Business & Technology Update

NRECA America's Electric Cooperatives

Gaining Valuable Insights from Co-op Data Using Digital Twin Technology

The abundance of data available to cooperatives through assets such as AMI, SCADA and GIS presents the opportunity for cooperatives to gain important insights to improve operations. The challenge is managing such large amounts of information in a way that makes it useful. Digital Twin Technology integrates data from a variety of sources and from high-fidelity scans of utility assets onto a centralized platform, presenting the information in easy-to-read format with tools to help extract value from the data. This new report reviews how Jo-Carroll Energy (JCE) and DMI are working together to streamline procedures and develop best practices to showcase the development and use of digital twin technology to NRECA members.

- **Report**
- **Related Factsheet**
- Contacts: Adaora Ifebigh and David Pinney

Five Emerging Use Cases for Energy Storage

While electric cooperatives have long made use of battery energy storage, advancements in technology and plummeting prices for lithium-ion batteries have created new opportunities for both electric utilities and electricity consumers. By all measures, battery energy storage is, and will continue to be, an increasingly important tool for electric cooperatives. NRECA's new report provides a deep and detailed dive into battery energy storage evaluation, operations, key use cases, and lessons learned from a variety of applications relevant to electric cooperative needs. This report provides insights designed to inform the decision-making of cooperatives that choose to explore possible investments in and uses of battery energy storage.

- **Report**
- Contact: Jan Ahlen

Mobile Substation Pool Offers Savings for Cooperatives

Electric cooperatives are using more mobile substations to give them the flexibility to respond to emergencies and carry out maintenance and new construction while enhancing service reliability. However, mobile substations are expensive to buy and maintain, and age quickly from extreme weather exposure and bumpy rides. NRECA's recent *Surveillance* article series, *A Summary of CEATI Station Equipment Program's Report: State-of-the-Art Review of Mobile Substations*, provided valuable information for the purchasing, storage, deployment and maintenance of units. This new advisory reviews a cost-effective approach pursued by North Carolina Electric Membership Corporation (NCEMC) involving participation in a mobile pool, which provides access to several

mobile substations at a very affordable cost.

- **Advisory**
- **Related Surveillance Article Series**
- Contact: Patti Metro

Generation Lock Out/Tag Out Assessment Guide

A group of safety professionals from 14 G&Ts formed a team to measure and address potential generation plant exposures related to Serious Injuries and Fatalities (SIFs). The data showed that primary exposure to SIFs at generation sites occurred when utilizing Lock Out/Tag Out (LOTO) procedures. Based on their findings, the team developed this Generation LOTO Assessment Guide to assist cooperatives in the review and evaluation of their current plant LOTO practices.

- **Guide**
- Contact: Bud Branham

Maximizing the Value of Energy Storage

Grid-connected energy storage is essential in enabling the large-scale integration of intermittent renewable generation, which will eventually support the energy transition and achieve the greenhouse gas emissions targets. Our new *Surveillance* article series summarize the CEATI Strategic Options for Integration Emerging Technologies and Distributed Energy Interest Group (SOIG) report *Methodologies to Maximize the Value and Amount of Energy Storage: Economic and Technical Evaluation*. The report analyzes the potential services that energy storage can provide from a generation, transmission and distribution standpoint. This first article discusses the findings of CEATI's literature search of the various energy storage system use cases on the grid, discusses revenue streams, and highlights key energy storage technologies in the North American energy market.

- **Article**
- Contacts: Dan Walsh and Jan Ahlen

2020 Summary of Business and Technology Articles and Advisories

Throughout 2020, NRECA's Business and Technology Strategies department issued over 90 *Surveillance* articles and Advisories to assist cooperatives in addressing various opportunities and challenges facing our industry. Here is a summary, including links to each document.

- **2020 Summary**
- **Additional Summaries**

Contacts:

- Analytics: David Pinney
- Consulting Services: Ginny Beauchemin

- Cybersecurity: Cynthia Hsu
- Distributed Energy Resources: Brian Sloboda and Jan Ahlen
- Generation, Environment and Carbon Dioxide: Dan Walsh
- Resource Adequacy and Markets: Michael Leitman
- Transmission and Distribution: Patti Metro

Co-op Programs That Support Members in Need

The **Achieving Cooperative Community Equitable Solar Sources (ACCESS)** project, the flagship project of NRECA's initiative **Advancing Energy Access for All**, aims to improve the affordability, performance, and value of solar technologies on the grid. Through this project, tools and resources will be developed to assist electric co-ops and the broader industry deploy solar projects to benefit low- to moderate-income (LMI) consumers. This report, the first in a three-part series, explores the variety of programs and services offered by co-ops to help LMI members, while often simultaneously benefiting other members, the co-op, and the grid.

- **Report**
- Contacts: Adaora Ifebigh and Maria Kanevsky

Webinar: 2021 Co-op Economic Outlook

Join us on **February 16, 2:00-2:45** pm ET to hear a concise report on economic trends and their implications for the year ahead from NRECA's Lead Economist, Joe Goodenbery. This **free session** will cover important economic indicators, including GDP, business confidence, and unemployment, with a focus on job impacts in sectors of interest to the co-op economy.

- **More Information and Registration**
- Contacts: Joseph Goodenbery and Robbin Christianson

Methods for Locating Electric Vehicles in Cooperative Territories

Predicting and managing the load growth from increasing demand for electric vehicles nationwide provides opportunities and challenges for cooperatives. By understanding the number of electric vehicles in a service territory, cooperatives can better plan for current and future impact to their electric load. While there are no easy means of determining the exact number of EVs in an area, this new advisory discusses several available options for electric cooperatives to locate electric vehicles in their service territory and track those numbers over time.

- **Advisory**
- Contact: Maria Kanevsky

Team Rubicon Kicks Off 2021 TechAdvantage on Feb. 23

Go to cooperative.com today and register for 2021 NRECA PowerXchange and TechAdvantage. The events will kick off on **Tuesday, Feb. 23** with an exciting presentation by one of our favorite speakers; Team Rubicon's Jake

Wood. Over the course of the ensuing two weeks, you'll have access to a schedule that has been designed for every professional level at the co-op, regardless of your role or professional experience. Register now and don't miss out on Jake's captivating story.

- **Details and Registration**
- Contact: Mary Ackleson

WEBINAR AND PODCAST OPPORTUNITIES

Podcasts:

- **What is the Beneficial Electrification League?**
- **How Data Is Revolutionizing the Electric Utility Industry**

Webinars:

- **2021 Co-op Economic Outlook**
  February 16, 2-2:45 pm ET

On Demand:

- **New Funding Available for Co-ops Serving Military Communities**
- **The Power of Partnership: Solar Webinar Series**
- **DOE Hydro - Informational Webinar**
- **Measuring Co-op Response to COVID-19: Key Take-Aways and Action Items**
- **Future Of… Volume 1: EVs, Battery Energy Storage, and Grid Analytics**
- **Future Of… Volume 2: UAS, Analytics, and Distributed Operations**
- **Aligning Compensation with Your Business Strategy**
- **Broadband as an Essential Service**
- **DOE Wind Energy Webinar**
- **RC3 Online Cybersecurity Self-Assessment Program**
- **Impacts of COVID-19 on Renewable Energy and Storage Development**

- **Impacts of Postponing or Canceling Annual Meetings and Director Elections due to COVID-19**

- **Integrated Vegetation Management (IVM)Series: Mitigating Bird Issues**

- **Series: Mitigating Bird Issues**

Resources Regarding the Impact of COVID-19 on Co-ops

NRECA has completed several analyses on the impact of COVID-19 on electric cooperatives, including economic, job sectors, safety, broadband, and other areas. Below are links:

- RE Magazine Article: **The Covid Effect: Contact Injuries**
  Contact: Bud Branham

- **Measuring Co-op Response to COVID-19: Key Take-Aways and Action Items**
  Contact: Mike Sassman

- **Report: Mid-Year 2020 U.S. Economic Outlook: A Focus on Rural America**
  Contact: Joe Goodenbery

- **Paycheck Protection Program: Loan Forgiveness**
  Contacts: Allison Hamilton and Joe Goodenbery

- **Financial Impact Report**
  Contacts: Russell Tucker and Joe Goodenbery

- **Financial Impact and Pathways to Relief**
  Contact: Allison Hamilton

- **At Risk Job Sectors Report**
  Contact: Michael Leitman

- **Impacts on Generation and Transmission Cooperatives**
  Contacts: Lauren Khair and Michael Leitman

- **How COVID-19 Is Impacting Electricity Industry Sectors**
  Contacts: Lauren Khair and Michael Leitman

- **Tools to Help Manage Energy Expenses**
  Contact: Brian Sloboda

- **The Criticality of Broadband**
  Contact: Paul Breakman

- **Business and Technology Resources to Use Virtually**

- **NRECA COVID-19 Hub**
- **Special Edition: Business and Technology Update**

See past issues of *Business and Technology Update* in our **archive on cooperative.com.**