



Job Submission Guide

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Pre-Installation Application

Create Building in the Contractor Portal

1. Insert building information and save
 - Building Name
 - Street Address including City, State, and Zip Code
 - Building type (Drop-down menu)
2. Complete Building Information
 - **Important:** Make sure to fill out all of the requested information completely. **“Save”** when completed.
3. Complete Contract-Signing Customer Information
 - If the rebate recipient is non-account holder, then input name and mailing address in this field.
 - 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.
 - **Important:** Make sure to fill out all of the requested information completely. **“Save”** when completed.
4. Complete Utility Service Information
 - Account Holder First and Last Name
 - Account Holder Phone
 - Electric Utility Provider (Drop-Down menu) and Service ID
 - Gas Utility Provider (Drop-Down menu) and Service ID
 - **Important:** Make sure to fill out all of the requested information completely.
5. Select “Next” to continue with creating application
 - Verify Building/Dwelling Unit is correct
 - Input Proposed Installation Cost for Energy Efficiency measures claimed in the application
 - Input Test-In Assessment Date (Test-in data **must** be submitted within **120 days** of assessment)
 - Select Rebate Recipient (Account Holder, Non-Account Holder, or Contractor Payee)
 - Input BPI Analyst
 - Either select a BPI Analyst from the drop down menu or add the BPI Analyst information and upload BPI card (front and back). Add a note to the application to notify of Analyst contact information, employee or independent third-party status

Upload attachments only in the designated fields

- Scope of Work/Contract/Invoice
- Pre-Install ‘Audit’ Energy Modeling Output/HPXML File (.XML from SnuggPro or OptiMiser only)
- Pre-Install ‘Audit’ Energy Modeling Report/Input File (.PDF - from SnuggPro or .OPT from OptiMiser)



- Test-In Measurements (CAS) Form – currently v.1.15
- Use the electronic copy only, found in the [Documents Library, Submitting Jobs Tab](#). Download the form to desktop and open from Adobe Acrobat, does not open in a browser).
- Please completely fill out the Test-In CAS form with all data collected during the assessment
- Photos of unusual conditions and/or extenuating circumstances (manometer values, attic insulation, damaged duct system, asbestos, etc.)
- Complete Home Energy Score fields as applicable for Pre-Install

Select Continue

- Review data inputs
- Add additional notes
- Select “submit”



Post-Installation Application

Select Application number

- Completed Project Cost (EUC upgrades only)
- Complete work date
- Test-Out Date (Test-out must be submitted within 60 days of work completed)
- Confirm Rebate Recipient (Account Holder, Non-Account Holder, or Contractor Payee)
- Select BPI Analyst
- Complete Home Energy Score fields as applicable for Post-Install

Upload attachments

- Customer Signed Scope of Work
- Post-Install 'Retrofit' Energy Modeling Output/HPXML File (.XML from SnuggPro or OptiMiser only)
- Post-Install 'Retrofit' Energy Modeling Report/Input File (.PDF - from SnuggPro or .OPT from OptiMiser)
- Test-In Measurements (CAS) Form – currently v.1.15
 - Use the electronic copy only, found in the [Documents Library, Submitting Jobs Tab.](#) Download the form to desktop and open from Adobe Acrobat, does not open in a browser).
 - Please completely fill out the Test-In form with all data collected during the assessment.
- Home Energy Score results and documents.
- Safety & Quality Acknowledgement Form
 - Use the most current version in the [Documents Library, Submitting Jobs tab](#)
 - This form must be completely filled out with Homeowner information, homeowner signature, and dated. HVAC Permit Information (including number and agency, if applicable) and Heat Producing Device (HPD) Verification signed and dated by the contractor.
- 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.)
- Rebate Assignment Forms:
 - **Account Holder:** This is the default rebate recipient. If *account holder* is selected, no rebate assignment document is required to be uploaded.
 - **Contractor Payee or Non-Account Payee:** If either *contractor payee* or *Non-Account Holder* is selected, then the user must upload the Rebate Assignment Form.
 - Use the most current version from the [Documents Library, Submitting Jobs tab](#)
 - This form should be completed whenever the incentive should go to the Contractor or landlord/property owner.



Select Continue

- Review data inputs
- Add additional notes*
- Select **submit**

***Notes Section:** *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.*



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

[Participation Tab](#)

- Participant Handbook

[Installation Tab](#)

- Home Upgrade Installation Specs
- 2016 Whole House Combustion Appliance Safety Test 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
- 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 and must be submitted through the Advanced Home Upgrade pathway. 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 Energy Upgrade California 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 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 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 Energy Upgrade California Program for these building types.
- For additional guidance, see 2-4 Unit Building Requirements in the Documents Library – Installation Tab.

Duct System

- Duct leakage to Outside (DLTO) testing method must be used in Advanced Home Upgrade due to energy modeling software assumptions. Test-in and out using the DLTO method. Submit photos of the duct testing to verify the manometer is set up for duct leakage to outside (e.g. Pressure/Flow, Channel A of manometer will be close to 0, Channel B will show CFM reading, etc.)
- If Flow hood was used, EUC Test Measurements (CAS) Form needs the CFM readings from each return register/grille.
- *Duct Leakage Testing*. Photos are required for the following duct leakage thresholds:
- 30% pictures of the manometer
- 50%-70% pictures of the manometer and disconnected/damaged ductwork (catastrophic leakage)



- Above 70%, use “70%” (maximum duct leakage claim allowed for energy modeling in the Program)
- *Deep Buried Ducts* credit up to R-12 (maximum).
- Multiple duct systems should be measured separately. In the notes section, list each system and CFM25.

Building Leakage

- 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. For a helpful resource, Build It Green recommends referencing the online ASHRAE 62.2-2010 (California) mechanical ventilation calculator tool located [here](#) (an online ASHRAE 62.2 2013 mechanical ventilation calculator tool may also be found [here](#)).
- 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:** Walls with unconfirmed R-Value should use CEC's default vintage tables. If wall is 'drill and fill' it can be rated with appropriate R-Value according to manufacturer's specification.
- For Walls, CEC assumes R-0 as the "Default Prior to 1978", so an adjusted R- Value **does not** need to be entered into Cake, SnuggPro or OptiMiser unless the R-Value is known (e.g., based on customer documentation). 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:** If you are installing attic insulation, you are required to consider Heat Producing Devices (HPDs) and appropriately address any potential hazards prior to installation. If you sign a statement reflecting project-specific HPD conditions on the project's Safety and Quality Acknowledgement (SQA) form. 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.
- In SnuggPro and OptiMiser, enter the following for Roof Attic ceiling framing when there are no photos to verify R-0 claim
 - 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:** The existing floor insulation should use CEC's default vintage tables.

Cool Roofs

- Cool roofs have standards for installation (CRRC certification). This certification must be provided with the scope of work and uploaded for the online rebate application.
- In order to qualify for cool roofs, CRRC certified roofing material must meet minimum aged solar reflectance and thermal emittance or minimum SRI per Title 24.

Windows

- Energy models should have all windows modeled.
 - A window specification sheet or a picture of the window sticker is required for 0.30 U- factor and 0.25 SHGC or lower.
 - For existing windows, we are unable to accept anything higher than 1.19 U-factor and 0.83 SHGC.
 - If you are claiming windows, provide a copy of the window schedule.

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.
 - Model all existing lighting in 'Base' and 'Improved' input fields along with eligible upgrades



Equipment Specifications

Heating & Cooling

- **Furnaces (Wall/Room/Floor/Gravity/Sealed Combustion)**
- Lowest AFUE allowed for Floor/Gravity heaters per Vintage Table is 0.65 (65%)
- Lowest AFUE allowed for a Forced Air Furnace per Vintage Table is 0.75 (75%)
 - If upgrading these furnaces to Central Forced Air, add new duct-work (distribution system) to energy model
 - All Sealed Combustion (condensing, PVC flues) furnaces require ambient CO at appliance and CO reading in nearest supply register
 - Spillage testing on induced-draft furnaces is required (mirror or smoke at manifold)

Air Conditioning Units

- Lowest existing SEER allowed for AC per Vintage Table is 8.0
- Copy of finalized/closed HVAC permit and AHRI certificate (for installed AC equipment) required for all AC upgrades

Domestic Water Heaters

- The efficiency on the DHW must be in accordance with the default vintage tables. Example: Energy Factor (EF) 0.52 for 1978.
- 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

- Existing pool pump must be assessed and upgraded pool pump must be installed by a Certified Aquatic Equipment Installer (CAEI).
- Refer to 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.
- Only existing single- and two-speed pool pumps are eligible for upgrade incentives and must be upgraded to a new variable-speed pool pump.
- Requirements: Model 1.0-1.5 turns per day and no more than 1.5 horsepower for 'existing' pool pump operation; model 1.5 turns per day and no more than 1.5 horsepower for 'upgrade' pool pump operation. All other elements of the pool system (volume, pipe diameter, filter, etc.) should remain the same for existing and upgrade pool pump modeling.



Heat Pumps

- Copy of finalized/closed HVAC permit and AHRI certificate (for installed heat pump equipment) required for all heat pump upgrades.
- When adding a heat pump to a home that does not currently have a heat pump (i.e., existing system is split gas furnace and AC), the existing heating system should match the upgraded heating system. This prevents the modeling of 'fuel-switching', which is not allowed to contribute to overall site savings calculations upon which the incentives are based.

General Job Submission Tips

Utility Incentive Qualifications

- For homes with PG&E Electric and Propane Gas, only the modeled site savings associated with electrical consumption savings qualify for incentives. The portion of the modeled site savings associated with gas consumption savings do not qualify for incentives because PG&E does not supply propane gas to the home. The total incentive will be prorated accordingly, so please refer to the job submission portal for the most accurate estimate of eligible incentives.
- For homes with PG&E Gas and SMUD Electric, only PG&E gas savings qualify for incentives. The portion of the modeled site savings associated with electrical consumption savings do not qualify for incentives because PG&E does not supply electricity homes in SMUD territory. This is also the case in other areas of PG&E service territory where electricity is supplied by a Municipal Utility District (e.g., Alameda, Ukiah, etc.). The total incentive will be prorated accordingly, so please refer to the job submission portal for the most accurate estimate of incentive.
- For homes with PG&E Electric and SoCalGas Gas, customers are currently eligible for incentives for all modeled site savings associated with both electrical and gas consumption savings.

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

- 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 to contribute to total site savings for the purpose of determining incentives in the Program (gas-to-electric or electric-to-gas).
 - Contact account manager for details on how to model these types of situations.
 - Upgrade measure information to detail on the Contract/SOW (including, but not limited to):
 - 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) and cool roof details (if applicable)
 - 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)
 - Windows: U-factor and SHGC (include window schedule for multiple types/sizes)
 - 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
 -

Negative Energy Savings

- Negative modeled kWh and therm savings count against positive modeled energy savings for the purposes of incentive is calculation.
- Negative modeled energy savings can have a variety of potential causes, such as certain types of upgrades that affect multiple energy sources, fuel-switching, going from a ductless heating and/or cooling system to a ducted one, or adding AC where there was no existing AC prior to the start of the project. Energy modeling may need to be adjusted to 'model-out' negative energy savings caused by fuel-switching or adding a new source of consumption where there was none previously (when in doubt, check with customer service or your project's QA reviewer).

General Energy Modeling and Guidance

- There are two different modeling software options: Snugg Pro and OptiMiser.
- Projects are required to be modeled under the Participating Contractor's account.
- To calculate total window square footage with the PG&E Calculator:<http://www.pge.com/myhome/saveenergymoney/analyzer/calc/windows/index.jsp>



Snugg Pro Modeling Tips

- All sections of the “Input” tab should be completed.
- Under ‘Utility Bills’ make sure to input the correct utility provider name and primary heating type.
- If partial windows are being replaced there needs to be two window sections modeled.
 - Window system 1 accounts for all windows being upgraded to a better U-value/SHGC.
 - Window system 2 accounts for all windows not being upgraded and remaining the same specs on both now and goal.
- Solar PV can’t be selected as “yes” when modeling for EUC projects.
- Only pin based LED lighting can be modeled if recommending ‘Lighting’ as an upgrade measure.
- Common measures that do not qualify for the program and must not be selected as “recommended” include (but are not limited to):
 - Lower Hot Water Temp
 - Replace Doors or Add Storm Doors
 - Replace Freezer
 - Thermostat Set Points
 - Upgrade Dishwasher
 - Upgrade Clothes washer
 - In the ‘Report’ settings, all pages and elements should be turned on when generating the model report.
- Ensure that the most recent model report (.PDF) and Output/HPXML file (.XML) are uploaded during initial submission and when resubmitting model corrections (pre- and post-installation).
- New Feature as of March 2017: If you have two window systems, you can now indicate if there are improvements by selecting “Yes” or “No Improvement” for each system. When “No improvement” is selected, the improved fields will disappear and no improvements will be calculated for that window system. This is the same method used in the HVAC section when you indicate “keep an existing system as is”.

OptiMiser Modeling Tips

- At the top of the model, you will see tabs across the screen. Include the contractor and customer information in the “Project” tab.
- Under the “Wizard” tab, include the applicable details in each section.
- Each screen is divided into two sides: Base and Improved
 - Base = existing information
 - Improved = upgraded information
- Select the checkbox on the right hand side of the page if the measure is selected for an upgrade.
- The “Bid” tab will show you a summary of the upgrades that you selected.
- Ensure that the most recent model Input file (.OPT) and Output/HPXML file (.XML) are uploaded during initial submission and when resubmitting model corrections (pre- and post-installation).



Credential Document Requirements

- Auto Liability Insurance
- BPI Certification
- General Liability Insurance
- CA State Contractor's License
- Worker's Compensation Insurance

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