



# Advanced Home Upgrade

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## Pre-Installation Application

### Create Project in the Contractor Portal

1. Select Contractor name in drop down (if applicable, BA providing service for numerous contractors)
2. Select 'New Project'
3. Insert project address
  - Building type (Drop-down menu)
  - Apartment/Unit #, if Single Family Attached is selected
4. Complete Building details, by selecting edit (pencil)
  - Year Built
  - Conditioned Sq. Ft
  - Average Ceiling Height
  - Front of house orientation
  - Number of Bedrooms
  - Number of Stories
  - Number of Occupants
  - Foundation type (Slab-on-grade, Crawlspace, No-crawlspace)
    - Foundation type (Vented/Not vented)
  - Attic Present
    - Attic venting (Vented/ Not Vented)
  - Existing Wall insulation
  - In-ground pool
  - Electric provider (Is the home All Electric?)
  - Gas provider
5. Select Primary HVAC distribution
  - Ducted/Not Ducted
  - Systems (select all) Heating /Cooling
    - Heating System Fuel (Natural Gas, Electricity, Propane)
    - Heating System Type (Forced-Air, Gravity, Mini Split)
    - Gas Forced Air Type (Furnace, Hydronic)
    - Gas Mini Split (Number of Heads)
    - Electricity Forced Air (Heat Pump, Hydronic)
    - Cooling System Type (Evaporative, Split, Packaged)
6. Add Secondary systems (If applicable)
  - Repeat step 4 if second heating is applicable.
7. Primary Water Heater
  - Fuel (Natural Gas, Electric, Propane)
  - Type (Storage or Tankless)
8. Add secondary water heater (if applicable)
  - Repeat step 6 if second water heater is applicable

**Important:** Make sure to fill out all of the requested information completely. New sections will not become available until the current one is completely filled out.

**"Save"** when completed.



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## Complete Utility Service Info Tab

- Electric Service ID number (Unique 10-digit number for PG&E accounts only)
- Gas Service ID Number (Unique 10-digit number for PG&E accounts only)
- First Name
- Last Name
- Email address
- Phone number

**Important:** Make sure to fill out all of the requested information completely. New sections will not become available until the current one is completely filled out.

“Save” when completed.

## Select Measures

- Wall Insulation
- Attic Insulation
- Floor Insulation
- Air Sealing
  - 15% or 30% building leakage reduction
- Duct Replacement
- AC Replacement
- Heating Replacement (No fuel switching allowed)
  - Sealed Gas Furnace, Heat pump
- HPHI Ultimate Comfort (Required for jobs in BayREN Territories)
- Water Heater Replacement (No fuel switching allowed)
  - Storage Gas, Condensing Storage Gas, Storage Electric)
- Smart Thermostat
- Interior Lighting
  - Number of units (Fixtures, up to 25)

**Important:** Make sure to fill out all of the requested information completely. New sections will not become available until the current one is completely filled out.

“Save” when completed.

## Project Info

- Proposed EE Measures Cost (Measures cost is equipment and installation labor only. Do not add costs for removal of old equipment/materials, patching, testing or other items.)
- Proposed Total SOW Cost
- Test-In Date
- BPI Analyst (Dropdown menu)
- Work Start Date (Actual or estimate)
- Work Finish Date (Actual or estimate)
- Documents
  - Contract/Proposal/SOW (Accepted files types png, jpg, jpeg, gif, pdf, doc, docx, xls)
  - Test In Measurements (CAS) Form



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## Complete Contract-Signing Customer

- If the contract-signing customer is the same as the PG&E Account Holder, slide button to move to next section.
- If the contract-signing customer is not the same as the PG&E Account Holder, fill out the name, email, and phone number.
- The information entered here should be for the person who signed the work contract (a.k.a., the rebate payee/recipient, unless payee is the Contractor. Do not enter if payee is the Contractor.)
- If mailing address is the same as the building address, slide button to right and hit Save & Next.
- If mailing address is not the same as the building address, fill out address, city, state, and ZIP code.

**Important:** Make sure to fill out all of the requested information completely.  
“Save” when completed.

## Incentive Assignment

- Send check to:
  - PG&E Account Holder, Contractor, Other (Landlord/tenant)
    - If the incentive is being paid to anyone other than the PG&E Account Holder, make sure to complete a Payment Authorization Form to upload here.
  - Verify mailing address and name are correct if selecting ‘Other’

**Important:** Make sure to fill out all of the requested information completely.  
“Save” when completed.

## Upload attachments in Supplemental info

- Photos of unusual conditions and/or extenuating circumstances (manometer values, attic insulation, damaged duct system, asbestos, etc.)

## Select Submit

## Post-Installation Application

### Select Project Name

- **Measures:**
  - Insulation- (Attic insulation, Floor insulation, Wall insulation)
    - Enter measure cost (measures cost is equipment and installation labor only.)
    - Enter existing R-value.
    - Upload photo of existing conditions
    - Enter upgraded information (Sq. ft., R-Value)
    - Upload pictures of upgrades
  - Air Sealing -
    - Select measure type -
      - 15% or 30% building leakage reduction
      - Measure cost (measures cost is equipment and installation labor only.)
  - Duct Replacement -
    - Measure cost (measures cost is equipment and installation labor only.)
    - Enter existing R-Value
    - Select existing duct type (Rigid or Flex)
    - Select Presumed Asbestos (Y/N)
  - AC Replacement
    - Enter Measure Cost (measures cost is equipment and installation labor only.)
    - Upload photos of existing AC unit
      - Manufacturer Label
      - Outdoor Unit
    - Enter new unit info
      - SEER, EER Capacity (BTU)
      - Select Manufacturer
    - Upload pictures of new unit
      - Manufacturer label (New unit)
    - Upload AHRI certificate
  - Heating Replacement
    - Enter measure cost (measures cost is equipment and installation labor only.)
    - Upload photo of existing Heating system
      - Heating Unit
      - Manufacturer
    - Enter new unit info
      - AFUE (92 to 99)
      - Capacity (BTU)
      - Select Manufacturer
    - Upload picture of New Heating system
  - HPHI Ultimate Comfort - Must have completed training and certified by BIG
    - Enter Measure cost (measures cost is equipment and installation labor only.)
    - Enter HPHI assessment date
    - Enter Delivered efficiency value

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- Select HPHI installer
- Upload HPHI Installer worksheet (Accepted file type: xls)
- Water Heater Replacement
  - Select Measure type
    - Storage Gas
    - Condensing Gas
    - Electric Storage
  - Enter Measure cost (measures cost is equipment and installation labor only.)
  - Upload photo of existing system
    - Water Heater photo
    - Manufacturer label photo
  - Enter New Unit info
    - Enter Efficiency- .70 to .89
    - Efficiency Measurements EF/UEF (Energy Factor, Uniform Energy Factor)
    - Enter tank size (gallons)
    - Enter Capacity (BTU)
  - Upload picture of new Water Heater
    - Manufacturer label
- Smart Thermostat
  - Enter Measure cost (measures cost is equipment and installation labor only.)
  - Select Manufacturer
  - Upload Wifi Connection Confirmation (Photo)
- Interior Lights
  - Enter Measure Cost (measures cost is equipment and installation labor only.)
  - Enter number of Units (fixtures) up to 25
  - Upload picture of existing lighting fixture
  - Upload picture of new lighting fixture

**Important:** Make sure to fill out all of the requested information completely.

“**Save**” when completed.

## Project Info

- Enter Actual EE Measures Cost (measures cost is equipment and installation labor only.)
- Enter Actual Total SOW cost
- Enter Test-in Date
- Select BPI Analyst
- Select Yes/No (Did this home get a pre-installation Home Energy Score (HES)?)
- Select Yes/No (Did this home get a post-installation Home Energy Score (HES)?)
- Enter Work Start Date
- Enter Work Finish Date
- Upload Final Signed SOW / Invoice
- Upload Test-out Test Measurements form



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**Important:** Make sure to fill out all of the requested information completely.

“Save” when completed.

## Contract-Signing Customer

- Slide button to right if the PG&E account holder is the same as the applicant.
- If other than Account Holder, please complete the following fields
  - First Name
  - Last Name
  - Email address
  - Phone Number
- Slide button if Mailing Address is the same as the building (Project) address

**Important:** Make sure to fill out all of the requested information completely.

“Save” when completed.

## Incentive Assignment

- Send Check to (Select)
  - PG&E Account Holder, Customer, Contractor, Other
    - If the incentive is being paid to anyone other than the PG&E Account Holder, make sure to complete a Payment Authorization Form to upload here.
- Enter Name
- Enter Phone Number
- Enter Mailing Address, city, State and zipcode
- Upload Payment Release Authorization

**Important:** Make sure to fill out all of the requested information completely.

“Save” when completed.

## Supplemental Info: (Accepted file types png, jpg, jpeg, gif, pdf, doc, docx, xls)

Upload Photos unusual conditions and/or extenuating circumstances (manometer values, attic insulation, damaged duct system, asbestos, etc.)

- Upload specification sheets
- Closed/Finalized building permit (if heat pump or AC measures have been installed); copy of open or closed building permit for any Scope of Work that required one (check with your local code enforcement).
- Pictures demonstrating Duct Leakage to Outside (DLTO) was performed and of any unusual conditions and/or extenuating circumstances (manometer values, attic insulation, damaged duct system, asbestos, etc.)
- Home Energy Score results and documents (if Applicable)
- Safety & Quality Acknowledgement Form



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Notes box:

\*\*\*Please use the comment box for additional notes that you would like us to know about the application. If you have unusual existing conditions or extenuating circumstances, you can describe them in this field. Helping answer desktop reviewer questions before they ask can make for a more efficient process.

**Select Save & Collapse**

## [Document Library Resources \(www.homeupgrade.org\)](http://www.homeupgrade.org)

### Participation Tab

- Participant Handbook

### Installation Tab

- Home Upgrade Installation Specs
- [2019 Whole House Combustion Appliance Safety Test Procedure](#)
- [2019 NGAT Action Guidelines](#)
- [2019 Make Safe Procedure](#)

### Submitting Jobs Tab

- PG&E Test-Measurements form V 1.15.3
- [Safety & Quality Acknowledgment form](#) (with Permit copy and/or information if applicable)
- 2-4 unit Test-Measurement form V 1.13
- [Rebate Assignment Form](#)
- Data Share Email/Mail Form
- QA Desktop Review Checklist FAQ's



## Job Submission Testing Requirements

### Combustion Safety (required for all homes with gas appliances)

- Whole House Ambient CO is always required for **all** homes (including those assumed to be all electric)
- CO monitors are required for **all** homes, including all electric homes. Most Negative (Worst Case) depressurization is required for testing for spillage at **all** gas appliances (Furnace, DHW, Gas log fireplace, etc.)
- CAS Zone Identification/Testing (Base/Worst)
- Gas line testing for **all** accessible gas lines
- Airfree CO testing for **all** Gas Appliances with Single Flue (Furnace, DHW, Stove/Oven, Gas Fireplace)
- Ambient CO is always required for all operable gas appliances
  - (Furnace, DHW, Stove/oven/broiler, gas log fireplace)
- Ambient CO on “All Furnace types” are required to be tested at the register closest to the unit
- All Combustion Safety failures must be corrected by Test-Out and included in the Contract/SOW

### If Unsafe Conditions Are Found

- The participating contractor must make the repair onsite or determine if the ‘Make Safe Procedure’ (MSP) applies. If unsafe conditions persist, a PG&E Gas Service Representative (GSR) must be contacted. Collect the **Field Order Number** during your call to PG&E GSR. Provide **Field Order Number** in notes section of the Test Measurements Form (Refer to PG&E Whole House Combustion Safety Procedure and the NGAT Action Guidelines found the document library).
  - **To contact PG&E's GSRs: call (800) 813-1975 during business hours, or (800) 743-5000 after 5:30 pm or on weekends. To Contact SoCal Gas: (800) 427-2200**
  - **Important: For propane jobs, PG&E GSR is not available. CAS failures at propane jobs must be corrected or facilitated by the participating contractor. If propane CAS failures are detected at the field quality control inspection, the participating contractor is responsible for performing or facilitating the corrections.**

### 2 – 4 Unit Testing (Single-family attached homes)

- Residential buildings with up to four units are eligible. Homes with 2-4 unit conditions include homes with shared framing and building assemblies (walls, ceilings, roofs, floors, etc.)
- Homes with mastered meters, shared domestic hot water heater, and shared HVAC are ineligible for the PG&E Advanced Home Upgrade Program.
- It is required that you submit with the 2-4 unit Test Measurement form (**Document Library, Submitting Jobs Tab**). Combustion safety testing is required for each attached unit.
- All heating and domestic hot water appliances for all units must be either (1) power vented or closed combustion, (2) moved outside the building shell (including garages and attics), or (3) sealed off from the living space such that there is adequate combustion air and combustion gases are appropriately exhausted. All units must comply with this requirement, but they need

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not undergo any other upgrades or file an application for an incentive if they are owned by the same person.

- The contractor's BPI Building Analyst's first potential 2-4 unit building project test-in process must be observed by a Build It Green field verification professional. This process may include on-site mentoring and training.
- Field observation of the same BPI Building Analyst is also required for the test-out of a participating contractor's first 2-4 unit building project. This process may include on-site mentoring, training, or quality assurance.
- Contact [fieldqc@builditgreen.org](mailto:fieldqc@builditgreen.org) or call 510.590.3360 ext. 607 to schedule a 2-4 unit observation.
- If these observations are successful, the BPI Building Analyst will be allowed to continue to perform testing on additional 2-4 unit buildings and submit project applications for the PG&E's Advanced Home Upgrade Program for these building types.
- For additional guidance, see 2-4 Unit Building Requirements in the [Documents Library – Installation Tab](#).

## Duct System

- Must use the same testing method at test-in and test-out, either Duct Leakage to Outside (DLTO) or Total Duct Leakage (TDL).
- The measure is for duct system replacement. It's possible that less than 100% of the system is accessible; however, all accessible ducts must be replaced and reach 5% or better system leakage to claim the measure.
- Multiple duct systems should be measured separately. In the notes section of the Test-Measurements form, list each system and CFM25.

## HPHI Ultimate Comfort

- Has two incentives: an incentive directly to the contractor (\$1,200) AND an incentive to the customer (\$500 - \$1,000 depending on climate zone).
- Meet 7 Residential HVAC System Commissioning Specifications including Delivered Sensible EER @ 85% or better (85% Delivered Heat for Furnaces)
- BayREN territories requires 5 measures, one of which is HPHI Ultimate Comfort, in order to participate.

## Building Leakage

- 0.35 or better ACHn target, 0.5 ACHn minimum performance, achieved in accordance with BPI standards and ventilated per ASHRAE 62.2. (installation of balanced Heat Recovery Ventilation recommended)
  - 15% building leakage reduction (pre vs. post)
  - 30% building leakage reduction (pre vs. post)
  - Test-in cfm50 x 0.85=15% target for Test-out
  - Test-in cfm50 x 0.70=30% target for Test-out
- For a helpful resource, Build It Green has created a Building Leakage Calculator (BLC) to assist in calculating estimated leakage reductions. This calculator will provide targets based on .35, 0.5 ACHn. Feel free to contact [desktopqareview@builditgreen.org](mailto:desktopqareview@builditgreen.org) if you have any questions.

- You can find the Building Leakage Calculator on the Resource page under Submitting Jobs at Homeupgrade.org
- If building leakage exceeds two times the total square footage of the home, a photo of the manometer reading (CFM50) is required as well as photos of the open cavities.
- Whole house mechanical ventilation per ASHRAE 62.2 and version compliance (e.g., ASHRAE 62.2-2010 or ASHRAE 62.2 2013) noted on the CAS form. Recommendations made to the homeowner for mechanical ventilation should be noted on the test measurement form.
- ACHn should be calculated based on the volume and LBL N Factor of the residence. All ventilation recommendations should be based on the ASHRAE 62.2 requirements.
- Avoid common installation failures: Ensure all CAS doors are weatherstripped and sealed. Penetrations in the ceiling plane, including light fixtures, exhaust fans, speakers, and attic hatches, should be sealed (if accessible) with appropriate materials.

## Building Assembly Specifications

### Insulation

- **Wall Insulation:**
  - R value  $\geq 13$  (2x4 framing) or R value  $\geq 19$  (2x6 framing), installed per CEC QII Standards.
- For Walls, CEC assumes R-0 as the "Default Prior to 1978". Building vintages 1978 or newer should not be entered as R-0 unless they provide IR camera photos documenting lack of insulation as the dominant existing condition.
  - R-0 or higher Prior to 1978 (No Photos Required)
  - R-9 to R-11 (1978-1991 home)
  - R-10 to R-13 (homes 1992 or newer)
- **Attic Insulation:**
  - R-44 or better, installed per CEC QII standards. Existing insulation maximum R19 in CZ 2, 3, 5. Existing insulation maximum R30 in CZ 1, 4, 11, 12, 13, 16.
- If you are installing attic insulation, you are required to consider Heat Producing Devices (HPDs) and appropriately address any potential hazards prior to installation. For more information regarding HPDs (including Knob-and-Tube electrical wiring), please reference the SQA form, Participant Handbook and/or Installation Specifications on the Document Library.
- The existing attic insulation must meet program requirements. If you are claiming below vintage tables, photos are required (including one w/ruler showing depth of insulation and photos from a distance showing context of the attic plane).
- Attic hatches must be insulated up to the level of insulation claimed on the application and installed in the attic.
  - R-8.23 for 'effective Default Prior to 1978' homes with 16" OC
  - R-8.93 for 'effective Default Prior to 1978' homes with 24" OC
  - R-15.93 for 'effective Default 1978 to Present' homes with 16" OC
  - R-16.53 for 'effective Default 1978 to Present' homes with 24" OC
- **Floor Insulation:**
  - R value  $\geq 19$ , installed to full-joist thickness, per CEC QII Standards.

## Lighting

- PG&E accepts pin-based, high-efficacy LEDs. This does not include screw-in LEDs.
- Include bulb type code (e.g., GU10, MR16, etc.) so that FQC can confirm these in the field. These are subject to inspection after installation.
- CFLs do not qualify for upgrade incentives in the program.
- Up to 25 per dwelling unit

## Equipment Specifications

### Heating Systems

- Sealed Gas Furnace: 92% AFUE or better
- All Sealed Combustion (condensing, PVC flues) furnaces require ambient CO at appliance and CO reading in nearest supply register

### Air Conditioning Units

- Split AC: SEER 15.0 / EER 12.5 or better Packaged AC: SEER 15.0 / EER 12.0 or better
- Copy of finalized/closed HVAC permit and AHRI certificate (for installed AC equipment) required for all AC upgrades

### Domestic Water Heaters

- Gas Storage Water Heater
  - 0.70 EF/UEF or better
- Condensing Gas Storage Water Heater
  - 0.90 EF/UEF or better (Sealed Combustion)
- Electric Storage Water Heater
  - 3.24 EF / 3.09 UEF or better
- DHWs located “outside” of the building shell (but attached to the building) need to be CAS tested to determine if there is any communication with the living space. Please provide pictures and specify location in the notes section of the CAS form.
- These “outside” locations include utility closets attached to the home with an exterior access door, attached garage, or similar (i.e., any space with walls, roof and door that is attached or connected to the home via building assembly).

### Pool Pumps

- CEC Title 20 compliant variable speed pool pump replacing existing single or two-speed pump (primary in-ground pool system only; no jacuzzis)
- Existing pool pump must be assessed, and upgraded pool pump must be installed by a Certified Aquatic Equipment Installer (CAEI).



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- Refer to [fpsie.org](https://www.fpsie.org) to search for CAEI's to partner with in your area or register for upcoming trainings.
- The Model, Make, Horsepower of the upgraded pool pump is required to be called out on the Scope of Work.
- Pictures of the name plate are required for all Pre-Installation Applications.

## Heat Pumps

- Heat Pump: 9.0 HSPF or better
- Copy of finalized/closed HVAC permit and AHRI certificate (for installed heat pump equipment) required for all heat pump upgrades.

## Smart Thermostat

- EnergyStar certified Smart Thermostat. Must be Wi-Fi enabled and confirmed via test login.

## General Job Submission Tips

### Utility Incentive Qualifications

Customers must receive gas or electric service from PG&E and/or SoCalGas® with respect to the measure installed for any given project to be eligible for a rebate. For example, a customer must receive gas service from PG&E and/or SoCalGas® to qualify for a gas water heater rebate. A customer must receive electric service from PG&E to qualify for an electric water heater rebate. PG&E electric Customers who use propane fuel for water or space heating are only eligible for rebates for electric savings.

Qualifications for different measures are dependent on PG&E provided fuel.

- All electric: PG&E all electric Customers with no PG&E gas qualify for all electric fuel measures (no propane fuel measures)
- PG&E electric: Customers receiving electricity from PG&E qualify for all measures using electric fuel
- PG&E gas: Customers receiving gas from PG&E qualify for all measures using gas fuel
- SoCalGas®: Customers receiving electricity from PG&E and gas from SCG qualify for all gas and electric fuel measures
- Other providers:
  - Customers receiving electricity from PG&E but gas from another non-SCG provider qualify only for electric fuel measures
  - Customers receiving gas from PG&E but electric from another provider qualify only for gas fuel measures

## Data Sharing

Data sharing can be done online or through mail or email.

- In the field, you can use the BIG Data Share link (<http://build-it-green-portal.webflow.io/>) to sign customers up for openEE. This will streamline the submission process for the job.
- Otherwise, complete the following steps:
  - Customer signs into or registers their account on PGE.com
  - Scroll to the bottom of the dashboard and select “Share My Data”.
  - Select Build It Green under the “Add new authorization” drop down and click “Next”.
  - Leave “Indefinite” checked and click “Submit.”
- To register by mail or email, download the Data Share Email/Mail form under the [Documents - Submitting Jobs](#) tab of our website.
  - Complete “Step 1: Authorization Details” on Page 1
  - Complete “Service Agreement IDs to be Authorized” on Page 2
  - Complete “Step 2: Agree to Share My Data Terms and Conditions” on Page 4
  - Submit via addresses listed under “Step 3: Submit Form Via Email or Mail” on Page 4.

## Asbestos

- The BPI Analyst should determine if it is safe to test Duct System or Building Leakage. If testing will not be conducted, then:
  - Pictures of presumed asbestos containing material (PACM) need to be uploaded
  - R-Value of asbestos-coated/wrapped ducts is should be modeled as R-2.1
  - Include in the Contract/SOW what company will be used for asbestos abatement by noting the company name and license number.
  - Building and/or duct leakage measurements not taken due to the presence of PACM must use CEC’s vintage table default(s) for energy modeling.

## Scope of Work/Contract/Invoice

(accepted file type: png, jpg, jpeg, gif, pdf, doc, docx, xls, xlsx)

- The Contract/SOW must have the Participating Contractor’s business name, address, and phone number
- The Contract/SOW submitted for Post-Installation Application must include customer signature and date of signature.
- Contract/SOW must include all EUC upgrade measures. Proposed and/or completed project costs must be entered into the rebate application submission portal and should only include those eligible EUC upgrade measures.
- Work scope that is performed by subcontractors must be included in the Participating Contractor’s SOW document. Subcontractors must abide by the same Program requirements as the Participating Contractor.
- Upgraded equipment that switches fuel consumption for all or part of its heating and/or cooling function (i.e., “fuel-switching”) is not eligible (gas-to-electric or electric-to-gas).
- Proposed/Completed cost should only include installation of measures, labor, and measure cost.
- Upgrade measure information to detail on the Contract/SOW (including, but not limited to):
  - Air Sealing: 15% or 30% leakage reduction

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- Heating: AFUE or HSPF and heating capacity (in BTUs)
- Cooling: SEER, EER and cooling capacity (in BTUs or tons of cooling)
- Ductwork: duct insulation (type and R-value), sealing/percent leakage
- Attic: attic insulation (type and R-value)
- Walls: wall insulation (type and R-value)
- Floor: crawl space insulation (type and R-value)
- DHW: Energy Factor, type, storage capacity, heating capacity (in BTUs)
- Pool Pump: Make, Model number, Horsepower, type (i.e., variable speed) and name of CAEI assessor and installer company/individual
- Lighting: Number of pin-based LEDs replacing existing CFL or incandescent light fixtures
- Smart Thermostat: Make, Model number

## Credential Document Requirements

- Auto Liability Insurance
- BPI Certification
- General Liability Insurance
- CA State Contractor's License
- Worker's Compensation Insurance
- W-9 (Contractor payee)

***Please Note:*** This checklist is intended to address typical use circumstances and best practices. It is no way intended to address every circumstance or potential issue encountered by program participants in the Program.

For more information on measures that qualify, please refer to the Participant Handbook in the [Documents Library – Participation Tab](#).

Questions, comments, updated credentials? Email [jobs@homeupgrade.org](mailto:jobs@homeupgrade.org)