

INTEREST GROUP ON 24/7 CARBON FREE ENERGY (CFE)



PROJECT HIGHLIGHTS

- Learn about evolving approaches being pursued by large electricity customers to acquire “clean energy.”
- Participate in facilitated discussions about 24/7 CFE and the opportunities and challenges for power companies.
- Gain insight into the technical challenges and possible solutions for acquiring and deploying 24/7 CFE resources and programs.
- Interact with peer power companies to understand how interest in 24/7 CFE is shaping new electric company program offerings.
- Gain insight into what other power companies are doing related to deployment of 24/7 CFE.

Background, Objectives, and New Learnings

This new EPRI Interest Group (IG) is designed to bring together EPRI members to transfer technical knowledge and experience related to 24/7 Carbon-Free Energy (24/7 CFE) and the technical and methodological infrastructure needed to support its deployment. Participants will learn from each other while engaging with subject matter experts (SMEs) from EPRI and other organizations. Participants will also advise EPRI on future research and development priorities and activities in this important emerging area.

Deep decarbonization of the energy sector is a key strategic priority for many power companies as well as many of their customers and stakeholders.

In recent years, many companies in the United States and internationally have procured renewable electricity (e.g., wind and solar) to meet voluntary corporate sustainability goals, including reducing their “scope 2” greenhouse gas (GHG) emissions associated with purchasing and using electricity. Today, a large and growing group of companies procures enough renewable energy and renewable energy certificates (RECs) to equal 100 percent of their annual load (MWhs).

More recently, several large electricity customers, including commercial and industrial (C&I) and cities and municipalities, have turned to procuring *carbon-free energy* (CFE) that more closely matches their hourly electricity load (i.e., “load-matched” or “24/7” CFE). This shift from procuring 100% renewable energy annually to procuring 24/7 CFE on an hourly basis marks an important evolution of corporate and public efforts to procure clean energy and increase deployment of a broad range of CFE resources.

The technical capability to match a customer’s hourly load to CFE resources is evolving quickly. For example, the Midwest Renewable Energy Tracking System (M-RETS)—the largest REC issuance and tracking system in the U.S.—and the PJM Interconnect now are issuing and tracking hourly RECs which can be matched to a customer’s load.

The United States federal government also is moving quickly to procure large amounts of 24/7 CFE by 2030 and beyond. Executive Order 14057 issued in 2021 requires all federal agencies to (i) purchase 100% CFE on a net annual basis by 2030, and (ii) purchase 50% CFE on a 24/7 basis by 2030.

Power companies have started to develop and supply 24/7 CFE to meet this emerging corporate demand and to collaborate with their customers to reduce their carbon emissions. Two regulated investor-owned (IOU) utilities in the U.S. (Georgia Power Company and Nevada Energy) recently received state regulatory approval to develop and deliver 24/7 CFE to commercial and industrial (C&I)

customers. Duke Energy, another IOU, recently submitted a similar proposal to state regulators. Entergy and Xcel also have announced plans to develop 24/7 CFE products and services with the U.S. government.

International interest in 24/7 CFE is also growing. In 2021, the United Nations launched the 24/7 Carbon-Free Energy Compact, and Eurelectric (the federation of the European power industry) created a 24/7 CFE Task Force to explore and raise awareness about 24/7 matching. Several local governments in the U.S. have joined the UN's 24/7 Compact and pledged to implement 24/7 CFE.

Benefits

Project participants will gain a deeper understanding of key technical issues related to designing and delivering 24/7 CFE to their customers along with potential solutions. Specific topics and issues to be explored by the IG will be strongly influenced by participants' interests and needs, and may include information related to:

- Developing data needed to design a 24/7 CFE program
- Existing and evolving 24/7 CFE accounting and tracking systems
- Identifying and managing operational, regulatory, and financial risks associated with 24/7 CFE
- Potential options for including 24/7 CFE programs in long-term resource planning efforts
- Other key aspects of program design and delivery, as suggested by participants and EPRI SMEs

This project also is designed to help company staff and managers learn to communicate more clearly and effectively about 24/7 CFE.

Project Approach and Summary

This project will leverage the power of collaboration, coupled with EPRI's expertise, to add value in a focused way as participants navigate this complex subject.

This IG will launch with a kick-off webcast to provide project participants with an overview of the opportunities and challenges associated with developing programs to deliver 24/7 CFE to customers and to learn more about participants' interests and needs.

Following this kick-off webcast, the IG will meet virtually on at least a bi-monthly basis, and may meet in-person on one or more occasions. Based on webcast discussions and follow-up interactions with participants, EPRI will

prioritize issues for further exploration and develop a research roadmap to guide future EPRI activities related to 24/7 CFE.

EPRI also plans to develop a collaboration website that includes access to an online project document library, and project webcast presentations and recordings.

Deliverables

- **Speaker Series:** A series of webcasts exploring opportunities and challenges associated with development of power company programs to deliver 24/7 CFE.
- **Collaborative Forum:** Facilitated stakeholder discussions intended to identify industry challenges and possible solutions associated with developing programs to deploy 24/7 CFE.
- **Collaboration Website:** An EPRI online project document library, including access to all project webcast presentations and recordings.

The non-proprietary results of this work will be incorporated into EPRI's Energy, Environmental, and Climate Policy Analysis R&D program (P201) and made available to the public for purchase, or otherwise.

Price of Project

This project is open to all EPRI member companies. This Interest Group is sponsored by EPRI's Technology Innovation (TI) program. Participation is free for all interested EPRI members.

Project Status and Schedule

The IG is expected to start in June 2023 and continue for approximately 12 months.

Who Should Join

Staff from power companies and combined utilities who are interested in developing customer programs to deliver 24/7 carbon-free energy.

Contact Information

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 (askepri@epri.com).

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