

## AT A GLANCE



### Electrification Program

#### Program 199

#### Research Value

- Provides strategic frameworks to evaluate electrification opportunities in utility service territories, and tactical tools to pursue program implementations with business customers.
- Advances the development and adoption of technologies that help reduce on-site emissions at end-use customer facilities, which assists compliance with environmental regulations, fosters worker health and safety, and contributes to reduction of net emissions to benefit society-at-large.

#### Member Benefits

- Stay current on the latest electric technologies and their market applications and apply best practices in electrification program implementation to provide more customer choice regarding technology options.
- Support improved productivity and competitiveness of end-use customers through advancements in energy efficiency, reduced costs, and improved throughput.
- Connect to a network of stakeholders including peer utilities, technology vendors, industry associations, government agencies, national laboratories, and end-use customers, to advance electrification standards and metrics.

The Electrification Program conducts research to enable decarbonization, improve productivity, and other societal benefits through the electrification of residential, commercial, and industrial technologies, as well as nonroad vehicles. In many cases, electrification—i.e., the application of novel, energy-efficient electric technologies as alternatives to fossil-fueled or non-energized processes—can help boost productivity and enhance quality of service for utility customers and offers inherent advantages of controllability, precision, versatility, efficiency, and environmental benefits.

A lack of familiarity and experience with emerging technologies, however, impedes many enterprises, particularly small- to medium-sized businesses and civil institutions, from pursuing electrification measures that can improve the productivity and efficiency of operations. Such enterprises would benefit from information and support from their electric utility. However, electric utilities themselves face obstacles to serving as effective partners in this regard due to the fast-changing technology landscape.

Identifying and measuring the prime opportunities for electrification in an individual service territory can be difficult. Utilities must also reconcile electrification strategies with mandated energy efficiency goals that are usually narrowly defined in terms of kilowatt-hour reductions.

## Research Highlights

**P199A: Analytical Tools and Knowledge Base.** When customers face choosing the right technology to improve their productivity or quality, or reduce emissions to meet environmental regulations, they often turn to their utility as a trusted advisor. Utilities often have limited resources to help these customers. The goal of this project set is to provide members with tools, calculators, and information about electric technologies, via robust and analytically rigorous methods for quantifying the value of electrification, or via the web-based “Electrification Knowledge Base”, a compendium of relevant technical information.

- P199.001: Analytics and Modeling Framework
- P199.003: Knowledge Base of Technologies and Markets

**P199B: Technology Assessments and Case Studies.** This project set focuses on technology as well as industry or market segment assessments and case studies to help project participants identify the performance characteristics of existing and emerging technologies. Research explores the selection of appropriate electric technologies to assist with residential, commercial, and industrial non-road applications; prerequisites for demonstrating and deploying electrification; and technology transfer options to help with electrification.

- P199.004: Technology Assessment and Application
- P199.007: Case Studies, Cut Sheets & Industry Profiles

**P199C: Technology Transfer and Stakeholder Networks.**

Increasing the adoption of electrification technologies can be difficult. Engaging end-customers and vendors and educating external stakeholders in the value of electrification through workshops and training webcasts.

**P199D: Technology Scouting.** As more utilities create electrification programs for various end-use technologies, they seek technologies in various stages of development—from laboratory research and R&D to near-commercialization—to identify short-term and long-term opportunities for their customers. This project set focuses on identification of key market trends and emerging technologies in electrification globally.

- P199.008: Emerging Technology Overview

## Supplemental Projects

Opportunities beyond the annual research portfolio include:

- *Electric Agriculture Technology Collaborative* ([3002019376](#))
- *Electrification Portfolio Assessment* ([3002004112](#))
- *Industrial Center of Excellence* ([3002011229](#))
- *Industrial Heat Pumps for Electrification and Energy Efficiency* ([3002025533](#))
- *National Collaborative Demonstration and Monitoring of Indoor Food Production (IFP) Facilities* ([3002011857](#))
- *Maritime Electrification Collaborative: Electric Workboat Technology Demonstration* ([3002029528](#))

### EPRI Technical Contact

ALLEN DENNIS, Program Manager  
865.218.8192, [adennis@epri.com](mailto:adennis@epri.com)

For more information, contact:

EPRI Customer Assistance Center  
800.313.3774 • [askepri@epri.com](mailto:askepri@epri.com)

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EPRI

3420 Hillview Avenue, Palo Alto, California 94304-1338 USA • 650.855.2121 • [www.epri.com](http://www.epri.com)

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