

# NASEO RFI - Implementation Options for HOMES and HEEHR



Snugg Home (in partnership with Radiant Labs) authorizes NASEO to publish and distribute this response to the NASEO RFI on its website and through other means to the states and general public. We have included no confidential or proprietary information in our response.

A handwritten signature in black ink, appearing to read "Adam Stenftenagel".

Adam Stenftenagel  
CEO

## Category 2: Program Elements

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Snugg Pro, our BPI-2400 compliant energy auditing and modeling tool, is used by over 80 utility and government programs across the country including dozens of low and moderate income programs. Most notably, New Jersey's Home Performance with Energy Star programs utilize Snugg Pro to create BPI-2400 compliant utility bill calibrated models to calculate their rebate levels. Over forty contracting companies are creating thousands of home performance projects each year among 7 different utilities with 4 program implementers all approving projects through a single interface.

Snugg Pro meets the statutory requirement of HOMES for the modeling path where utility bill calibrated modeling consistent with BPI-2400 is used to determine the estimated percentage of energy savings from a home energy retrofit. But even more important than simply meeting the utility bill calibration requirements, modeling a project in Snugg Pro helps provide necessary transparency to homeowners about whether the project will be economically viable and beneficial to them.

The HOMES and HEEHR rebates as part of the Inflation Reduction Act of 2022 provide an historic opportunity to fuel the transformation of the residential building stock towards carbon neutral alternatives. In order to meet our GHG and climate targets, our country needs to retrofit 10 million homes a year (We've got less than 8 years and we've got 80 million single family homes). The HOMES rebate program alone could, at most, provide rebates for 2 million homes over 10 years. That is only 2-3% of the total homes. But, if implemented effectively, the HOMES rebate program could be a catalyst for meaningful mass market transformation. To meet our climate goals, we have to accelerate electrification and get it past the tipping point to where it sustains itself outside of what any government or utility program could provide.

Ultimately, the HOMES and HEEHR programs simply cannot backfire. If the public is served poorly by these programs, then broader heat pump and electrification efforts will be marred by those experiences. To make sure people are thrilled with their heat pumps and evangelize them, we need to meet these three criteria:

### **Criterion #1: People's energy bills should not go up**

This is even more crucial for low income households.

### **Criterion #2: The cost of improvements should (mostly) pay for themselves**

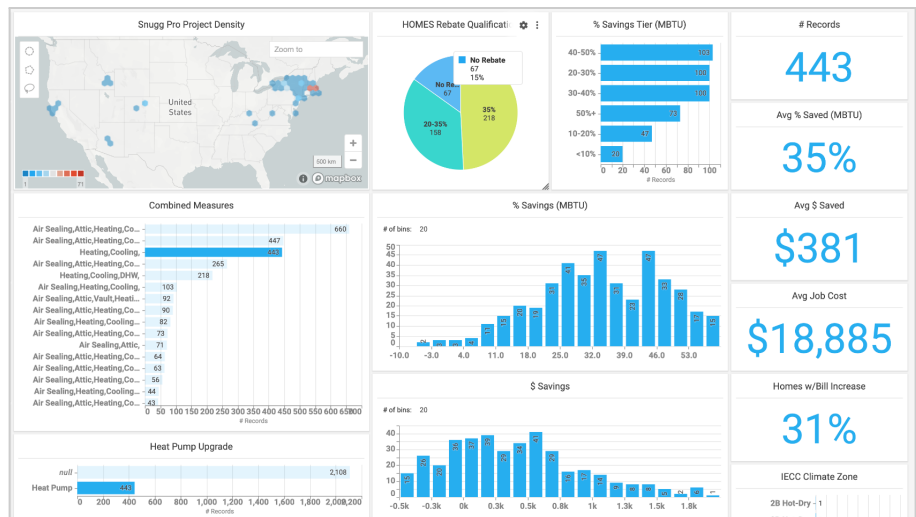
The monthly savings on people's bills should make up for the cost of the improvements in a reasonable amount of time if financed. Some homeowners, especially in market rate projects, may prioritize comfort, health, and safety or climate over finances. Even for those cases, homeowners should at least have an idea of their total operating costs.

### **Criterion #3: The installed equipment is viable and correctly sized to the home**

A home must be efficient enough to support maximum HVAC system capacity. Conversely, the installed

equipment must be sized correctly to meet the home’s heating and/or cooling loads. Variable speed heat pumps make it less important to get the sizing perfect, but even those have their limitations. Oversizing costs more up front and can cause significant comfort and humidity issues, so dialing in the system with an efficient envelope is very important.

While some may not think this is such a big deal, we have run an analysis of hundreds of thousands of Snugg Pro projects that have been created over the past decade throughout the country. Out of all of our projects where a heat pump alone was recommended, 31% of those projects modeled showed an increase in utility bills while 85% of the projects would have qualified for a HOMES rebate (see graphic).



Even if you add in envelope improvements, still 8% of the projects would show utility bills going up, but 90% of those projects would meet the necessary savings threshold for a HOMES rebate. Much of the rest of our Snugg Pro users have not been recommending heat pumps due to the increase in bills, unless coupled with rooftop solar.

This stresses the importance of individual energy modeling that is calibrated to the current occupant’s historical utility usage. Snugg Pro is one of the few tools available today that is consistent with BPI-2400 and meets the specific statutory requirements of the HOMES legislation.

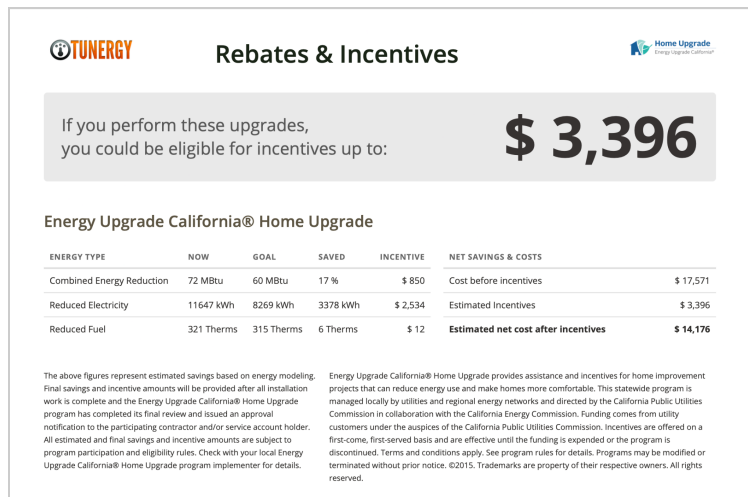
Snugg Pro is designed from the ground up to bridge the gap between contractors and efficiency programs. Our users can collect all of the necessary data for a quality energy assessment in as little as 20 minutes. Add utility bills and a BPI-2400 compliant energy model can be created with minimal effort today.


**In addition to BPI-2400 utility bill calibration, Snugg Pro’s capabilities include:**

- Providing transparency to the homeowner that helps ensure utility bills don’t go up and that the project can be economically viable
- Accurate estimates of energy savings when calibrated to 12 months of historic utility data
- Integrates seamlessly with government and utility programs for data collection, quality assurance, rebate calculations, and progress tracking
- Remote or in person functionality
- Works great both online and offline and is optimized for field data collection and the kitchen table sale
- Great for modeling savings, rebates, and helping make the sale after initial customer engagement
- Focus on observed data from a virtual or in person energy audit
- Integrated directly with the DOE Home Energy Score (HES)
- Comprehensive API with full data input and output.

Snugg Home is currently working closely with our sister company Radiant Labs to add enhanced features to Snugg Pro such as:

- Defaulting engine that pre-fills building characteristics from tax assessor, building permit, and satellite based footprint data.
- New and improved utility bill calibration interface that will make BPI-2400 compliance even easier
- Sophisticated recommendation engine that will pick the best combination of improvements based on an individual homeowner's income and the unique characteristics of the home.
- Integration with third party APIs to provide:
  - Income verification,
  - Eligible rebate information
  - Utility bill data
  - Financing applications
- Integration with financing providers to streamline the loan application process



**TUNERGY** Rebates & Incentives 

If you perform these upgrades, you could be eligible for incentives up to: **\$ 3,396**

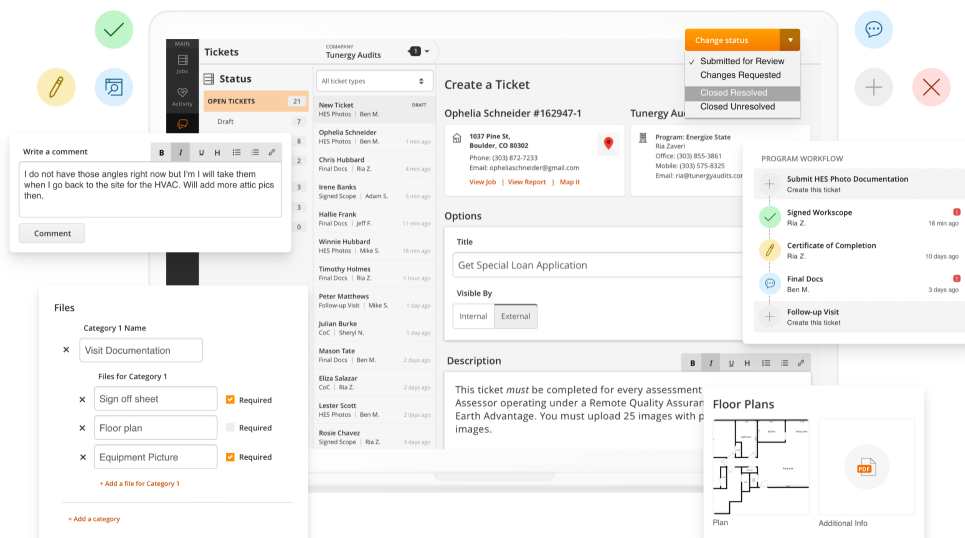
**Energy Upgrade California® Home Upgrade**

ENERGY TYPE	NOW	GOAL	SAVED	INCENTIVE	NET SAVINGS & COSTS
Combined Energy Reduction	72 MBtu	60 MBtu	17 %	\$ 850	Cost before incentives \$ 17,571
Reduced Electricity	11647 kWh	8269 kWh	3378 kWh	\$ 2,534	Estimated Incentives \$ 3,396
Reduced Fuel	321 Therms	315 Therms	6 Therms	\$ 12	<b>Estimated net cost after incentives \$ 14,176</b>

The above figures represent estimated savings based on energy modeling. Final savings and incentive amounts will be provided after all installation work is complete and the Energy Upgrade California® Home Upgrade program has completed its final review and issued an approval notification to the participating contractor and/or service account holder. All estimated and final savings and incentive amounts are subject to program participation and eligibility rules. Check with your local Energy Upgrade California® Home Upgrade program implementer for details.

Energy Upgrade California® Home Upgrade provides assistance and incentives for home improvement projects that can reduce energy use and make homes more comfortable. This statewide program is managed locally by utilities and regional energy networks and directed by the California Public Utilities Commission in collaboration with the California Energy Commission. Funding comes from utility customers under the auspices of the California Public Utilities Commission. Incentives are offered on a first-come, first-served basis and are effective until the funding is expended or the program is discontinued. Terms and conditions apply. See program rules for details. Programs may be modified or terminated without prior notice. ©2015. Trademarks are property of their respective owners. All rights reserved.

Snugg Pro can perform complex real-time rebate calculations.



The screenshot displays the Snugg Pro interface for managing a ticket. On the left, a 'Tickets' sidebar shows a list of tickets with columns for 'Status' and 'OPEN TICKETS'. A 'Write a comment' box is open, containing the text: 'I do not have those angles right now but I'm I will take them when I go back to the site for the HVAC. Will add more attic pics then.' Below this is a 'Files' section with a 'Category 1 Name' field and a list of files: 'Visit Documentation', 'Sign off sheet', 'Floor plan', and 'Equipment Picture', each with a checkbox and a 'Required' label. The main area shows a 'Create a Ticket' form for 'Ophelia Schneider #162947-1' with fields for address, phone, email, and program details. A 'Change status' dropdown menu is open, showing options: 'Submitted for Review', 'Changes Requested', 'Closed Resolved', and 'Closed Unresolved'. On the right, a 'PROGRAM WORKFLOW' section shows a vertical timeline of steps: 'Submit HES Photo Documentation', 'Signed Workscope', 'Certificate of Completion', 'Final Docs', and 'Follow-up Visit', each with a status indicator and a timestamp. At the bottom right, there is a 'Floor Plans' section with a floor plan image and an 'Additional Info' button.

Snugg Pro is an energy auditing tool capable of managing program workflows and trade allies at scale.

## Category 3: Indication of Vendor Interest

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### **Services available to aid in the execution of HOMES and HEEHR:**

- BPI-2400 utility bill calibrated energy modeling for the calculation of rebate thresholds for the modeled approach under HOMES.
- In addition to the modeled approach for homes, Snugg Pro's BPI-2400 utility bill calibrated energy modeling can help ensure the transparency of future energy costs is provided to homeowners before they commit to any improvements in the measured approach to HOMES or any HEEHR rebates
- Seamless integration with government and utility programs for data collection, quality assurance, rebate calculations, and progress tracking
- Supports complex real-time rebate calculations that can combine utility, local, state, and federal incentives plus financing
- Defaulting engine that pre-fills building characteristics from tax assessor, building permit, and satellite based footprint data.
- Sophisticated recommendation engine that will pick the best combination of improvements based on an individual homeowner's income and the unique characteristics of the home.
- Integration with third party APIs to provide:
  - Income verification
  - Eligible rebate information
  - Utility bill data
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