



HomeFree Nevada

Partner Handbook



7/20/2011

What is HomeFree Nevada?



This handbook is *YOUR COMPANY'S* first step to providing homeowner services for healthier, energy efficient homes. We get medical check-ups and exercise to have longer, healthier lives. We get our cars checked out and tuned up to extend the life of our car. But we don't give our homes, which are often our biggest investments, a regular check-up. Now *you* can help, **AND MAKE MONEY**, with the **Nevada Home Energy Fitness Campaign**, which makes it possible for people to have healthier, more energy efficient, and economical homes. **HomeFree Nevada** is leading this campaign with a comprehensive whole-house approach to improving Nevada homes' energy efficiency, comfort, health, safety and durability, while helping to protect the environment.

HomeFree Nevada is the State of Nevada's **Home Performance with ENERGY STAR** (HPwES) sponsor that is committed to lead the nation in improving energy efficiency and conservation for residential properties across Nevada. Coordinated by the **U.S. Environmental Protection Agency** (EPA) and the **U.S. Department of Energy** (DOE), Home Performance with ENERGY STAR is a national program that offers a comprehensive and quantitative, whole-house approach to improving energy efficiency. As a HPwES Sponsor and a non-profit organization, HomeFree Nevada's primary role is to establish and implement standards and quality assurance for energy auditors and contractors to create energy efficient residential environments and reduce Nevada's resource consumption.

HomeFree Nevada is a Section 501(c)(3) non-profit organization and is located in Las Vegas at Vegas PBS's LEED Gold certified Educational Technology Campus at 3050 E. Flamingo Road, a location generously reserved by **Vegas PBS**.



Detailed information about the program, including a comprehensive Program Manual, can be found at HomeFree Nevada's website, or by contacting HomeFree Nevada staff directly:



- HomeFree Nevada Website: <http://www.homefreenevada.org>
- HomeFree Nevada General email: info@homefreenv.org
- Southern Nevada Telephone: (702) 997-4367
- Northern Nevada Telephone: (775) 230-7133

What is the Home Energy Fitness Campaign?



The [Nevada State Office of Energy's](#) (NSOE) [Nevada Home Energy Fitness Campaign](#) (known previously as the Nevada Retrofit Initiative, or NRI) will increase and strengthen Nevada's residences. The goal of the Campaign is to implement Home Performance with ENERGY STAR under HomeFree Nevada and ultimately upgrade 50,000 single family residences in Nevada by 2021. The Campaign will focus efforts on the major Nevada metropolitan areas of Clark County/Las Vegas/North Las Vegas/Henderson, and Washoe County/Reno/Sparks.

The assembled participants in the Campaign, including Nevada's two largest counties and their respective cities, Home Free Nevada, Nevada State Bank, the Nevada System of Higher Education, and the NSOE represent a diversity of project expertise and draw together leadership at the local, state, and national level. Approximately \$1.75 million will be used to provide rebate incentives to homeowners for performing a whole home upgrade of their homes achieving a minimum 20 percent energy savings after making a minimum investment.



Attracting Prospective Homeowners

As a HomeFree Nevada and Home Performance with ENERGY STAR Partner, your company is positioned to leverage the ENERGY STAR and program brands in an effort to attract potential homeowners to complete work and do business with you. All Partners are free to use those brands and HomeFree Nevada messaging and marketing materials in their own marketing campaigns to attract new prospective homeowners to upgrade their homes. Before your company engages in or invests in an extensive marketing effort, HomeFree Nevada encourages all of its Partners to consider several important factors:

- HomeFree Nevada assists its Partners by marketing the program and providing marketing resources to both you and to potential customers. Since many homeowners in Nevada are largely unaware of the benefits of energy upgrades, HomeFree Nevada, in part with the Nevada Home Energy Fitness Campaign, will employ an array of innovative outreach methods, to not only tout economic benefits of energy efficiency retrofits, but also to more create additional awareness and change consumer behavior to adopt energy efficiency upgrades as a preferred investment.
- General marketing materials will be made available to HomeFree Nevada Partners and are available at both the HomeFree Nevada website and on the Home Performance with ENERGY STAR website. Materials will be updated periodically in accordance with HomeFree Nevada's Marketing Plan and through the Campaign.
- Through the Nevada Home Energy Fitness Campaign and in concert with Green Chips, HomeFree Nevada will work to geographically target marketing campaigns to high-

prospect neighborhoods, leverage existing social networks and communication channels, generate word of mouth, and create community visibility. Campaign partners and HomeFree Nevada Partners will perform coordinated outreach to the target neighborhoods by coordinating neighborhood and district level canvassing, training, day-to-day management, and work closely with liaisons in local jurisdictions.

- An Outreach Coordinator will work with Campaign partners and HomeFree Nevada to target selected neighborhood Homeowners Associations and other community organizations to increase buy-in from targeted homeowners. Program partners will utilize training and data tools provided to mobilize volunteers to effectively canvass target neighborhoods. Outreach activities will include providing information on project parameters, program requirements, and costs and benefits of energy assessments and retrofits. Open house events will be publicized and hosted by Campaign Partners to learn about HomeFree Nevada and interested residents will have an opportunity to sign up for the program at open house events.
- HomeFree Nevada and Campaign partners also anticipate developing a mixed media outreach campaign that provides information to the general public on the benefits of the program. HomeFree Nevada and Green Chips will work with partnered member organizations to message targeted sectors of the community. The total employment and membership of those organizations represent a large cross section of Nevada.

Before Starting a Job

Before beginning a job, please ensure that your company has all updated licenses, certifications, insurance, and other requirements outlined in your signed Partner Agreement. Each Partner is to follow minimum guidelines and procedures, consisting of standards meeting Home Performance with ENERGY STAR criteria, which include:

1. **Home Performance Assessment (Test-in) and Report**
2. **Energy Efficiency Upgrades**
3. **Post-Upgrade Tests (Test-out)**

Once contact is made with a prospective homeowner, have your sales staff, energy assessor, or company representative conduct a short interview with the homeowner to collect information about the home and the homeowner's energy and comfort concerns and any goals. At a minimum, your staff should discuss the following information:

- Basic information about HomeFree Nevada, Home Performance with ENERGY STAR, and available incentives, using the HomeFree Nevada Homeowner Information guide. If desired, provide the homeowner the location of the guide online or a hard copy if requested.
- Age of home and square footage.
- Years the homeowner has lived there and number of occupants.
- Remodeling, additions, window replacements, or other recent changes or modifications.
- Basic information about HVAC system(s), type of fuel, and age of systems (if known).

- Swimming pool or spas –pump operation, heated or not, heating source(s).
- Utility bill information- annual power and gas bills, highest monthly power and gas bills.
- Comfort complaints (cold rooms/hot rooms, drafts, moisture and humidity).
- Homeowner’s budget for work to be completed.

It is recommended that your energy assessor conduct a walk-through with the homeowner to ascertain additional information. Once the homeowner agrees to participate in the program, provide them with a **Homeowner Information Guide** (electronically or paper) and complete a **HomeFree Nevada Participation Form** and submit it to HomeFree Nevada for verification and approval. Once you receive approval and a job tracking number, energy assessment work may begin.

Conducting Energy Assessments

Your Energy Assessor will conduct an assessment for the homeowner following industry best practices, state law, and RESNET and BPI standards. The assessment requires the use of RESNET Accredited energy modeling software, as approved by the U.S. Department of Energy.



The assessment consists of:

- A Utility Bill Analysis
- A Building Envelope Inspection
- Heating, Ventilation, and Air Conditioning (HVAC) and Domestic Hot Water Systems Inspections
- Moisture Inspections
- Instrumented Tests on Combustion Appliances
- Appliance, Water Fixture, and Lighting Inspections

During the energy assessment, it is recommended that the assessor enter all notes and information on the **HomeFree Nevada Energy Assessment Form**.

- **Utility Bill Analysis**
 - Examine the immediately preceding 12 months of all electricity, natural gas, fuel oil, or other billed energy source for both the home and any pool or spa.
- **Building Envelope Inspection**
 - Collect basic information on the envelope of the home
 - Note conditions of external building envelope features (siding, trim, fascia, soffit areas, etc.) and check for moisture
 - Identify the Building Envelope’s Thermal Characteristics, checking doors, windows, and thermal boundary
 - Identify and measure air leakage characteristics (Blower door test to standard)
 - Identify exterior wall insulation levels
 - Identify renewable energy opportunities, if applicable
 - Inspect all connections between any attached garages for any air leakage.



- **Heating, Ventilation, and Air Conditioning (HVAC) and Domestic Hot Water Systems Inspection**

- Determine number and type of thermostats and determine settings
- Inspect for any visible sources of indoor air pollution
- Inspect the heating system and its characteristics
- Inspect and measure the air conditioning system and its characteristics (Duct Blaster and duct leakage testing)
- Estimate AFUE of heating system and HSPF/SEER of heat pump/cooling system
- Inspect distribution systems, filters, insulation, and ductwork
- Inspect hot water system and its characteristics
- Inspect each combustion appliance zone (CAZ) for safety issues, including gas leaks, and that any clothes dryer vent is properly vented
- Inspect the living space for safety issues
- Inspect mechanical exhaust ventilation systems (if present in bathrooms, kitchens, garages, attics, or other spaces) and determine all air flow rates.



- **Moisture Inspection**

- Inspect basements and crawlspaces for moisture or moisture damage
- Inspect around exterior of foundation for signs of moisture
- Inspect attic for moisture deposition or damage on roof deck, rafters, joists, and insulation (wet or moisture-compacted insulation).
- Inspect condition of windows and look for signs of condensation or other conditions that could cause damage or affect durability.
- Inspect living space for evidence of high moisture levels in the living space, check for discoloration on walls behind headboards, furniture – corners of closets on exterior walls, and other areas of stagnation and cold temperature for moisture deposition or damage and conditions that promote fungal growth.

- **Instrumented Tests on Combustion Appliances, Combustion Appliance Zone (CAZ) and Living Space in accordance with BPI Standards**

- Test carbon monoxide levels at each appliance
- Draft measurement and spillage evaluation for atmospherically vented appliances
- Worse-case negative pressure measurement for each CAZ
- Ambient carbon monoxide readings



- **Appliance, Water Fixture, and Lighting Inspection**

- Review age and condition of major appliances and water fixtures.
- Inspect high-use lighting areas for any obvious opportunities to upgrade old lighting with CFLs and energy efficient fixtures.

Completing Assessment Reports

The findings from an assessment must be compiled into a Report for the homeowner. HomeFree Nevada offers a standardized and compliant **HomeFree Nevada Home Energy Assessment Form**; as an option, your energy assessor may complete this form as a substitute to your company's individualized report, provided that it is completed in full. Should they choose not to use the Form-based reporting method, reports must be completed as prescribed below and as required by law. Reports must include, with a narrative of major findings:

- Participating Partner's name, contact information, and name of technician completing the assessment.
- HomeFree Nevada job tracking number
- HomeFree Nevada and Home Performance with ENERGY STAR logos
- Homeowner's address
- Date Assessment was performed
- Utility bill analysis
- Air leakage visual inspection and/or diagnostic results.
- Effective insulation levels for walls, attic, rim-joists, and foundation (crawl, basement, or slab).
- Approximate age and condition of HVAC equipment (heating, cooling, and ventilation fans), water heating equipment, and condition of exhaust flues for HVAC or water heating equipment that consumes fossil fuel.
- Type and condition of windows and doors.
- Duct system visual inspection findings.
- Approximate age and condition of appliances.
- Any signs of moisture deposition, building performance failures or conditions affecting the durability of the home, including any existing or potential hazards that may develop, including specific preventative measures.
- Home exterior attributes, including pool/spa information, home orientation, and trees.
- Opportunities for renewable energy.
- A summary of behavioral measures that home occupants can do easily to increase energy efficiency.
- Results of CAZ tests related to the use of combustion appliances
- A set of recommended energy conservation measures (ECMs) that is reasonably comprehensive in identifying measures that save energy, address combustion safety, comfort, moisture deposition, durability or other building performance problems, prioritized according to urgency and importance. Recommendations in the comprehensive work scope must address air leakage between the house and attached garage due to the potential for infiltration of carbon monoxide and other fumes.
- An estimate of current energy costs and potential energy savings from recommended improvements and improvement installation costs must be included.
- A list of incentives and financing options for energy conservation measures, including tax credits, loans, rebates from HomeFree Nevada, NV Energy, Southwest Gas, Southern Nevada Water Authority, program sponsors, or other entities.



Required documentation that indicates the home was modeled must be sent to HomeFree Nevada along with the Assessment Form or report. These documents include the following **or equivalent** from RESNET's National Registry of Accredited Rating Software Programs:



- A signed agreement between the Partner and the homeowner
- Air Leakage REM/Rate Report
- Lights and Appliances Summary REM/Rate Report
- Emissions REM/Rate Report
- Action REM/Rate Report
- Improvement Analysis REM/Rate Report

Once your energy assessor completes an assessment and report, they are to review the findings with the homeowner. This is the opportunity to present then with improvement opportunities and energy conservation measures discovered during the Assessment, provide solutions for improving the performance of the home, and present a recommended scope of work to the homeowner.

After your energy assessor completes an assessment, they are to present the homeowner with a **HomeFree Nevada Assessment Report** that details improvement opportunities and energy conservation measures discovered during the Assessment.

Upon completing the discussion of the Report with the homeowner, the Report must be submitted to HomeFree Nevada electronically to info@homefreenv.org. The Energy Assessor must complete the Energy Assessment section of the **Job Completion Form** and sign it.



Completing Upgrades

After arrangements are made with the homeowner, complete a contracted scope of work with recommendations from the report **which will potentially lead to an estimated energy savings of a minimum of 20 percent**. The homeowner must make the final decision on modifications to the home, which may be based on their budget and available incentives. When developing the scope of work:

- The following measures are **required** to be installed, if recommended:
 - Immediate Health and Safety Concerns—any measure that threatens the homeowner's health and safety
 - Building envelope—measures to seal the home including air sealing and weatherization
 - Energy conservation measures involving lighting and behavioral adjustments
- The following additional measures may also be recommended and acted upon:
 - Health and Safety—long term (any measure that could threaten the homeowner's health over an extended period of time)



- Building envelope—measures that seal the home including insulation and duct sealing
- Indoor environmental quality—measures that seal and improve the HVAC system
- Energy conservation—additional measures including appliances
- Water conservation measures
- Renewable energy

Prior to beginning work, make sure your staff takes several photographs of each of the measures to be improved that adequately show the “before” conditions. Upon completion of the upgrades, make sure your staff completes the Upgrades section of the **Job Completion Form** and sign it.

Completing “Test-Outs”

After your staff completes the work, your energy assessor will perform the post-installation tests and inspections and enter the results in the “**HomeFree Nevada Post-Installation Tests and Inspections**” Form. Your assessor will first take photographs of each of the measures that were improved that adequately show the “after” conditions.

The required post-installation tests will depend upon the Scope of Work:

- A Blower Door test will be completed after installation of any of the following measures:
 - **Enclosed cavity insulation representing more than 15% of the total building shell area.**
 - Air sealing.
 - Sealing of ductwork outside the building envelope.
 - Replacement of atmospherically vented combustion appliance with sealed combustion appliance (due to removal of an exhaust appliance from the home).
- Minimum house ventilation requirement calculation will be performed whenever changes to the building shell requiring a blower door test have occurred to ensure that the home is receiving adequate outside air per BPI Standards
- Combustion appliance tests on all combustion equipment including vented heating systems, water heaters, and ovens, in accordance with BPI Standards, **will be completed whenever changes to the building envelope and/or heating system have occurred.** This inspection includes all of the following tests:
 - Carbon monoxide measurement at each appliance (including ovens).
 - Draft measurement and spillage evaluation for atmospherically vented appliances.
 - Worst-case negative pressure measurement for each CAZ.
- Inspection and testing of orphaned water heaters: water heaters may not be left venting alone into a previously shared chimney without ensuring the chimney meets appropriate NFPA requirements under the new condition and the water heater has been tested and passed all required combustion safety tests (spillage, draft, CAZ depressurization).
- If a new central air conditioner, heat pump, or furnace is installed, you must provide a commissioning report documenting that the installation met the ACCA HVAC Quality Installation Specifications.



At the conclusion of the test-out, provide the homeowner with a copy of the HomeFree Nevada Post-Installation Tests and Inspections Form for them to sign, signifying their agreement that the job has been completed. Your Energy Assessor will then complete the Post Installation Tests and Inspection section of the **HomeFree Nevada Job Completion Form** and sign it as the Post Installation Tests and Inspection Form is signed by the homeowner.

If the HomeFree Nevada Quality Assurance Specialist has any of the tests or inspections show the need for corrective action, they will note action item(s) and will not allow the job to be submitted for completion until those corrective actions have been made. Each job is not considered complete until the Partner's assessor has signed the HFN Post-Installation Tests and Inspection Form that indicates that all standards have been met (i.e., all tests have been passed successfully).

Completing a Job

After the test-out has been completed any remaining sections and sign the **HomeFree Nevada Job Completion Form**. Once signed, submit them to HomeFree Nevada for verification and approval. **The Job Completion Form must be fully completed and signed by all parties that performed work for the homeowner.** Once verified, HomeFree Nevada staff will submit a **HomeFree Nevada Certificate of Completion** by mail or electronically to you and the homeowner.

Is my company eligible for incentives?

Any job submitted for approval to HomeFree Nevada by a Partnered company may be performed at your price rates for Home Performance with ENERGY STAR credit, provided all HomeFree Nevada standards are met. If you indicated that you are participating in the HomeFree Nevada Incentive Program, an instant incentive rebate may be approved if the job has been completed, **provided that all measures have been installed, minimum investment requirements have been met, and 20% energy savings has been achieved.** To receive incentives, a Job Completion Form must be received. In most instances, the incentive check will be sent from the State's approved rebate processor within 30 days of a received Job Completion Form

HomeFree Nevada Quality Assurance/Quality Control Program

HomeFree Nevada has a program for Quality Assurance and Quality Control. The **Quality Assurance Program** ensures that HomeFree Nevada Partners are meeting all program guidelines and technical standards and provides a mechanism for constructive feedback intended to improve Partner diagnostic capabilities, comprehensiveness, quality of work, and homeowner relations. This is done through a random **Quality Assurance Evaluation** in which a HomeFree



Nevada Quality Assurance Specialist reviews all Assessment paperwork and conducts an onsite inspection of a job, usually during the Assessment (test-in) or during the test-out.

If the QA Specialist randomly selects your job, you are required to inform the homeowner that the job was selected. In the event that the homeowner does not want the QA Specialist to visit the home, please inform the QA Specialist immediately. Some jobs may not

be reviewed, but the homeowner can request a Quality Assurance Evaluation for the home if they have specific concerns with quality of work.

During the Quality Assurance Evaluation, the QA Specialist will conduct a brief interview with the homeowner to verify the work performed meets program guidelines and address any questions that you may have about the program. They will also conduct a walk-through inspection to verify that you are:

- Using proper test-in procedures
- Installing measures appropriately
- Using proper test-out procedures and that the home passes all tests



If any of the tests or inspections shows the need for corrective action, the QA Specialist will note action item(s) and will not allow the job to be submitted for completion until those corrective actions have been made by the Partner. This will be followed up during the official evaluation.

HomeFree Nevada encourages homeowners to contact HomeFree Nevada with any feedback—both positive and negative. In the event the homeowner has a complaint about your work or if they refuse to sign a required HomeFree Nevada form to complete a job, they should attempt to resolve the dispute with you. If you cannot resolve the issue with the homeowner, notify the QA Specialist, who will then complete the dispute resolution procedures pursuant to the HomeFree Nevada Quality Assurance/Quality Control Program.

HomeFree Nevada utilizes a tiered classification structure to monitor Partner performance as a part of the HomeFree Nevada Quality Assurance/Quality Control Program. All Partners initially entering the program will enter as a Tier 1 Partner under probationary status. During Tier 1 probationary status, Partners are mentored by the Quality Assurance Specialist to ensure that:

- All program policies and procedures are met
- Energy assessors are performing assessments to HERS/BPI standards
- No deficiencies occur during test-in
- The Assessment Form or Report contains no deficiencies
- An appropriate scope of work is developed
- Measures are properly installed

The intensity of mentoring will vary based on the conditions of the job and the quality of work being performed. At the completion of Tier 1, the Quality Assurance Specialist will formally notify Partners of the change of status and advancement to Tier 2, as well as the change of rate for job report reviews and on-site inspections. Through ongoing training, mentoring and monitoring activities, HomeFree Nevada is committed to ensuring program compliance as well as supporting Partners. With this in mind, HomeFree Nevada uses a progressive discipline model to provide opportunities for Partner improvement through its Quality Assurance/Quality Control Program. For further details, please refer to Section 2 and Section 4 of the HomeFree Nevada Program Manual. HomeFree Nevada will strive to implement the Quality Assurance program and resolve any conflicts in a positive manner.

What if I have questions about job procedures?

If at any point you have a question about a HomeFree Nevada job, whether it's the procedures of an assessment, an upgrade, or test-out, how to complete a form, or to resolve an issue in the field, be sure to contact your region's Program Coordinator(s) or Quality Assurance Specialist. They will gladly provide any assistance, feedback, and technical support you need to make sure the job is completed to you and your client's satisfaction

What's the Next Step?

Now that you have information about the program, it's time to get started; as a HomeFree Nevada Partner, you may begin marketing the HomeFree Nevada Home Performance with ENERGY STAR program to homeowners. Future Nevada Home Energy Fitness Campaign marketing efforts will occur and will help broaden your customer base and help generate leads that will be distributed to Partners. As your company begins spreading the word and receives new potential customers, complete Participation Forms to initiate the process and permit you to begin work on behalf of Home Free Nevada. We at HomeFree Nevada are excited to begin work with you to make Nevada more energy efficient!