

Time to Rethink Relationship Between Communities and Their Electric Utility

Seeking Out Opportunities

By TVA's Bonnie Latta and
Guidehouse's Nicole Wobus



here's the best place for a local power company to build a new electric vehicle charging station or for a community to incentivize large ground-mounted solar? For EV charging station siting, a utility would benefit by asking a community planner who knows the areas about to see population growth or who may know of a neighborhood trying to initiate an EV ride-sharing program; a community looking to locate a large solar facility could ask a local electric utility engineer who knows where the grid would benefit most from new distributed generation.

Utilities and communities increasingly partner with each other to solve problems and uncover opportunities. It sounds pie in the sky but utilities and communities each face complex challenges they are unable to solve on their own. Utilities should seek out opportunities to plan together with communities, even though this requires forging new relationships, and often the benefits are indirect and hard to quantify.

Meeting grid decarbonization, sustainability, and resilience goals will require rapid action, and scaling up traditional programs likely will not get the job done. It requires creative approaches to stack benefits and maximize the carbon-reduction potential of investments.

It also requires assets – broadband connectivity, skilled workers, distributed clean-energy sources, IoT sensors, and data – that can provide added benefits of helping communities address their challenges and improve quality of life. Utilities can target grid investments in ways that will help enhance benefits, and thus, strengthen relationships with communities. This can in turn unlock more opportunities for carbon reductions.

Working collaboratively has broad benefits. It can help utilities genuinely understand the needs of the communities they serve, so they can make more effective investments and act as partners in building more equitable, just communities.

Communities – including municipal governments, businesses, and community-based organizations – gain a technical resource, a knowledgeable link to potential funding sources for broadband expansion and workforce training opportunities, and a concierge-like connection to all the services the utility has to offer.

When utilities and communities know each other better,

Bonnie Latta has over twenty years of experience in the energy field with almost thirteen of that at TVA. She has worked in and around EnergyRight for more than ten years and has spent the last few years managing the Connected Communities Initiative in the Innovation & Research group. Bonnie holds a Master's in Business Administration from Belmont University and a BS in Mechanical Engineering from Tennessee Technological University.

Nicole Wobus of Guidehouse, has over twenty years of experience managing projects and programs that address environmental policy, planning and markets, with areas of focus including land use, energy efficiency and renewable energy. She focuses on climate action, sustainability and resilience-related planning for local governments and other organizations, as well as clean energy program design, evaluation, policy and market studies for a range of clients nationwide. Her work helps guide resource and policy decisions aimed at tackling climate change and building more sustainable, resilient communities, and operations.

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everyone wins. That is the premise of the Tennessee Valley Authority's (TVA) Connected Communities initiative.

How is TVA addressing challenges and creating a path forward with its Connected Communities initiative?

TVA recognized it can make faster progress toward meeting its goal of an approximately eighty percent carbon reduction by 2035 with a customer base that's ready to participate in a modern grid – one that relies on two-way supply and demand flexibility to accommodate a large increase in clean, distributed energy resources.

Community partnerships can lead to opportunities for scaled deployment of a wide range of innovative technology applications – like grid interactive efficient buildings, community solar and virtual power plants – unlocking new sources of power and carbon savings.

TVA's 2019 Integrated Resource Planning process projected a need for technology, capabilities, and partnerships that can facilitate stronger, more equitable participation in efficiency and demand-response programs, and boost investment in distributed energy resources across the Valley.

In response, TVA's Innovation and Research group created a range of initiatives to help deliver those outcomes, including Connected Communities. The idea is to work with community stakeholders to cocreate tools enabling communities to pursue technology and data-related solutions to their toughest challenges,

resulting in improved quality of life and preparing end-use customers to be active participants in the flexible modern grid.

TVA convened a steering committee of thirty internal and external stakeholders from across its seven-state service region with the objective of aligning around common mission, vision, and focus areas for the Connected Communities initiative. Early discussions aimed to understand the greatest challenges communities face, which could be addressed through technology and information-related solutions.

Those discussions underscored the importance of addressing energy burden, environmental injustice, and the digital divide experienced by lower-income and BIPOC (black, indigenous, and people of color) members of communities it serves.

Stakeholder input highlighted the reality that disadvantaged

TVA's work on the initiative so far, seeks to identify leading concepts, facilitate collaboration, conduct pilots, and prepare to scale learnings to support communities in meeting the Valley's most critical needs.

To help get communities started on this work, TVA created a portfolio of resources that includes a roadmap, guidebook, reference database and other tools. These resources help communities understand what opportunities may be available to them and begin the process of assembling teams, accessing resources, and creating localized solutions to their unique challenges.

The resources support a range of audiences, including local governments, local power companies, and community-based organizations. They were designed to address the differences in urban, suburban, and rural regions.

TVA identified eleven pilot projects to fund, which will leverage over six million in combined spending – four and a half million of which will come from TVA – to support the work identified as being necessary to better equip communities to engage with a tech-driven future.

These pilots use innovative strategies to support activities across the three focus areas, ranging from digital literacy to workforce development to home energy management. These pilots are intended to create early momentum for the initiative, while generating local expertise and learnings to identify the strategies that can scale

across the TVA service region.

It will take a range of stakeholders to fulfill the Connected Communities mission and vision created by stakeholders. TVA intends for its primary role to be one of convener and catalyst, working to bring parties together, share information and resources, and collaborate with community stakeholders to support their planning and implementation efforts.

This work could take many forms, and specifics are currently under consideration. It could include building relationships with innovation partners to find test communities for new technology applications; sharing publicly available data in dashboards to help communities understand their current conditions; hosting networking sessions with local experts; helping communities integrate grid-modernizing technology and information-related solutions into their sustainability, carbon or resiliency planning efforts; or supporting communities in identifying funding sources to implement their plans.

Early efforts indicate this type of support and collaboration is important and valued by communities. Those communities that would benefit the most from pursuing technology and information-related solutions may remain stuck without easy »



members of the community spend a disproportionate amount of their income on electric bills, often experience the greatest impacts of poor air quality and climate change, and are less able to access affordable high-speed internet service that can open doors to opportunities.

Communities also struggle to expand affordable access to broadband, update aging infrastructure, attract and retain business capital investment, build a more tech-savvy workforce, and access the financial and planning resources needed to create a better future.

Based on this input, TVA created three focus areas for the Connected Communities initiative, so that everyone has:

Equitable Access to Services – Access to services through broadband, modern technology and the knowledge and empowerment to use it.

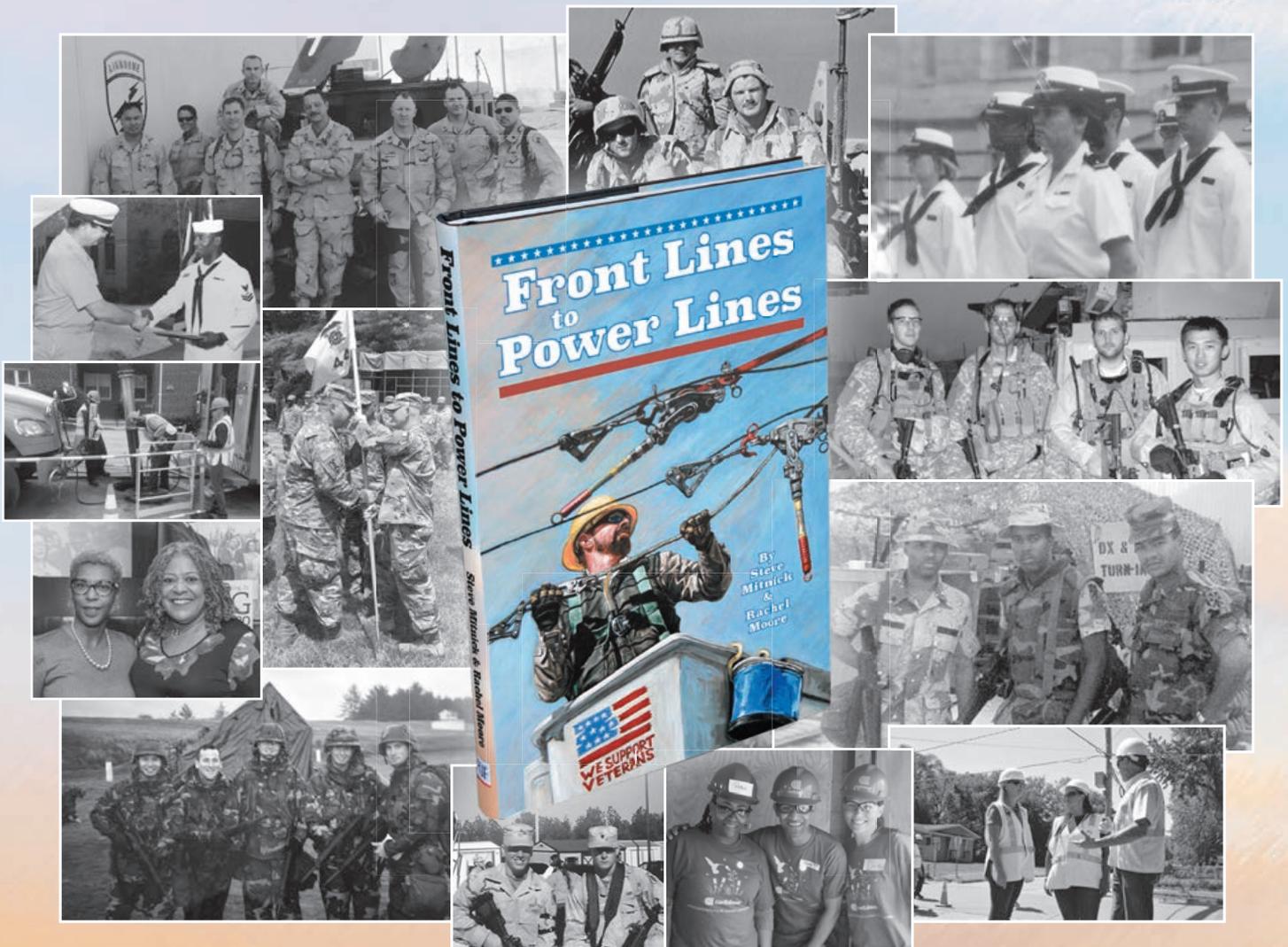
Economic Empowerment – Economic security and the ability to contribute to a modern, twenty-first century economy to the best of their ability.

Energy and Environmental Justice – Access to a healthy environment (natural and built) and reliable, affordable, and clean energy.

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access to information and technical support when they are ready to move forward.

Making information more readily available, helping communities get started, connecting stakeholders, and creating more regional examples of how to accelerate tech and information-related solutions to communities' challenges, will make action more viable for all communities.

As a generation and transmission company that serves a hundred fifty-three local power companies through a public-power model, TVA's unique structure provides opportunities to have a broad impact by sharing information, bringing parties together, and providing technical support.

TVA is also working to improve the service region's transmission system and enhance its existing programs to better support a flexible, modern grid.

Investor-owned utilities and others in the energy provider space will have different opportunities and limitations in how they may be able to partner with, and support, communities. However, they can also advance their business goals and build valuable strategic partnerships by working collaboratively with communities on grid modernization efforts.

Varieties of this community collaboration approach to decarbonization planning and implementation exist in other parts of the U.S. – for example, through Xcel's Partners in Energy Program and ComEd's Community of the Future program.

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– Nicole Wobus



As both utilities and communities face unprecedented challenges that require innovative and collaborative solutions, efforts like TVA's Connected Communities initiative will flourish. It's time for utilities to rethink their relationships with communities and deploy new strategies that can tap into broader opportunities, cocreate effective localized solutions, and maximize benefits. PUF