Home Energy Rebates Photo Collection Recommendations

December 12, 2024

Introduction

The Inflation Reduction Act includes two provisions authorizing the U.S. Department of Energy to carry out $8.8 billion in grant awards through two home energy rebate programs: Section 50121: Home Efficiency Rebates ("HOMES") and Section 50122: Home Electrification and Appliance Rebates ("HEAR").[1] Together, these provisions provide an unprecedented opportunity to help American households lower energy bills, improve energy efficiency, and upgrade to clean energy equipment, with an overarching goal of accelerating the transition to more affordable, efficient, resilient, and low carbon homes. As part of the federal HOMES and HEAR Program requirements, states and territories ("states")[2] who will design and implement these programs are required to establish program oversight procedures and protocols.[3] This document is intended to help states understand photo collection requirements and considerations, as well as outline DOE recommendations for best practices.

Key Photo Requirements & Guidance

Per DOE Program Guidance, states must design program processes to address the following:

Table 1: Key Photo Requirements & Guidance

Phase of Installation	HOMES Program	HEAR Program
Prior to Installation	N/A	Geotagged photos of pre-existing equipment/conditions must be collected for appliance installations.[4]
During Installation	Proof of a quality installation for all completed home upgrades must be collected by states; states may choose to require photos as their means to satisfy this requirement.[5]	Proof of a quality installation for all installations completed by state qualified contractors must be collected by states. Additionally, proof of combustion safety testing must be collected when applicable.[6] States may choose to require photos of the

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[1] *See* 42 U.S.C. 18795 and 18795a; Program Requirements. https://www.energy.gov/scep/articles/home-energy-rebate-programs-requirements-and-application-instructions
[2] For the purposes of this document, "states" means, collectively or individually, the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands.
[3] See Program Requirements Sections 3.2.5 and 4.2.5.
[4] See Program Requirements Section 4.2.4. https://www.energy.gov/scep/articles/home-energy-rebate-programs-requirements-and-application-instructions
[5] See Data and Tools Requirements Guide Section 2.2. https://www.energy.gov/scep/articles/ira-home-energy-rebates-data-and-tools-requirements-guide
[6] See Data and Tools Requirements Guide Section 3.2. https://www.energy.gov/scep/articles/ira-home-energy-rebates-data-and-tools-requirements-guide

Phase of Installation	HOMES Program	HEAR Program
		installed products and/or safety test results to satisfy these requirements.[7]
Post-Installation	Geotagged photos (i.e., photos that contain data tags indicating the latitude and longitude of a camera's location when they were captured) must be collected for all completed home upgrades completed.[8]	Geotagged photos must be collected for all installed products (i.e., appliances and building materials) rebated under the HEAR programs.[9] Notably, where a retailer or distributor is being reimbursed with a rebate, a state program can collect geotagged photos of product delivery in place of post-install photos.[10]

Developing Photo Collection Resources

While designing HOMES and HEAR photo resources, DOE recommends states consider the following:

- Based on your program design, which program participant (e.g., consumer, contractor, implementer) will likely be tasked with the capturing and transferring of photos?

- What guidance has that participant been offered on the purpose of the photo collection (e.g., equipment verification, quality assurance)?

- What guidance has that participant been provided on how to capture the photos (e.g., geotagging definition and instructions, requirement to capture product nameplate)?

- How (if at all) will this guidance vary for different product installations?

- How and when will this guidance be made available to participants (e.g., built into rebate application portals, provided as PDFs)?

- Once received, how and by whom will photos be reviewed (e.g., randomly selected or based on pre-screen)?

- What guidance has been provided to the photo reviewer (e.g., implementer, state energy office)?

Geotagging Considerations

Per federal HOMES and HEAR program guidance, pre- and post-install photos are required to be geotagged. To satisfy this requirement and consider a photo "geotagged", all photos **must** be taken with a camera with a built-in global positioning system (GPS).

States should strongly consider providing geotagging guidance for the following steps:

1. Capturing Geotagged Photos: Most modern smartphones have built-in GPS, which will automatically geotag photos when the geolocation settings are configured. To capture geotagged photos with a smartphone,

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[7] States should consider using the PNNL Quality Install Tool. https://www.pnnl.gov/projects/quality-install-tool

[8] See Data and Tools Requirements Guide Section 2.2. https://www.energy.gov/scep/articles/ira-home-energy-rebates-data-and-tools-requirements-guide

[9] See Program Requirements Section 4.2.4. https://www.energy.gov/scep/articles/home-energy-rebate-programs-requirements-and-application-instructions

[10] See footnote 68 of the Program Requirements. https://www.energy.gov/scep/articles/home-energy-rebate-programs-requirements-and-application-instructions

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smartphone settings to enable location services must be turned on at the time of photo capture. Steps may vary based on the type of device being used and the operating system.

2. Transferring Geotagged Photos: Once a geotagged photo has been captured, device-specific steps must be followed to avoid losing a photo's geotagged metadata when transferring a photo between devices (e.g., mobile phone or tablet to computer) or when emailing.

3. Verifying Geotagged Photos: To confirm that camera settings have been configured correctly or when an image is transferred from one device or another, it is important to verify that images contain their associated geotagged metadata.

Please note, some devices and operating systems may prevent the transfer of geotagged metadata. In these cases, states may request DOE approval to record and verify the geolocation of a photo's capture by requiring program participants to submit screenshots of the geotagged data associated with pre- and post-installation photos and/or by requiring implementers to record the latitude and longitude coordinates pulled from a photo's upload.

Additional Resources for Review

- Program Requirements and Application Instructions: This document provides the program requirements, application requirements, and application instructions for both Home Energy Rebate programs available to State Energy Offices.

- Data and Tools Requirements Guide: This guide delineates the data and information that states must collect, retain, and/or report to DOE prior to launch as well as throughout the course of the Home Energy Rebate programs. It provides details related to requirements noted in the Program Requirements and Application Instructions document.

- Quality Installation in the Home Energy Rebates Program: This resource compiles requirements, recommendations, and resources for states to use when designing the quality installation portions of their program design.

- Home Energy Rebates Frequently Asked Questions (FAQs): Questions and answers regarding the Home Energy Rebates programs. These are considered extensions of the Program Requirements.

- PNNL Quality Install Tool: This tool simplifies, standardizes, and expedites the creation of high-quality installation documentation using photo-based prompts throughout the process, and automatically generates a presentable Quality Install Report PDF that can be saved, emailed, or printed.

- **(NEW)** Geotagged Photo Example Guides: These guides provide step-by-step, device specific instructions for capturing and transferring geotagged photos, as well as for viewing geotagged metadata. States interested in using the content in their own guides should contact their DOE Project Officer to request editable documents.

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