

In-Home Energy Evaluation Plan - (Pilot Program)

Encouraging In-Home Energy Evaluations and Implementation of Energy-Efficient Improvements to Existing Dwellings

The In-Home Energy Evaluation Plan is designed to encourage the installation of energy-efficiency Improvements in existing single-family dwellings. The Plan is available to qualifying residential homeowners served by local power distributors that participate in the *energy right* Program's In-Home Energy Evaluation Plan.

Qualifying participants may elect to have an onsite evaluation of their homes' potential for energy efficiency improvements. Participants will receive a report listing prioritized recommendations, based on an estimated return of investment to the customer. The report may list Improvements such as upgrades in appliances, insulation, ventilation, doors and windows, heating and cooling systems, infiltration reduction/weatherization, lighting, rehabilitation (repairs), or other energy related applications in the home. Completing the recommendations may be as simple as changing a light bulb or changing participant behavior. However, recommendations with best returns are likely to require installation, repair, or maintenance services.

Participants are encouraged to complete as many recommendations as they choose. Incentives are available for those recommendations that have been pre-approved for either cash reimbursements or financing when installed in accordance with the Plan's standards and requirements. Participants will be provided a list of installation contractors that are approved to complete work and all final work is subject to inspection or verification as required in the Plan's guidelines.

Definitions

Participant - A single-family homeowner who agrees to participate in the In-Home Energy Evaluation Plan by allowing an evaluation to be performed on the home.

Approved Recommendation(s) – **Improvements** that qualify Participant for In-Home Energy Evaluation Plan financing or reimbursement.

In-Home Energy Evaluation – (or Evaluation) - An onsite evaluation by a trained Evaluator which assesses the energy efficiency characteristics of a dwelling and identifies deficiencies in the building's **Thermal Envelope**, space conditioning systems, household appliances and/or lighting which contribute to high energy usage or higher energy demand.

In-Home Energy Evaluator (or Evaluator) – A person trained in building science curricula and certified by TVA as being adequately knowledgeable and capable of performing In-Home Energy Evaluations.

Improvement(s) – Installation by an approved Quality Contractor Network (QCN) installer or self-installed by Participant of measures that achieve the energy-efficiency upgrades to the dwelling as described in the In-Home Energy Evaluation's **Recommendations**.

Thermal Envelope – The components of a building that form a surrounding boundary, separating the conditioned space of a dwelling from non-conditioned space. The thermal envelope of a dwelling typically incorporates both an air barrier and insulation and is normally defined by the dwelling's insulated ceilings, floors, and wall areas, including the windows and doors in wall areas.

Recommendation(s) or Recommended Improvement(s) – One or more Improvements to a dwelling that have been recommended to the Participant by an **Evaluator** in an **In-Home Energy Evaluation** as a

course of action that the homeowner should implement to improve the overall energy efficiency of the dwelling. Recommendations may or may not be eligible for financing incentives or reimbursement. See “Retrofit Incentive Schedule” in the contract for eligible Recommendations.

Qualifying Homes

The following requirements must be met for a home to qualify for participation in the In-Home Energy Evaluation Plan:

- Home shall be an existing single-family, owner-occupied dwelling served by a power distributor of TVA and shall have had permanent electric service for a minimum of one year prior to the **Evaluation**. Home must be served by power distributor that is participating in the Plan and may be subject to additional requirements by local distributor.
- An **In-Home Evaluation** of the existing home shall be conducted by a TVA certified **Evaluator** using evaluation procedures approved by TVA.

Improvement Technologies

The In-Home Energy Evaluation Plan provides for a number of energy efficiency Improvements to residential single-family dwellings. However, only select Improvements are approved for Plan incentives. Examples of technologies that are typically approved for incentives include:

- Attic, wall, and floor insulation
- Replacement windows and storm windows
- Replacement heat pumps and central air conditioners
- Water Heater Insulation and pipe insulation
- Heat pump and central air conditioning tune-up
- Duct sealing and duct repairs/replacement
- Crawlspace or non-conditioned basement ground cover
- Air sealing (weatherstripping and caulking)
- Rehabilitation (Rehab) work (minor repairs of broken glass, glazing, replacement of primary doors, minor repairs of insulation, minor repairs or replacement of windows, etc.)

Recommendations may be included in the Participant’s evaluation report that are opportunities for energy saving but are not approved for incentives. Examples include:

- ENERGY STAR® appliances
- CFL or fluorescent lighting
- Programmable thermostats
- Filter replacement
- Motor upgrades
- Plumbing repairs – to reduce heat loss or thermosiphoning losses
- Radiant barriers
- House wraps
- Moisture controls
- Lighting management

- Shading
- Window films
- Water management
- Indoor air quality improvements
- Ceiling fans

Participation

Owners of single-family homes will be invited to participate in the program through marketing efforts such as scheduled and cold calls, home shows and events, direct mailings, bill inserts, and internet, print, and radio/television advertising. Participation requirements include:

- Homeowners must be customers of TVA power distributors who have signed up to participate in the Plan.
- The home must be an existing structure that has had permanent electric service for a minimum of one year.
- Certain features of the Plan, such as incentive options, approved Recommendations for incentives, and approval of installers qualified to complete the work, may vary in the areas served by the local power distributor. Each participating distributor is responsible for approvals and additional requirements in their service area.
- All onsite evaluations must be completed by a TVA certified Evaluator; Improvements will typically require the homeowner to select a contractor from a QCN list to complete the work.
- Participants may be charged an up-front fee for the Evaluation. Fees up to \$150 are reimbursed to the Participant for approved Recommendations after verification that the work has been completed/installed in accordance with Plan requirements and standards.
- Participants electing financing, where available, must complete an application for financing and receive approval prior to beginning work.
- All self-installed Recommendations must be preapproved by the power distributor before installation and only qualify for cash reimbursements.
- Weatherizing homes with gas: If any heating system, water heating or kitchen appliance uses propane or natural gas as the fuel source, the home shall have an operating carbon monoxide (CO) monitor(s). The Evaluator shall visually inspect the monitor to confirm the unit is working and will discuss with the Participant the importance of properly operating monitors especially if the home is tightened through weatherization. The Participant is not eligible for any incentive if the home uses gas as a fuel source but has no operating CO monitor. The monitors must be present and operating before any weatherization Improvements are made.
- High efficiency Air Conditioning: If a power distributor elects to include high efficiency air conditioning and the home has a gas (either propane or natural) system that is not going to be replaced, the Evaluator shall explain the importance of having the existing gas heating system tested for safety. CO monitors shall be recommended at the time of the Evaluation. If weatherization is also being performed on the home, the Participant is not eligible for any incentive if the home uses gas as a fuel source but has no operating CO monitor. The monitors must be present and operating before any weatherization Improvements are made.

Delivery - The Onsite Evaluation Process

Participants must have an In-Home Energy Evaluation completed by a TVA-certified Evaluator. In some consumer areas, Conservation Services Group (CSG) will be providing all Plan services to TVA and the power distributor. In other areas, the power distributor will provide all Plan services. In all service areas,

the actual installation of approved Recommendations will be performed by one or more QCN members that have been pre-approved to perform the work. Only limited categories of rehab work may be self-installed with approval from the power distributor. QCN should check with the distributor for local requirements related to rehab and self-installed measures. Labor charges may not be submitted with requests for incentives where Improvements have been self-installed.

Onsite evaluations will be scheduled with the customer. Evaluations may take several hours, depending on the size and complexity of the home. Customers should be present during the evaluation because part of the evaluation includes questions to the occupants of the home. Some information may be gathered by phone before the evaluation to minimize time in the home.

During the evaluation, energy efficiency opportunities will be identified, such as weatherization, air sealing, mechanical system improvements, and upgrades in the home's insulation or windows and doors. An initial estimate of the cost to implement Improvements will be input into the report to create a ranking of the Recommendations, based on projected return on investment. Participants choosing to make Improvements should compare actual estimates they receive for contracted work and materials against the Evaluator's estimated costs.

Every Evaluation will result in a detailed listing of recommended energy Improvements that will be presented in a report to the Participant. The report prioritizes Recommendations based on a projected savings investment ratio. Participants will also receive program materials with information to assist them in selecting and implementing Improvements to their home.

Delivery - Implementing Recommended Improvements Process

Participants who wish to make energy Improvements to their home from the list of Recommendations in their In-Home Energy Evaluation report shall refer to the package of materials left with them. Customers will need to consider each of the following:

- All approved Recommendations must be completed within 90 days of signing the Participation Agreement.
- Power distributor should be contacted for an In-Home Energy Evaluation; Participant should complete "Agreement to Participate" and other forms from package as applicable.
- If Recommendations require selection of a QCN contractor:
 - Receive estimates from contractors on local QCN list
 - Choose contractor(s)
 - Advise In-Home Energy Evaluation representative
 - Schedule work
 - Open home for on-site inspection of completed work.
- If planning to self-install, has work been approved by power distributor for self-installed?
 - Participant should check Plan materials for listing of Recommendations eligible for incentives.
- Do Improvements qualify for incentives?
 - Participant should check Plan materials for listing of Recommendations eligible for incentives.
 - If Recommendation qualifies for either cash rebate or financing, Participant should select which incentive they are requesting
 - If requesting financing, approval forms in package should be completed by the Participant. Loan approval must occur before work begins on the home. Note: refer to financing limits in Retrofit Incentive Schedule in the contract.

- Maximum loan amount for all Improvements is \$20,000. Note: if Participant has existing loan balance with distributor from prior participation in the Heat Pump Plan, the maximum loan amount will be less than \$20,000. A Participant may take out an additional loan for the Improvements provided that the total outstanding balance of all loans does not exceed the loan limit of \$20,000.
 - Required forms delineating cost of services shall be submitted to the power distributor. Note: cash incentives are up to 50% of customer cost up to Limit specified in Retrofit Incentive Schedule found in the contract. If self-installed, labor charges are not reimbursable costs.
 - If the power distributor participates in the TVA Heat Pump financing program, the power distributor may also offer financing to Participants in the In-Home Energy Evaluation Plan.
 - If Improvements include installation of a heat pump system, the maximum amount financed for the system is limited to the current Heat Pump loan limits in the Program Financing Guidelines.
 - For weatherization Improvements, the financing term is limited to a maximum of 3 years at the Promotional Rate.
 - Energy Finance Solutions (EFS) is another financing option. EFS funds and services all loans. For more information, the power distributor should contact the local Energy Efficiency and Demand Response representative.
- All Improvements made shall be subject to verification or post-installation inspection.

The Quality Contractor Network

The QCN is a network of pre-approved contractors with experience and qualifications to perform installation services under the Plan. The QCN list is published locally in each participating power distributor area and includes only those members from TVA's master list that have been approved by the local distributor for their customers. A copy of the local QCN list shall be made available to each Participant who completes an onsite evaluation. Participants may select from this list of contractors to perform installation services required for approved Recommendations.

Incentives and Reimbursements

Incentive applications will be processed upon verification that Improvements have been installed as required.

Incentives shall be paid to the power distributor by an electronic payment method. Power distributor shall disburse either a cash rebate or set up a loan to the Participant after approved installations have passed inspection.

Training

TVA will periodically and upon request provide the following training:

- Evaluator (to perform Evaluations)
- QCN
- Inspector

Forms

All forms related to the program will be included in the Program Reference Manual and QCN manual.