energy Savings** water heater control program and
- III. If member-owners take Roanoke Connect's broadband service we will...

**Waive their installation and equipment charges**

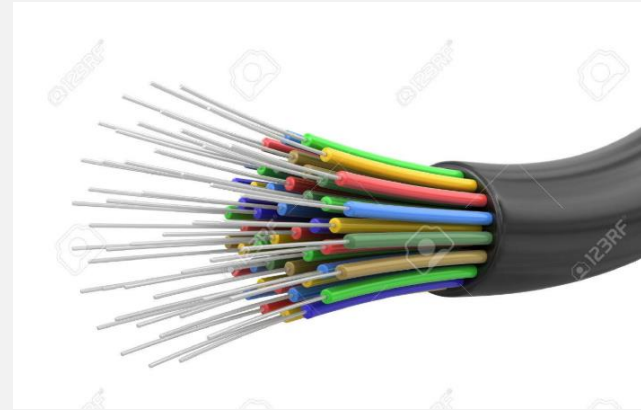
~~\$350.00~~ – \$0

**Give them a \$5/mo. monthly bill credit**

~~\$44.99~~ \$39.99

# Technology Deployment

- **Fiber** substation ring and **fixed wireless** backhaul and last mile
- Grant funding is driving less and less fixed wireless backhaul





# Results

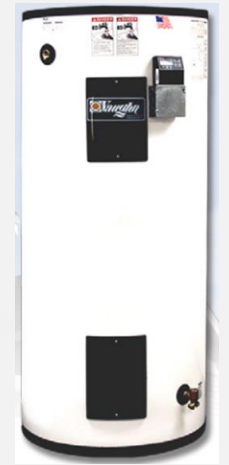


Thermostats (Ecobees) – 817

(\$65 - \$160 annual wholesale power cost savings)

Water Heater Controls – 638

(\$77 annual wholesale power cost savings)



Broadband Connections – 250



Average Take Rate – 35%



# Questions / Discussion

