Advanced Energy Communities

- Provide customized demonstrations and support for connected communities and grid-interactive efficient buildings
- Focus on specific building types and customer segments of interest
- Connect with regional stakeholders, such as housing authorities, property developers, community-based organization, technology distributors, and installers

As the power industry undergoes a clean energy transition, it is **increasingly important to understand how customer decisions to adopt and use new technologies can provide new opportunities for customer value and engagement as well as grid flexibility and planning.** This is especially the case with customer technologies in new and existing residential and commercial buildings and communities. What do residents think of a home full of advanced appliances, and how and what are they willing provide to the grid—if anything? For what reasons and incentives? How can integrated building and appliance upgrades lower overall costs and carbon impacts while improving quality of life in disadvantaged communities (DACs)? What does a neighborhood of solar PV and EV owners look like to the grid throughout the year?

EPRI's Advanced Energy Community (AEC) projects examine these issues holistically by supporting your organization in designing, developing, and deploying community demonstrations to understand the value of enabling these communities at scale. AEC projects complement industry initiatives such as DOE's Grid-Interactive Efficient Buildings (GEB) and Connected Communities initiatives, bringing together multiple stakeholders—utilities, builders, developers, community organizations, advanced technology providers, and trades—with disparate needs and driven by different policy, technology, or market forces.

Benefits

- A focus on b**uilding types and customer segments** of interest to your company, including multifamily, affordable housing, market rate, or commercial businesses
- An opportunity to **enable and collaborate with disadvantaged communities**
- Strengthened visibility of and collaboration across **multiple regional building stock stakeholders** in your service territory
- **Real-world experiences and data** on carbon impacts of different building designs, customer

acceptance of decarbonization technologies and their use for grid flexibility, implications for grid integration and planning, etc.
- A holistic approach that accesses EPRI's breadth of expertise spanning advanced buildings, customer behavior, demand flexibility and electrification, electric vehicles, storage, DER integration, communications, and distribution planning.
- Ability to leverage EPRI's government proposals and projects capabilities
- Ultimately, the potential to enhance customer value and participation in grid flexibility, enabling more capacity to integrate the renewables required to reach decarbonization targets

Approach

AEC projects are customized to meet your company's needs, generally following one or more of the following workstreams:

Workstream 1—Design and Application Support. Tasks that assess the value and development of an AEC project plan through:

- Community planning with multiple stakeholders such as builders, developers, community-based organizations, and emerging technology providers
- Technology feasibility assessments
- Building technology roadmapping support
- Support for developing and/or leading advisory groups and/or steering committees
- Support in Playbook/Guidebook development

Workstream 2—Demonstrations. Activities that implement a demonstration, that can include:

- Connected community demonstrations
- Building electrification retrofits
- Affordable housing/community considerations
- All-electric homes and communities
- Grid-interactive efficient buildings

Workstream 3—Data Analysis. Tasks that leverage EPRI's experience collecting data from large-scale, customer-sited technology demonstration projects, including:

- Surveys and stakeholder interviews
- Utility-provided energy data
- Smart technology and/or IoT data
- Other publicly available data sets

Workstream 4—Government Proposals and RFPs. Work that enables AEC projects by engaging your company and other project participants to identify opportunities to leverage government funding or other funding sources, such as:

- DOE funding opportunities
- State-level opportunities such as California Energy Commission and NYSERDA
- Opportunities available through public and/or private RFPs

Deliverables

Deliverables are customized based on your company's scope. The nonproprietary results of this work are incorporated into relevant EPRI programs and made available to funding members of those programs and the public, for purchase or otherwise.

Price

Your company may participate in one or more project workstream, and the price varies based on your scope. Typical workstream price ranges follow:

Workstream 1: Up to $100,000

Workstream 2: Projects start at $200,000

Workstream 3: $100,000 to $200,000

Workstream 4: Varies

This project may qualify for tailored collaboration (TC) or self-directed funding (SDF) depending on scope.

Schedule

Timing varies depending on scope, though following are typical timelines:

Workstream 1: Three to twelve months

Workstream 2: Up to three years

Workstream 3: Three months to a year

Workstream 4: Up to six months

Depending on the project, funding can be split over calendar years.

Who Should Join?

Utilities interested in understanding how the convergence of new technologies and changing customers impacts the future grid.

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