

# Smart Energy Technologies\* FAQs

\*formerly known as Smart Energy Communities

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## Goals

**What are the goals for Smart Energy Technologies (SET)?** Smart Energy Technologies is meant to model the most efficient energy use processes and upgrades available. It could include a range of energy efficiency technologies and the primary enabling elements of a smart grid (i.e., intelligent devices, two-way communications, and information management) that could be found on a typical local power company’s distribution system. It can use energy efficiency in conjunction with demand response to make a house function as a machine that works in conjunction with the power grid/power delivery system. Technologies or efficiency applications to consider for inclusion include high-efficiency appliances, high efficiency air conditioning or water heating, lighting upgrades, smart meters, consumer interface/display devices, grid integrated renewable energy, energy storage, electric vehicle and vehicle charging, and voltage optimization.

**Are there energy and emissions targets for Smart Energy Technologies?** Yes. The ultimate goal is for SET is to generate emissions savings. Those savings can be achieved through energy savings, peak load reduction, or load shifting. TVA has estimated that energy savings of approximately 8,700 MWh over the lifetime of the installations would achieve the target emissions savings.

**Which is more important, energy savings or peak load reduction?** The ultimate goal is emissions reductions. Energy savings, peak load reduction, and load shifting are all acceptable ways of achieving emissions reductions.

**What is the target market for Smart Energy Technologies?** The target market is homes where the human interaction can be tested alongside smart grid technologies within ultra-efficient homes. Priority will be given to communities of homes within the service territories of local power companies that have made significant investment in the deployment of smart grid technologies.

**How many homes does a project need to include?** The number of homes that a project includes will depend on the amount of energy savings achieved per home and whether the project includes non-residential components. Our estimates are based on a project that includes 320 homes total for SET.

## Terminology

**What does AMI stand for?** AMI stands for Advanced Metering Infrastructure.

**What is meant by “human interaction”?** Human interaction is the mutual or reciprocal influence between people living within the home and smart grid devices.

**What constitutes a community?** The project team will define the community in their proposal. At a minimum, it will be a defined geographical area.

**Will education about Smart Energy Technologies be considered part of the project?**

Tailored education will need to be provided to the homeowner and/or resident based on what technologies are implemented within their home.

**What emissions impacts will be tracked?** Lifetime emissions avoided for CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and Hg will be tracked.

**What do you mean by “energy efficient technologies”?** Energy efficient technologies or devices are designed to use energy more efficiently. Such devices include, but are not limited to, high efficiency air conditioning or water heating, CFL/LED lighting, smart meters, consumer interface/display devices, and energy storage.

**What is meant by “homeowner”?** The “homeowner” will be defined by the project team who will be responsible for clearly defining the prospective participants (resident, landlord/tenant, or a city). The project team will need to identify any potential risks associated with their definition and include in their proposal their planned mitigation actions to address those risks.

**What is meant by “outreach”?** Outreach is the ongoing activities or processes of bringing information on the project and the available resources to the prospective community – both the targeted homes as well as the larger community.

**What does “representative portion of a moderate-sized community” mean?** The defined community must be large enough that the project will meet its stated goals while allowing for a percentage of potential participants to opt-out of the project.

**What is a “smart grid”?** The smart grid refers to the electric power infrastructure. Smart grid is the application of information technology, tools and techniques that can make the grid run more efficiently.

**What are “smart grid devices”?** Smart grid devices enable communication regarding energy usage and operation to the resident and/or utility. Such devices could include but are not limited to, intelligent devices, two-way communications, and information management systems.

**What are “ultra-efficient homes”?** They are homes that include state-of-the-art, commercially available, energy efficient technologies, well-insulated envelopes, and have systems commissioned to optimize energy usage.

## **Project Team**

**What is a Project Team?** A project team consists of members from multiple companies and organizations who have partnered to implement a Smart Community project or projects. The project team must include a Local Power Company (LPC). Other project team members may include, but are not limited to, a third-party implementer, community organizations, local and state governmental agencies, manufacturers, businesses, and non-profit organizations.

**If a LPC or other project team member plans to hire a third-party implementer, does that implementer need to be identified before the proposal is submitted?** Yes. We expect all of the primary implementation partners to be identified in the proposal, including signing a letter of commitment and giving their qualifications and experience to fill their role on the project team. Project Team members are not prohibited from hiring subcontractors after the contract has been awarded.

**Do subcontractors need to be identified before the proposal is submitted?** No. Project Team members are not prohibited from hiring subcontractors after the contract has been awarded.

**If there are ongoing projects with a LPC, can this funding be used to expand the project to explore multiple business models?** Yes.

**Can a Project Team include more than one LPC?** No. The project must identify a target community located in the territory of a single LPC. Only the LPC where the community is located may be part of the Project Team.

**Will TVA provide assistance in the formation of Project Teams by connecting LPCs with potential partners/vendors?** TVA will not take an active role in the formation of Project Teams, but has provided resources to interested parties. A list of all TVA LPCs is located at [http://www.energyright.com/power\\_company\\_listing.html](http://www.energyright.com/power_company_listing.html). In addition, interested partners/vendors may submit information about their company to TVA; TVA will compile information from all respondents and make the list available to LPCs. Partners/vendors should send their contact information, a 200 word description of their company’s capabilities, and their organization’s potential role on a project team to [smartcommunities@tva.gov](mailto:smartcommunities@tva.gov).

**Can TVA tell me which LPCs plan to offer time of use rates in the next year?** No. The LPCs operate independently, so TVA is unable to provide information on their plans.

**Can a project span across both SET and Extreme Energy Makeovers (EEM)?** SET and EEM have separate RFP processes. A Project Team may submit multiple proposals in the SET and/or EEM RFP process. However, each proposal must be for a different geographic area; SET and EEM projects cannot be implemented in the same physical community.

**Can project team members be a part of more than one project proposal?** Yes. When a company/organization agrees to join a Request for Proposal (RFP) submission, the company/organization is agreeing to allocate the resources necessary to make each, independent project a success.

**What if the approach outlined in the Response for Proposal submittal does not match (in part or in whole) any of the business models presented in the benchmarking study?** The business models listed in the benchmarking study are not an exhaustive list of models. Other approaches may be submitted and will be reviewed. The chosen business model might include ideas from multiple business models and/or other resources. Any submitted approach must meet the scope and desired outcome of the project.

**Are you looking for something original or is it acceptable to model a successful program?** It is acceptable to model a successful program.

**Why should a local power company participate in a Smart Energy Technologies project?** The local power company would be providing the community with a higher quality of life by supporting the efforts of these projects. In addition to the communities being able to enjoy an enhanced standard of living, the local power company receives the benefits of the community using electric energy more efficiently and enhanced customer satisfaction.

**What does the term “leveraging partners” mean?** Members of a project team should utilize the strengths of each team member, and use those strengths to implement the project successfully (i.e., meet the project goals within the required timeframe).

## **Community**

**May an Extreme Energy Makeovers project and a Smart Energy Technologies project be located in the same Local Power Company territory?** Yes. The only restriction is the individual homes cannot be included in both projects. Homes must be exclusive to one project or the other.

**How many Smart Energy Technologies projects will be awarded?** At a minimum, one project will be awarded within the TVA's service territory.

## **Participant Eligibility**

**How is participant eligibility determined?** Participant eligibility will be documented and determined by the project team(s) in their Request for Proposal submission.

**Are unoccupied homes eligible to participate?** No, unoccupied homes are not eligible to participate.

## **Funding and Administration**

**What is the funding for Smart Energy Technologies?** Of the \$8 million allocated for the Smart Energy Technologies project, \$6.7M will be awarded to Project Team(s) through the RFP process. The remaining funding has been allocated for administrative activities and project support under other contracts. TVA will award, at a minimum, one SET project. If TVA awards more than one project, the funding will be divided between recipients at TVA's discretion.

**When will the project launch and how long will it run?** Implementation will begin in 2015 and continue through 2016. Final reporting of results to TVA will occur no later than mid-2017.

**What is TVA's role in project implementation?** In addition to funding awarded for Project Team, TVA will provide additional support and guidance on marketing and education, including development and production of materials.

**How much of the award will be allowable for administrative costs versus direct implementation costs?** Each Project Team will submit a budget as part of their proposal. This budget must include a breakdown of costs by type and by year.

**Can funding be applied toward customer incentives (solar rebates, EV rebates, DR payments) on top of existing incentives?** Incentives that drive participation are an allowable use of project funds. However, customers are not allowed to participate in multiple TVA energy efficiency, demand response, or renewables incentive programs at the same time.

**What funding is the local power company expected to provide?** The project(s) will be fully funded by TVA. The local power company is not obligated to provide financial support for the project. However the local power company may contribute to the project financially to support or expand the project's reach.

**May project team members bring additional funding to their project?** Yes. Project team members may provide additional funds to support the scope of the project. Cost sharing will be considered as a leveraged resource in the evaluation process. For EPA/TVA reporting purposes, TVA project dollars must be kept separate from individual project team member dollars. Additional funding from project team members cannot be used as justification to extend the final implementation project date.

**Will the local power company receive financial assistance relating to the work provided in the project?** Funding the projects (implementation and administration) will be provided by TVA. The local power company will be a project team member.

**May project teams combine the administrative components of a Smart Communities project with another program?** For EPA/TVA reporting purposes, all Smart Communities project dollars (implementation and administration), energy savings, and emissions calculations must be kept separate and clearly delineated from any other potential spending.

**What financial obligation is the homeowner and/or resident expected to provide within an Extreme Energy Makeovers project?** Homeowners and/or residents are not expected to provide any financial assistance.

**Is funding available to assist organizations with the time incurred in preparing a proposal?** No.

## Technologies

**What are examples of “newer most efficient energy technologies”?** Examples are technologies or devices designed to use energy more efficiently, but are not limited to: high efficiency air conditioning or water heating, CFL/LED lighting, smart meters, consumer interface/display devices, and energy storage.

**May a project include gas heating and/or gas appliances?** Yes. However, project funding will only go towards appliances that achieve electric energy savings goals. Recommendations for upgrading inefficient gas-fueled equipment should be made when applicable, but will not be covered by project funding.

**May a project include rooftop solar or community-owned solar?** Solar can be a component of a Smart Energy Technologies project with preference given to grid-integrated projects.

**Is there a do-it-yourself component of Smart Communities?** No. All work will be performed by contractors that the project team has selected.

**What are examples of “elements of a smart grid”?** Elements of a smart grid could include, but are not limited to, intelligent devices, two-way communications, and information management systems.

**Are there any specific requirements that need to be included in a Smart Energy Technologies proposal?** Proposals must include a residential component.

**May a local power company use Smart Energy Technologies project dollars for AMI deployment?** No.

**If a local power company does not have AMI deployed, is the local power company eligible for consideration?** Yes, there are business models for smart grid/Smart Energy Technologies that do not require AMI deployment. For more information on business models, see the Benchmarking Study at [http://www.tva.gov/environment/epa\\_mitigation/smart\\_energy\\_communities.htm](http://www.tva.gov/environment/epa_mitigation/smart_energy_communities.htm).

**If a local power company has an AMI roll-out scheduled may the local power company leverage these meters as an existing resource in a RFP submission?** When responding to the RFP, the local power company is agreeing to provide the resources necessary to ensure the Smart Energy Technologies project is implemented successfully and on time. The AMI roll-out must be completed prior to RFP submission to be considered as existing infrastructure.

## Request for Proposals (RFP) Process

**When will the RFP be released and when is it due?** The SET RFP will be released the week of July 28. It will be due the week of October 27, giving project teams 12 weeks to respond. Check [http://www.tva.com/environment/epa\\_mitigation/smart\\_energy\\_communities.htm](http://www.tva.com/environment/epa_mitigation/smart_energy_communities.htm) for the most up-to-date RFP schedule.

**Will there be a letter of intent or pre-proposal required?** Yes, the RFP will include an Intent to Bid form that will be due 2 weeks after the RFP is released. Project Teams do not need to be in place by this date; individual organizations can submit their own Intent to Bid form.

**Which Project Team member should submit the proposal?** The entity that submits the RFP is designated as the primary respondent and acts as TVA's contact throughout the RFP process. The primary respondent should be the entity that the Project Team intends to receive the project funding through a contract with TVA. Proposals also must include a Letter of Commitment from each Project Team member indicating that the organization is committed to providing the resources necessary to fulfill its roles and responsibilities, as identified in the proposal.

**How can I make sure I receive the RFP?** The RFP will be sent to the Smart Communities email list. Any individual who has participated in a Smart Community webinar or signed up at [http://www.tva.com/environment/epa\\_mitigation/smart\\_energy\\_communities.htm](http://www.tva.com/environment/epa_mitigation/smart_energy_communities.htm) is included on the email list.

## Benchmarking Study

**Why wasn't anyone within the valley included in the survey?** The benchmarking study intentionally focused on programs and projects that occurred outside the Valley. The individuals and organizations interviewed represent a good sample of projects and programs from across the United States.

**Is the benchmarking study publicly available?** The benchmarking study will be made available to the public April 2014 at [http://www.tva.gov/environment/epa\\_mitigation/smart\\_energy\\_communities.htm](http://www.tva.gov/environment/epa_mitigation/smart_energy_communities.htm).

**What is a business model?** A business model encompasses how organizations create, deliver, and capture value. Business models are included in the study to provide insight into the diversity of players, value propositions, and primary delivery methodologies used in the marketplace today.

**Are you looking for something original or is it acceptable to model a successful program?** It is acceptable to model a successful program.

**What is meant by "market framework"?** A market framework is used to categorize the various activities associated with the programs researched. A market framework can be used to organize key findings. The framework for Smart Energy Technologies could be grouped into three areas: Smart Home, Smart Grid, and Communications Network.

## Updates as of September 30, 2014

**The way the grant is written, it's slanted towards supporting AMI/Demand response technologies. However, we would like to take a little different approach towards accomplishing the goals of community efficiency and resiliency. We would like to pursue discussions on setting up a Microgrid with a major university campus and we feel strongly that we can create a compelling story to meet the requirements of the funding.**

**Is this a technology/concept you would consider for the grant funding?** The RFP was written to support the EPA Approved Plan for Smart Communities, which includes the Smart Energy Technologies (SET) project. As discussed in the SET RFP, the project is designed to “explore human interaction of smart grid technologies and ultra-efficient homes, test the implementation of energy technologies and their interaction with the primary enabling elements of a smart grid (including a required demand response component), and demonstrate the value of the smart grid to consumers and the community.” A microgrid project by itself would not demonstrate the required demand response component. However, the project team could work with the local power company (LPC) and the university to use the microgrid to demonstrate how it could be part of the LPC's efforts to reduce peak demand through a demand response call, which would fulfill the demand response component of the RFP. It could be designed so that it clearly “test[s] the implementation of energy technologies and their interaction with the primary enabling elements of a smart grid.” Another consideration is the requirement to “explore human interaction of smart grid technologies and ultra-efficient homes”, especially at the scale intended for this project (approximately 320 homes). Despite the fact that such a project would be of interest, without the required demand response component, such a proposal would not do well in review when compared to RFP proposals that meet the demand response requirement included in this project. The proposal would also not do well without demonstrating human interaction with the smart grid at scale.

**The RFP mentions energy savings targets of 8,700 MWh over the lifetime of the installations that ultimately translate into emissions reductions.**

**1. Proposed solutions include technologies that will have an impact on maximizing clean resources in the off peak hours, but not necessarily reducing MWhs. So while there may not be a reduction in energy, there will be a reduction on emissions reductions. In order to calculate this emissions related value, we would like to obtain hourly TVA emissions data. Specifically, we would like to obtain the hourly integrated sum/average emissions values for the TVA generation portfolio (i.e. – no unit granularity needed). For example:**

- a. S\_CPT\_TIMESTAMP
- b. Sum or Average/MWH emissions

**2. As much history as is available and any variation on this data would be fine**

As shown in the table in Appendix G, the project team is asked to estimate the kW saved through peak load reduction (e.g., “Average kW of Load Shed/Installation”), as well as, the “Total MWh Avoided.” These represent some of the information that the project team will report to TVA on a regular basis throughout the implementation of SET. At the end of the project, TVA will calculate the total emissions savings using a method approved by the EPA. The project team is not responsible for calculating any emissions savings, so the requested data is not necessary for completion of a proposal.

**If an LPC is submitting both a proposal for the Extreme Energy Makeover and the SET, the RFP states that the footprint of the two cannot overlap.**

- 1. One portion of our solution incorporates an application that would be highly beneficial to all our customers, to exclude EEM areas from this does not seem logical**
- 2. We would like to verify that the overlap refers to installed equipment and hard assets at the homes**

It is good to hear that you are considering an application that that would be beneficial for all your customers. If your proposals for both SET and EEM are awarded, you would not have to exclude the EEM area(s) from using this application. As you suggest in the second part of your question, the requirement that there be no overlap between the implementation of each of these programs does refer to “installed equipment and hard assets at the homes.” However, it would also include any specific interventions that occur only in project targeted areas.

**Are there federal incentive dollars available?** There are no other federal incentive dollars available beyond the \$6.7 million available through the SET RFP. Including partners in the project design that can act as leveraged resources, either through providing additional funds or in-kind products or services, is encouraged.

**Can we propose with multiple LDCs?** Yes, you can propose with multiple local power companies (LPCs). If you follow this path and more than one project is awarded, you are committing to having the resources available for each project that you are a part of.

**Can we scale up from 320 homes?** Yes, you can scale up from 320.

**Was there a specific set of activities or incentives imagined when the project team works through a local community organizer?** No, there is not a specific set of activities or incentives imagined for work performed by a local community organizer. If a local community organizer is included as part of the project team, or otherwise having a role in the project, it is up to the project team to define what role the organization would have.

**The number of participating homes and the project budget seem to indicate a larger number of homes than the 300 indicated in the RFP if the budget is to only install equipment in homes. Was there any reason this number of homes was selected other than perhaps as a minimum to achieve the energy and demand reductions?** Yes, the 320 homes referenced in the RFP reflect what has been estimated to be the minimum required to meet the project’s savings targets. Including more homes could certainly be a positive element in the project design.

**The RFP anticipates that 320 residential homes will deliver the desired MWh goals over the lifetime of the equipment. Question: Will you disqualify a bid if it proposes higher than 320 homes to achieve the targeted MWh savings?** No, a project proposing more than 320 homes would not be disqualified.

**The RFP does allow inclusion of non-residential customers such as schools. Question: Is there any specific target of MWh for the non-residential customer segment?** The MWh target is for the entire project, inclusive of all elements both residential and non-residential.

**In section 5.2 Project Concept details, does the 100 word limit apply to Project Concept Prompts #28, or #30, neither, or both? The instructions at the top of Appendix E say that prompt #28 has no word limit. In the Table of prompts #30 says that it has no word limits.** Although it is shown in different ways within Appendix E, both prompts #28 and #30 have no word limit.

**Is the Project Implementer intended to be a third party firm or can the vendor act as the third party implementer as well?** The question seems to be about what type of entity may act as the primary respondent/project implementer. The best response is the one to the question, “Which Project Team member should submit the proposal?,” which can be found in the “Request for Proposals (RFP) Process” section, at the top of page 7. Ultimately, the project team must accept that the vendor is capable of handling the responsibilities that the project implementer must assume.

**Can the education and outreach provider be the same party as the vendor?** Yes, the vendor may also provide the education and outreach materials and resources.

**On page 18 Appendix G – has the Total MWh avoided been calculated correctly?** The “Total MWh Avoided” shown is incorrect. It should be 16.4 MWh, not 164 MWh.