



Testimony of Kirk Johnson

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National Rural Electric Cooperative Association

to the Environment Subcommittee of the

Committee on Energy and Commerce

U.S. House

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Introduction

Chairman Shimkus, Ranking Member Tonko, and members of the subcommittee, thank you for inviting me to testify. I am delighted to be here to discuss how America's electric cooperatives generate and distribute affordable, reliable electricity that powers the economy of rural America in ways that reduce emissions and improve the quality of life for those living in the communities served by electric cooperatives.

Specifically, I appreciate the opportunity to address how the Clean Air Act's New Source Review program impacts those efforts. NSR has more often served as an impediment, rather than an enhancement, to maintaining and improving efficiency at power plants. NRECA believes Congressional action, including Congressman Griffith's draft legislation, can help improve the broken NSR process.

Background

I serve as Senior Vice President for Government Relations for the National Rural Electric Cooperative Association (NRECA). At NRECA, I am responsible for leading NRECA's policy, advocacy, and political activities, and I have worked on energy and environmental issues in Washington, D.C. for more than 25 years. NRECA is the national service organization that represents the nation's more than 900 not-for-profit, consumer-owned electric cooperatives. This includes 62 generation and transmission (G&T) cooperatives, which provide wholesale power to distribution cooperatives

through their own electric generation facilities or by purchasing power produced by other generators.

Electric co-ops provide power to 42 million people across 56 percent of the nation's landmass and 88 percent of U.S. counties. Electric co-ops are also economic engines in their communities, providing 71,000 jobs across America and investing \$12 billion annually in local economies. They own and maintain 42 percent of U.S. electric distribution lines, which provide power to more than 19 million businesses, homes, schools, and farms in 47 states.

As not-for-profit utilities providing power at-cost to our member-consumers, however, electric cooperatives are ultimately responsible for consistent and reliable service while keeping costs down. Electric co-ops face very different economic challenges than others in the utility sector. Co-ops serve an average of 8 consumers per mile of electric line and collect annual revenue of only \$19,000 per mile; compared to all other utilities which average 32 customers per mile and collect \$79,000 in revenue per mile. And electric cooperatives serve more than 90 percent of the nation's persistent poverty counties within low or sparsely populated geographic areas.

NRECA's members generate power using a wide array of fuels including coal, natural gas, hydro, wind, solar, nuclear, and a very limited amount of oil and diesel. Electric co-ops generate approximately five percent of all the power produced in the country, and

sell approximately 13 percent of all electricity sold at retail. Purchases from other generators make up the difference between the power we generate and the power we sell to end-use consumers.

In 2016, the last year for which data is available, coal-based generation accounted for 41 percent of the power sold by co-ops, while natural gas made up 26 percent, renewable resources accounted for 17 percent, and nuclear generation made up 15 percent of the power we sold to retail consumer-owners. (Oil and diesel fuel accounted for approximately one percent.) Electric cooperatives are also leaders in the development and deployment of renewable energy in rural America. Since 2010, cooperative non-hydropower renewable energy capacity has seen a 130 percent increase, and co-op solar capacity is more than four times what it was in 2015.

Historical Context

Most of the cooperative-owned coal-based power plants were constructed in the late 1970s and early 1980s, which was a period of significant growth in electricity demand from rural America coupled with federal policies that heavily promoted the use of domestic coal as a generation resource. The policies laid out by Congress and President Ford in response to the 1973 oil crisis, and the subsequent Power plant and Industrial Fuel Use Act of 1978 under President Carter, essentially prevented the use of natural gas as a fuel to generate electricity. And the significant costs to construct nuclear power plants, compounded by the Three Mile Island accident in 1979, precluded nuclear as a

viable option. As a result, many cooperatives invested in and constructed coal-based generation.

By all estimates, coal-based generation will continue to play an important and significant role in keeping the lights on in rural communities across the nation. It is critical that we work together to ensure that these existing units can operate efficiently and reliably while also continuing to meet environmental standards. One of our Seven Cooperative Principles is 'Concern for Community,' which includes support for the sustainable development of our communities and care for a healthy environment.

There's an old saying that in rural America we all live downstream from someone. Electric co-ops understand this, and work every day to care for their neighbors and to be the best environmental stewards they can be. That is why we have a proud legacy of managing and reducing emissions from the plants that power these communities.

From 2009 to 2016, cooperatives have reduced sulfur dioxide emissions by 66 percent and nitrogen oxide emissions by 24 percent. They have also reduced carbon dioxide emissions eight percent since 2005 while increasing generation by 15 million megawatt-hours. NRECA is also a proud partner in the Wyoming Integrated Test Center (ITC), along with Tri-State Generation and Transmission Cooperative, Basin Electric Power Cooperative, and the State of Wyoming. This advanced test center is working to demonstrate carbon capture and utilization technologies using 20 MW of actual coal-fired flue gas. The ITC will be a host-site next summer for the NRG COSIA Carbon

XPRIZE, a competition to incentivize the development of technologies to convert CO₂ into marketable products.

Any and all costs incurred by our cooperative generators, including the construction and maintenance of generation sources, are ultimately passed on to the cooperative electric consumers. There are no equity investors that can share the burden of these costs. That is why our cooperative members are committed to running their plants as efficiently and cost-effectively as possible. NRECA supports our members in that goal. NRECA has worked with cooperatives and others in the utility sector, including the Electric Power Research Institute, to research and develop new and improved technologies, processes, and systems for their facilities. This includes work on boiler tubes, turbines, condensers, cyclical operations best practices, and other unit maintenance needs. The Department of Energy also supports these efforts through its own innovative work to improve operations at coal- and gas-based power plants.

New Source Review

But federal regulatory policies such as New Source Review often get in the way of utilities adopting such technologies that would actually improve power plant efficiency and reliability as well as reducing emissions. The NSR program is overly complicated and creates significant litigation uncertainty for regulated entities. One significant obstacle of the NSR permitting program is its application to equipment repair and replacement as well as even routine maintenance activities at existing generating units.

Although routine maintenance, repair, and replacement are supposedly excluded from being considered as “major modifications,” (and thus not subject to NSR) what qualifies as these NSR exemptions often changes with shifting EPA interpretations. This has led to utilities performing what they thought qualified as routine maintenance, repair, and replacement, only to be cited for NSR violations years after the fact. Second, the inherently flawed annual emissions rate test in use today has created many missed opportunities for power plants to operate to their full potential. Innovative technologies and systems to improve facilities have been “left on the shelf” because under today’s rules (a) these projects unnecessarily trigger NSR even though the projects reduce hourly emission rates, and (b) the costs to meet overly stringent NSR requirements may make the plant no longer cost-effective to operate. As a result of these concerns, NSR in its current form can often undermine the goals and intent of the Clean Air Act.

Clear and targeted direction from Congress can help fix the NSR challenges. Even as EPA is taking steps to update guidance and address specific issues, legislation from Congress would provide an additional layer of certainty. Rep. Griffith’s draft legislation would take a major step forward in simplifying the program and providing greater certainty for power generators. One of the most effective ways the legislation would help is by amending the definition of a “modification” under NSR so that the “trigger” is based on the maximum achievable hourly emission rate rather than on annual emissions. This improvement will better align the NSR program with other Clean Air

Act permitting programs, particularly the New Source Performance Standard program under section 111 of the Act. Without this legislative change, power plants would continue to be deterred from undertaking various projects for fear that running more often throughout the year – even if they reduce their hourly rate of emissions – might result in unjustifiable additional costs and regulations from the EPA. We also appreciate Rep. Griffith’s efforts to ensure that any projects undertaken to actually increase energy efficiency, reduce pollution, or ensure reliability of the source would not trigger similar obstacles under NSR. Overall, this legislation will assist electric cooperatives as they continue providing affordable and reliable electricity to the communities they serve.

Thank you again for inviting me to testify on this important issue. I would be happy to answer any questions you may have.

America's Electric Cooperatives

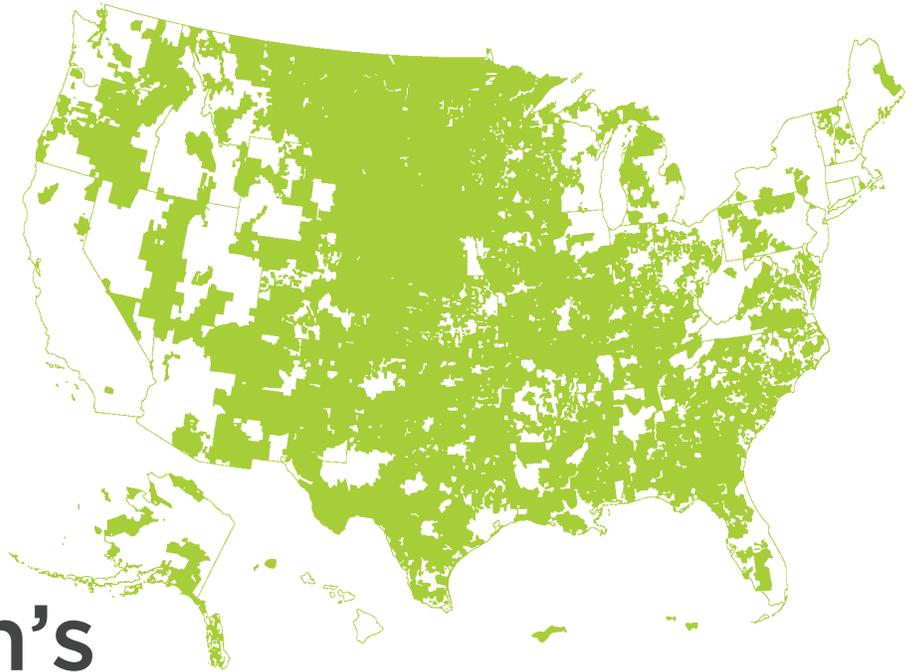
From booming suburbs to remote rural farming communities, America's electric cooperatives are energy providers and engines of economic development for more than 19 million American homes, businesses, farms and schools in 47 states.

833 distribution
and 62 generation
& transmission
cooperatives

Power

56%

of the nation's
landmass.



Own and maintain

42%

(2.6 million miles)
of U.S. electric
distribution lines.

Power more than

19 million

businesses, homes,
schools and farms.

Serve

42 million people

across **88%** of U.S. counties.

Distribution cooperatives are the foundation of the electric cooperative network. They are the direct point of contact with co-op members in the delivery of electricity and other services.

Generation & transmission cooperatives provide wholesale power to distribution co-ops through their own electric generation facilities or by purchasing power on behalf of the distribution members.

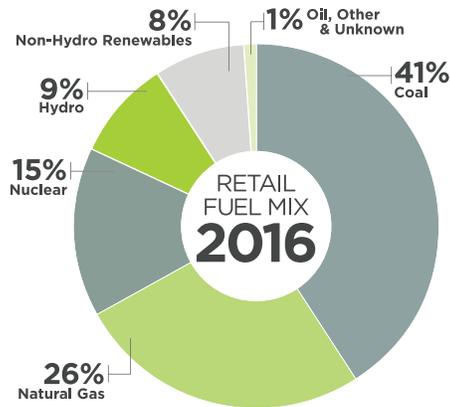
For more information, visit: www.electric.coop | [@NRECANews](https://twitter.com/NRECANews)



Electricity use and fuel mix

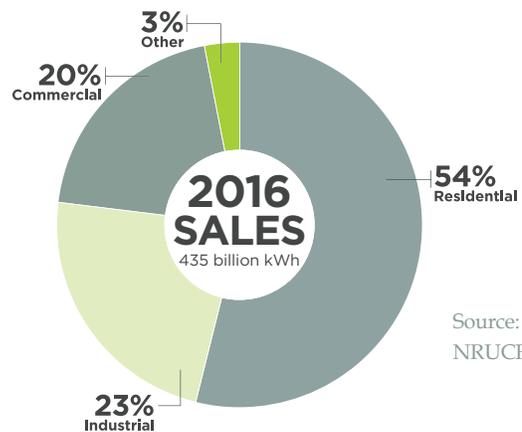
Electric cooperatives play a vital role in transforming the electric sector. Advanced communications and automation technology enable co-ops to improve the resiliency and efficiency of their systems as they reduce environmental impacts by adding renewable resources.

Note: Non-hydro renewables includes owned and directly purchased generation, plus generation in the mix from wholesale market purchases.



Source: NRECA

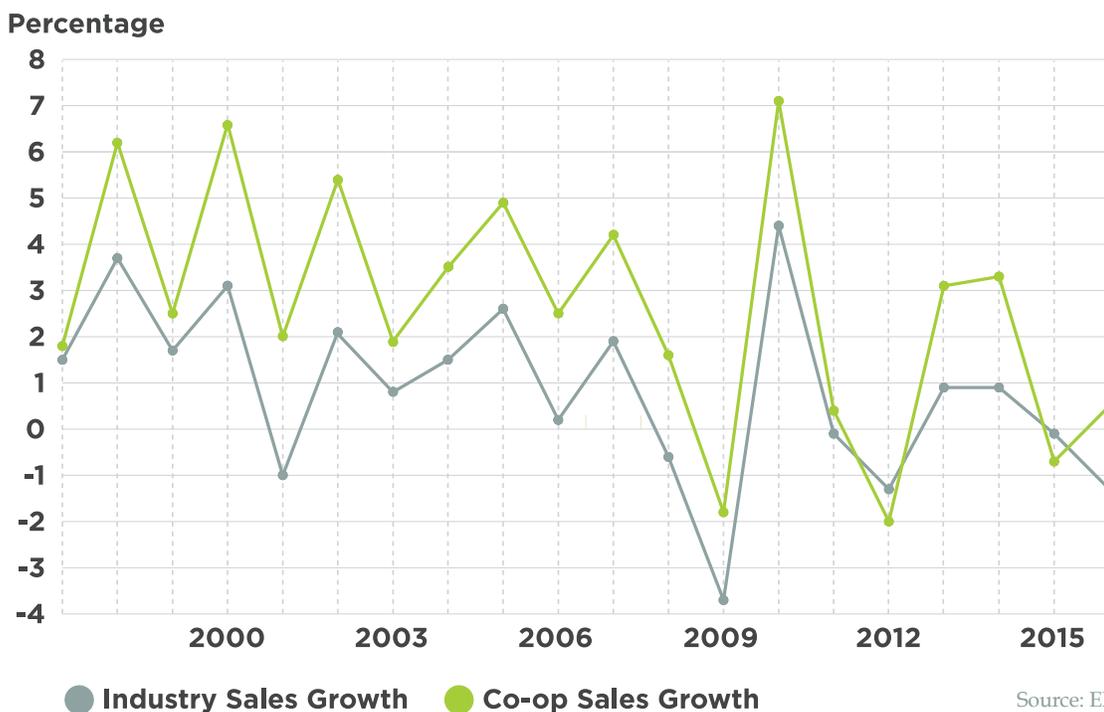
- Co-ops added **295,995 new members** in 2016
- **84%** of electric co-ops had a net increase in members in 2016
- Electricity demand at co-ops increased about one-half of a percent in 2016, with co-op **retail sales reaching 435 billion kilowatt-hours**
- Co-op residential electricity sales increased **0.4%**
- Commercial & industrial increased **0.3%**; irrigation sales jumped **10.5%**



Source: NRUCFC and RUS

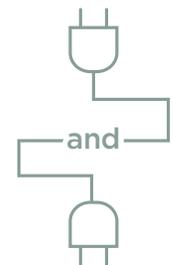
Electricity sales growth

Co-op sales growth rates generally surpass that of the electric utility industry as a whole.



Source: EIA

Co-ops generate **5%** of total U.S. electricity



sell **13%** of all U.S. electricity

Co-ops are reducing emissions ...

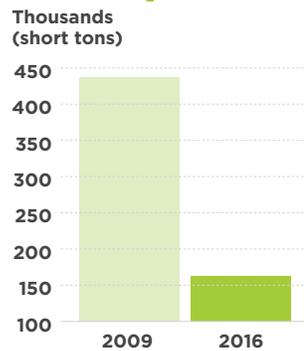
Cleaner air:

Cooperatives are reducing emissions through a combination of emission-reduction measures at power plants and fuel switching to natural gas and renewables.

Co-ops have:

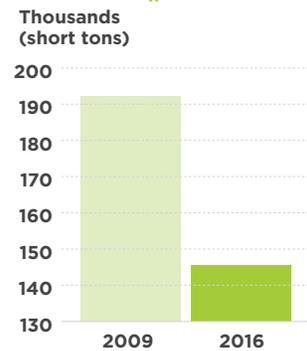
Reduced **sulphur dioxide** emissions 66% during 2009-2016.

TOTAL SO₂ EMISSIONS



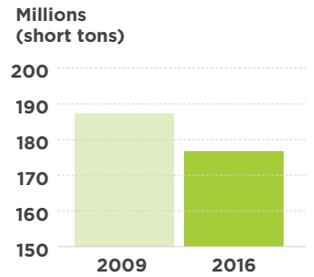
Reduced **nitrogen oxide** emissions 24% during 2009-2016.

TOTAL NO_x EMISSIONS



Reduced **carbon dioxide** emissions 8% since 2005 while increasing generation by 15 million megawatt-hours.

TOTAL CO₂ EMISSIONS



Source: EPA and EIA

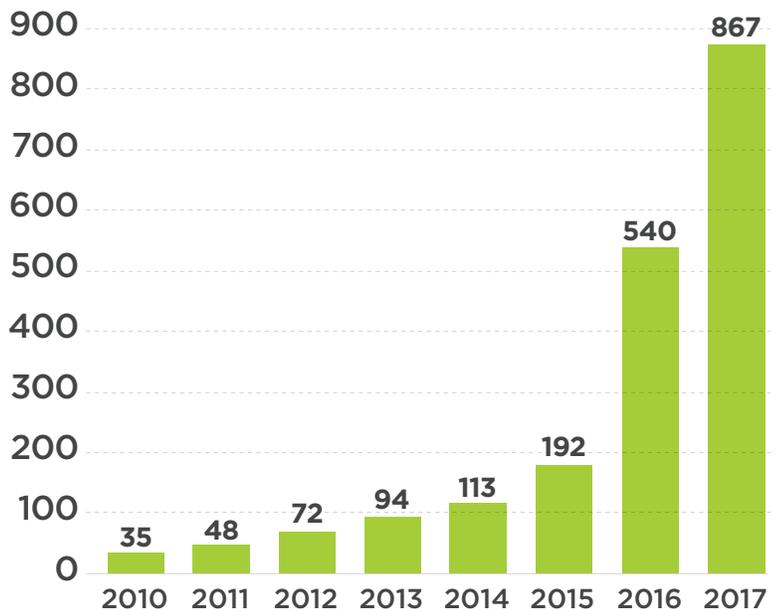
... and jump starting renewable energy growth



- Since 2010, co-op non-hydro **renewable energy** capacity has more than doubled from 4 gigawatts to 9.2 gigawatts—a 130% increase. More than 90 percent of electric co-ops provide electricity generated by renewable energy resources.
- Co-ops purchase 10 gigawatts of **hydropower** from federal power marketing administrations.
- More than 560 co-ops in 37 states use 6.9 gigawatts of **wind** energy.
- Total **solar** energy capacity at electric cooperatives is more than four times what it was in 2015, capable of generating more than 860 megawatts of electricity.
- A Department of Energy partnership with 17 electric co-ops has supported the development of 23 megawatts of **utility-scale solar** in 15 states.

Cooperative solar is skyrocketing

Solar Capacity (megawatts AC)



NOTE: Co-op solar capacity owned or purchased under contract

Source: NRECA

The cooperative difference



Electric co-ops are local energy and technology providers. They are shaped by the specific needs of the communities they serve. This local, member-owned structure is one reason why cooperatives enjoy the highest consumer-satisfaction scores within the electric industry, according to J.D. Power and Associates and the American Consumer Satisfaction Index.

- Co-ops **earned the top spot** in the J.D. Power and Associates 2017 Electric Utility Customer Satisfaction Study.
- Electric cooperatives, on average, **score three points higher** than all other energy utilities, according to the 2017 American Consumer Satisfaction Index.

Committed to serving the last mile

- Co-ops serve an average of **8 consumers per mile** of electric line; collect annual revenue of \$19,000 per mile of line.
- All other utilities average **32 customers** per mile of line; collect \$79,000 per mile.

Electric cooperatives are guided by seven principles:

1. Voluntary and open membership
2. Democratic member control
3. Members' economic participation
4. Autonomy and independence
5. Education training and information
6. Cooperation among cooperatives
7. Concern for community

Electric cooperatives are economic engines in their communities



provide
71,000
jobs



own **\$183**
billion in
assets



Invest **\$12**
billion
annually
in local
economies



pay **\$1.3**
billion
annually in
state/local
taxes

The entire
electric power
sector generates
\$880 billion
in economic
impact annually
(5 percent of
America's GDP)

