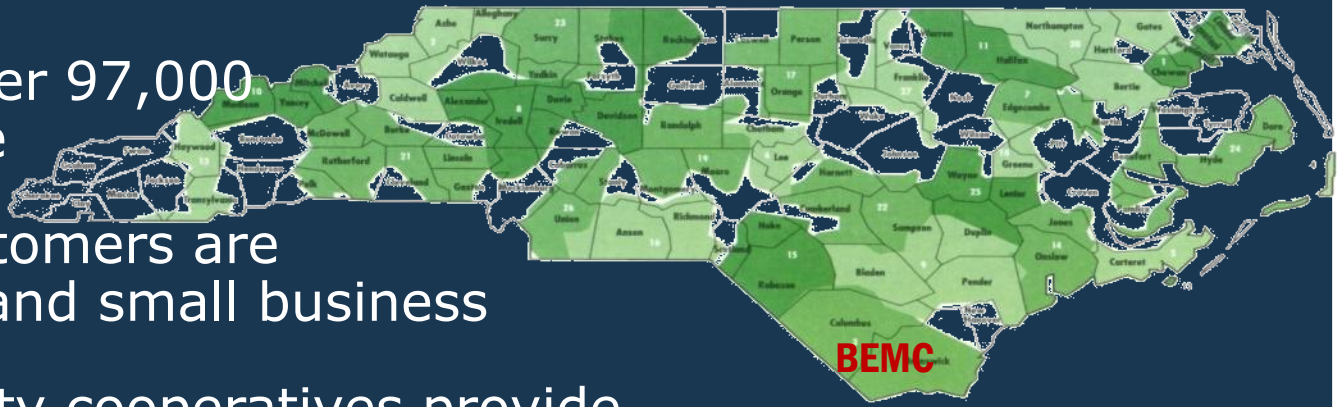
Energy Perspective

Bringing Innovation Home

BRUNSWICK ELECTRIC Membership Corporation
A Touchstone Energy® Cooperative

Nicky Nance, System Operations

26 Co-ops Serve 2.5 million People in 93 of 100 North Carolina counties



- Maintain over 97,000 miles of line
- 99% of customers are residential and small business
- Electric utility cooperatives provide <u>at-cost</u> service to their member-owners
- BEMC: 2nd largest co-op in NC
  35th largest of over 900 co-ops in the U.S.

BEMC Mission

Our mission is to provide
reliable, safe, affordable energy
for our co-op members at the lowest cost consistent with sound economy and good management.

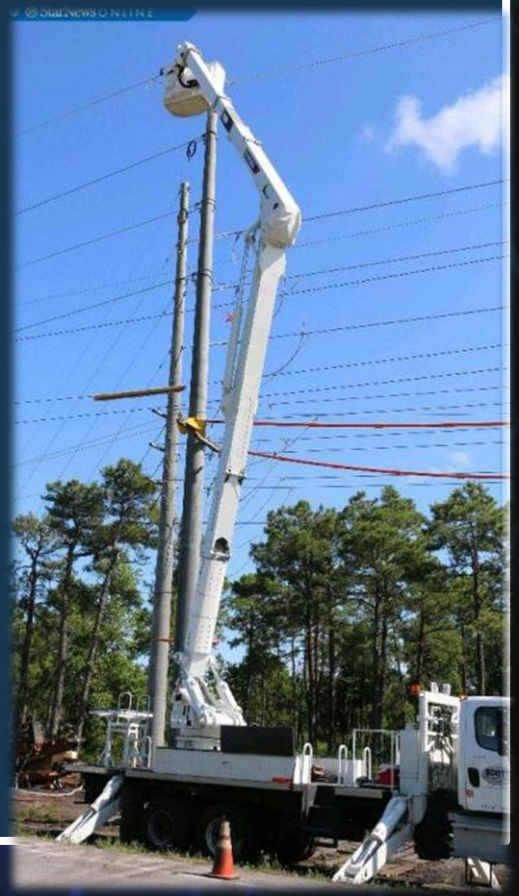
We are a locally–owned and operated not-for-profit electric cooperative, owned by those we serve.

System Reliability thru Technology

- Technology & fiber communications
- Connects all substations in the system
- 24/7 monitoring of all meters and system components
- Ability to reconfigure and manage load at each substation

System upgrades : ongoing

- Hwy 211 pole/line upgrades
- New 95 ft concrete poles
  - Rated to last 80 years
  - Withstand 150 mph winds
- Improve reliability
- Increase system capacity

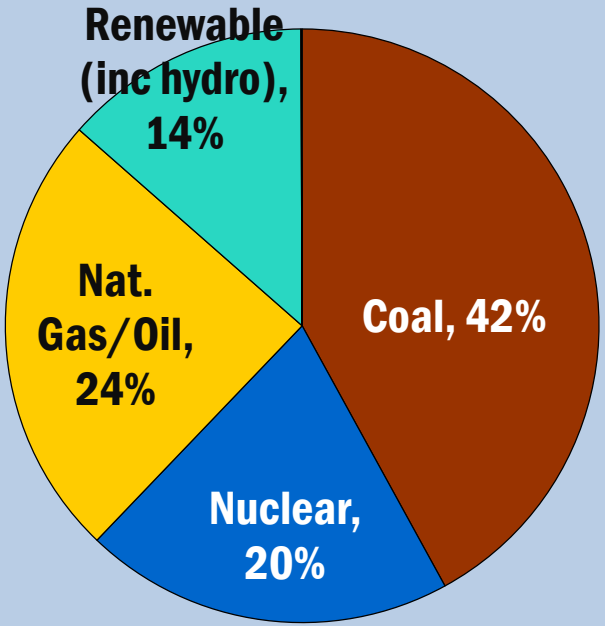


Renewables: NC / Regional Profile

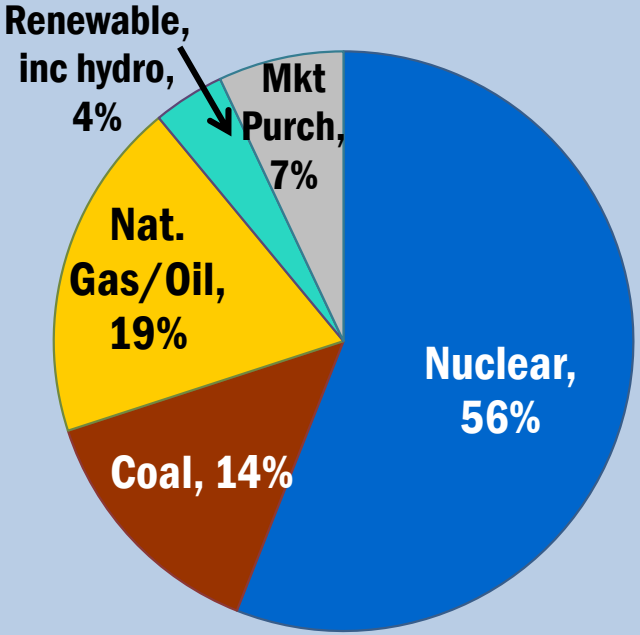
- NC renewable potential
  - Solar: moderate potential - technology and cost
  - Wind: only potential is offshore
  - Biomass: good potential, not cost-effective yet, more R&D needed
- Energy Efficiency most cost-effective
- NC co-ops more carbon-neutral w/ nuclear

Renewables in the power generation mix

National Power Mix



NC Cooperatives



Moving toward sustainability

- NC state mandate already in place: a good model . . .
- Emphasizes ability to improve thru energy efficiency and demand-side mgt programs
  - Recognizes limitations on renewables
  - Can do more with clean coal & nuclear
  - Gives renewable technology time to mature

BEMC's Approach

- Energy Efficiency is key and available now
- Join with other co-ops to access and promote development of renewable sources
- Participate in NC GreenPower
  - Voluntary program to gain support for development of renewable energy in NC.

What's New in Energy at BEMC

BRUNSWICK EMC

Solar Generation at BEMC now

- 90 solar installations in our area – 85 residential, 5 commercial
- Range from 2.2 kw to 60 kw in size
- Together, they produce about 706KW per month *(about 0.07% of kW sold)*
- Net metering connection

Solar Installations at BEMC

- 6.2 kW roof-mounted system (Oak Island)

Solar Installations at BEMC

- 4.2kW ground-mounted system (Southport)

Ground mounting allows for correct orientation of panels to sun

Solar Installations at BEMC

- 3.2kW to 4 kW systems

Solar on BEMC Warehouse

- 30 KW roof-mounted solar thin film PV
- Mounted on 8000 sq ft of south-facing roof on 14,000 sq ft BEMC warehouse
- Generates about 50% of power required

Small commercial solar

- Small system at local golf course – utility shed

Community Solar – coming soon

- Green option for:
  - those who cannot afford private solar system
  - rental properties
  - those who do not have suitable site for solar (about 75% of homes)
  - those who want to avoid issues of installation and maintenance

Community Solar – coming soon

- BEMC will build a solar farm
- Members may purchase the output from one or more panels at fixed rate on an extended payment plan
- Members receive credit on their monthly bill for the power generated by their panel

PEVs – Plug-in Electric Vehicles

- BEMC will soon be installing public charging stations for PEVs
- Initially 2 locations in Brunswick County – north and south ends
- Level 3 (30 KW) DC Fast Charge (80%, < 30 min!

Focus on Energy Efficiency

- Weatherization Loan program
  - Loaned nearly $11 million to date
  - About $1 million dollars /year in available funds to loan homeowners for energy efficiency projects
    - Heat pumps, solar or electric water heaters, windows and doors, insulation, duct repair/replacement
    - Loans up to $6,000 residential, $10,000 commercial

Energy Efficiency Resources

Monthly magazine

TOGETHER
WESAVE.COM

Interactive website!

www.
bemc.org

Lots of info!

Speakers for community groups

Free CFL bulbs at public events

Brochures at all BEMC offices

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