



# California Home Energy Rating System Program Phase II

Local Government Training  
Los Angeles, May 20, 2009  
San Diego, May 21, 2009

Bill Pennington, Manager  
High Performance Buildings & Standards Development Office  
Efficiency & Renewable Energy Division



# California HERS Program – Phase I

## Initial implementation of the California HERS Program

- **Adopted in 1999 - Field verification and diagnostic testing for compliance with Title 24 Building Energy Efficiency Standards**
- **Established basic framework for HERS Rater training, certification, and quality assurance**
- **Created Infrastructure to deliver HERS Rating Services**
  - **3 HERS Providers Approved by Energy Commission**
  - **Over 1,000 HERS Raters Trained and Certified Statewide**
- **Widely used for Field Verification for Energy Efficiency Programs**
  - **California Energy Star Homes / Residential New Construction**
  - **New Solar Homes Partnership**
  - **Federal Tax Credits**
  - **Green Building Programs**

**California Home  
Energy Rating  
System Program  
Phase II**



# California HERS Program – Phase II

## Phase II Builds on and Extends Phase I Infrastructure

- **Consistent, accurate, and uniform Whole-House Home Energy Ratings for newly constructed and existing homes based on a single statewide rating scale**
- **Labeling procedures to meet the needs of home buyers, homeowners, renters, the real estate industry, and mortgage lenders with an interest in home energy ratings**
- **Reasonable estimates of potential utility bill savings and reliable recommendations on cost-effective measures to improve energy efficiency**
  - **Methods for determining energy efficiency measure cost-effectiveness**
  - **Includes cross checking against utility bills and recognizing non-energy benefits**

**California Home  
Energy Rating  
System Program  
Phase II**



# The California Home Energy Rating Process

1. Inspection of the existing conditions of the home's energy-related features
2. Analysis of the energy impact of those features
3. Identification of potential energy efficiency improvements for that home
4. Evaluation of the cost effectiveness of each improvement
5. Recommendations to the homeowner of the cost effective improvements
6. Designation of a rating of the comparative energy efficiency of the home
7. Production of a label that communicates the rating

Energy Audit

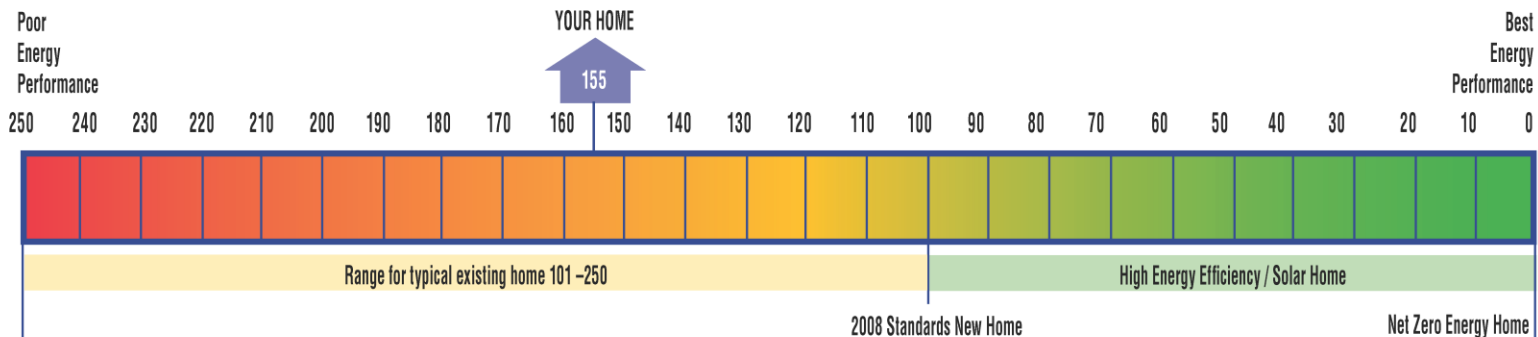
Whole-House Home Energy Rating

California Home  
Energy Rating  
System Program  
Phase II



# Sample Rating Certificate

## California Home Energy Rating Certificate



Information goes here on compliance with other programs:

Qualifying Information Goes Here:

HERS Provider and/or Sponsor Co-Branding Logos Go Here:

### Energy Impact

#### Greenhouse Gas Emissions

Carbon Dioxide xxx tons/year

#### Energy Consumption

Electricity (kWh/year)

Cooling ---  
Lights ---  
Appliances ---  
Total ---

Natural Gas (therms/year)

Space Heating ---  
Water Heating ---  
Total ---

#### Operating Cost (\$/year)

Electricity ---  
Gas ---  
Total ---

#### Renewable Energy Production

None

#### Ancillary Energy Uses

Swimming pool  
Spa  
Landscape lighting

### Site Information

#### Address

123 Jones Street  
Anywhere, California 9410x

#### General Information

Conditioned Floor Area 2,200 ft<sup>2</sup>  
Bedrooms 4  
House Type Single Family  
Foundation Type Slab-on-Grade

### Energy Efficiency Features

#### Insulation

Ceiling R-19  
Wall R-11  
Floor over crawlspace None  
Slab Edge None

#### Windows

Frame Aluminum  
Glazing Single

#### Heating System

Gas furnace, 0.80 AFUE  
Unsealed air distribution ducts

#### Cooling System

None

#### Water Heating System

Gas storage type, 0.52 EF

### Official Home Energy Rating

in conformance with the requirements of the California Energy Commission  
[www.energy.ca.gov](http://www.energy.ca.gov)



#### HERS Provider:

Acme Energy Rated Homes  
934 Energy Efficient Way  
Power Junction, California  
[www.AcmeEnergyRatedHomes.com](http://www.AcmeEnergyRatedHomes.com)

#### Rating Information

Rating Number xxxx-yyyy  
Certified Rater EEH, Inc.  
Stockton, CA  
Rating Date: January dd, yyyy

Rater Signature

Date

California Home Energy Rating System Program Phase II



# Measures Considered in the Rating

- **Rate the Home not the Occupant**
  - **Physical Features of the Home**
  - **Equipment Likely to Stay with the Home**
- **The Order Makes a Difference**
- **Building Envelope**
  - **Examples: Insulation, Envelope Sealing, Shading, Cool Roofs**
- **Distribution System and Equipment Tuning**
  - **Examples: Duct Sealing, Verified Refrigerant Charge & Airflow**
- **Lighting and Appliances Replacement**
  - **Examples: Efficient Lighting, Refrigerator, Dishwasher**
- **Heating, Cooling and Water Heater Replacement**
  - **Furnace, Air Conditioner, Water Heater (Consider Solar)**
- **Photovoltaics**

**California Home  
Energy Rating  
System Program  
Phase II**



# The Oversight Role of HERS Providers

- **Three Energy Commission-approved providers in California: CHEERS, CaCERTS, and CBPCA**
- **HERS providers train, test, and certify raters and provide quality assurance**
- **HERS providers must maintain an arms-length relationship with the raters to avoid conflicts of interest**
- **HERS providers provide quality assurance by independently rating a sample of homes that have been rated, provide raters with feedback and followup with re-training or discipline if problems are found**

**California Home  
Energy Rating  
System Program  
Phase II**



# HERS Raters and Building Performance Contractors

- **Raters must be “independent entities” – defined as having no “financial interest” – with the contractors who perform energy efficiency improvements on a home or the builder and contractors of a newly constructed home**
- **The Building Performance Contractor must be certified as a California Whole-House Home Energy Rater and be a licensed class B General Building Contractor**
- **The Building Performance Contractor is permitted to both rate homes and perform contracting work on the home to improve its energy efficiency**
- **The Building Performance Contractor must comply with heightened disclosure and quality assurance procedures to protect consumers**

**California Home  
Energy Rating  
System Program  
Phase II**



# AB 549 Report

## AB 549 Report to the Legislature, “*Options for Energy Efficiency in Existing Buildings,*” Recommended HERS Ratings at Time of Sale:

- Home energy ratings provide valuable information regarding the existing condition of energy consuming features in a home and the cost-effectiveness of alternatives to improve their energy use.
- Important to determine the value and desirability of a particular property and necessary if owners are considering investing in energy efficiency improvements.
- Approximately three existing homes are sold for each new home built. Need local initiatives for improving the efficiency of these buildings at the time ownership changes.
- HERS Pilot - Conduct a one-year pilot program to demonstrate the value of HERS Ratings at Time of Sale.

California Home  
Energy Rating  
System Program  
Phase II



# What's Next for the HERS Pilot Program

- **Identify and work with stakeholders interested in participating in the HERS pilot**
  - **Local governments**
  - **Utilities**
  - **Local real estate industry**
    - **Real estate agents**
    - **Lenders**
    - **Appraisers**
- **Integrate HERS pilot into local initiatives that promote home energy retrofits**
- **Coordinate, monitor and support**
  - **Identify local champions**
  - **Coordinate with available financing**
  - **Provide training and information for local actors**
  - **Introduce ratings into local MLS systems**
  - **Monitor and support implementation**

**California Home  
Energy Rating  
System Program  
Phase II**



# Additional HERS Information

**California Home  
Energy Rating  
System Program  
Phase II**

## HERS Website:

- <http://www.energy.ca.gov/HERS/>

## HERS Staff:

Bill Pennington

- [bpenning@energy.state.ca.us](mailto:bpenning@energy.state.ca.us)

Helen Lam

- [hlam@energy.state.ca.us](mailto:hlam@energy.state.ca.us)
- (916) 651-3007

Rashid Mir

- [rmir@energy.state.ca.us](mailto:rmir@energy.state.ca.us)
- (916) 654-4109

