



California Home Energy Rating System Program Phase II

New Foundations for Community-Based Energy Efficiency: Transformational Changes to Housing

U. S. Department of Housing and Urban Development
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Secretary Donovan on “Greening” Housing

- HUD carrying out President’s commitment to planet by “greening” our nation’s housing, whether public, assisted, or in the private market
- Housing is major contributor to global warming, accounting for 20% of U.S. carbon emissions
- Accomplishing “green goals” will take unprecedented collaboration with state, local partners on the ground
- Investing in energy efficiency:



- ▶ Reduces operating costs
- ▶ Saving low and moderate income families on their energy bills
- ▶ Improves real estate values
- ▶ Creates new clean energy jobs
- ▶ Helps us become more energy independent
- ▶ Preserves existing affordable housing stock

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Implementing HUD's Energy Strategy

- **Energy Burden on low-income households - Four times greater than other Americans as % of income**
- **Work with Home Performance with Energy Star**
- **Housing Authorities conduct public housing energy audits every 5 years and include energy efficiency in capital plans**
- **Make Energy Efficient Mortgages priority loan product**
- **Use FHA programs to promote energy efficiency**
- **Promote energy efficiency in multi-family assisted housing**



- **HUD/DOE Weatherization MOU**
- **Obama's Goal to Weatherize One Million Homes Per Year**
- **Keeping Housing Affordable for Working Families in Trying Times**
- **Example of Government Coming Together for the Greater Good**

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California's GHG Reduction Targets

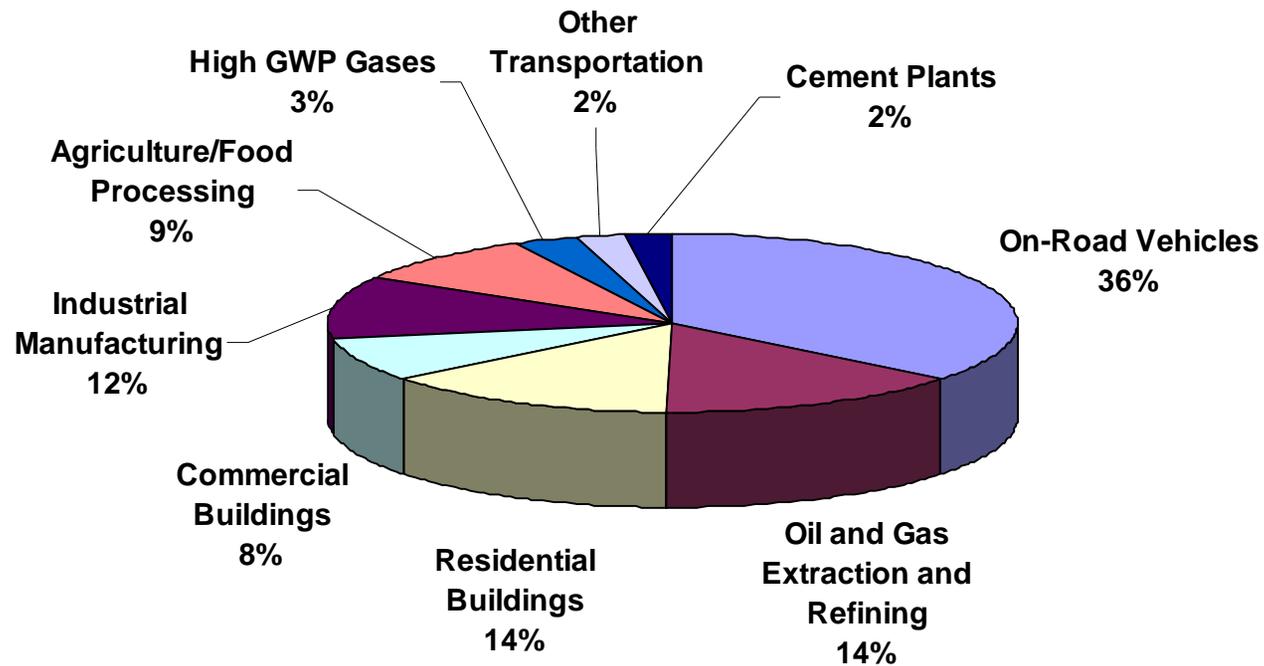


- **2020: Reduce to 1990 Levels
(28% Below Business As Usual)**
- **2050: Reduce 80% Below 1990
Levels**

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California Greenhouse Emissions

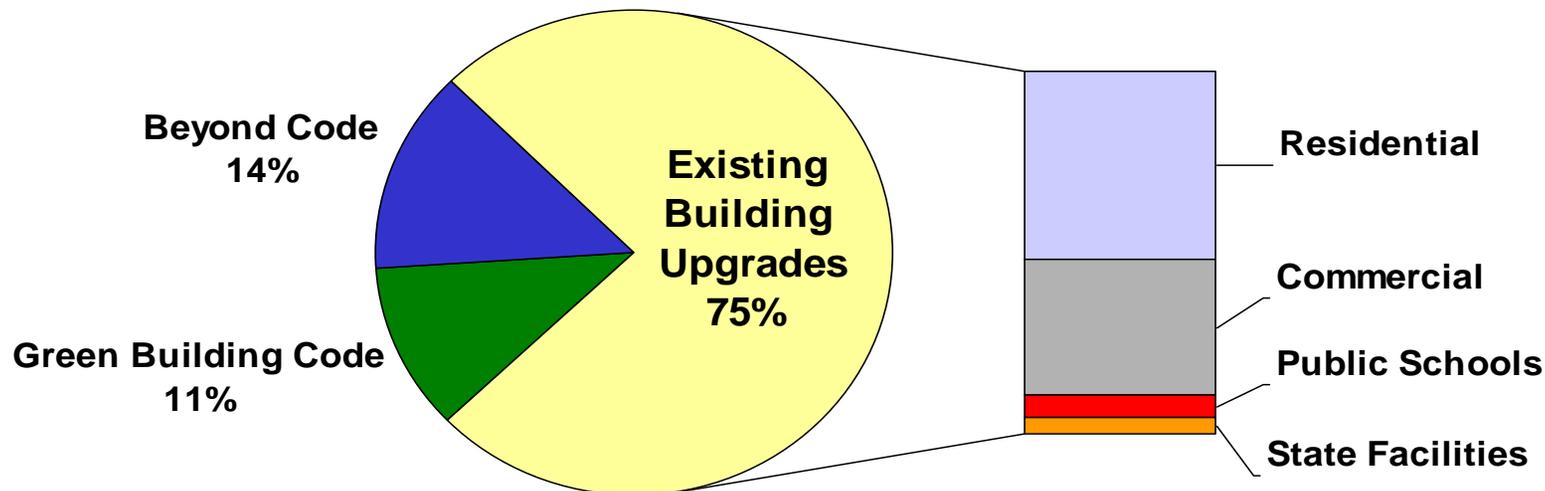


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California Greenhouse Emissions

- **Over 13 Million Existing Homes in California**
- **70% of Housing Predates Energy Standards**
- **Existing Homes Offer # 1 GHG Reduction Potential**



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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**

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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**

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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

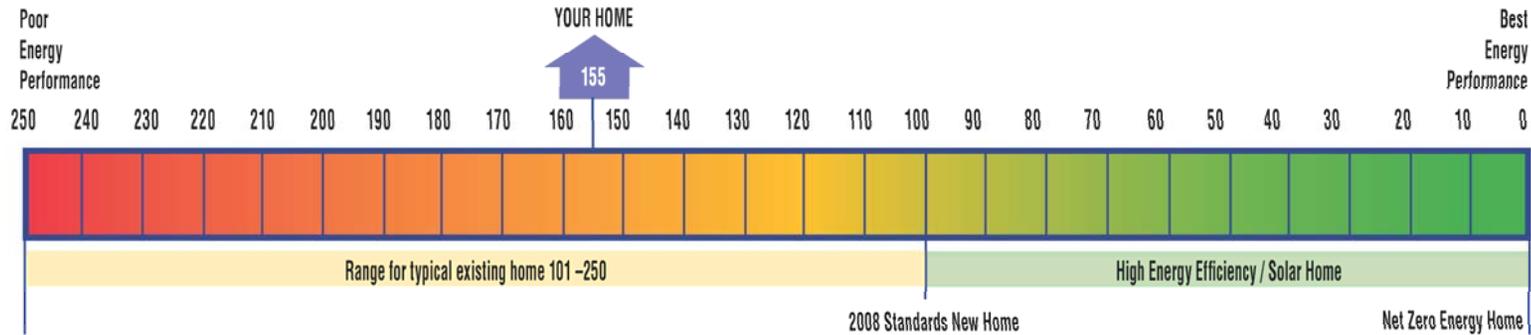
Whole-House Home Energy Rating

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Sample Rating Certificate

California Home Energy Rating Certificate



<p>Information goes here on compliance with other programs:</p>	<p>Energy Impact</p> <p>Greenhouse Gas Emissions Carbon Dioxide xxx tons/year</p> <p>Energy Consumption Electricity (kWh/year) Cooling --- Lights --- Appliances --- Total ---</p> <p>Natural Gas (therms/year) Space Heating --- Water Heating --- Total ---</p> <p>Operating Cost (\$/year) Electricity --- Gas --- Total ---</p> <p>Renewable Energy Production None</p> <p>Ancillary Energy Uses Swimming pool Spa Landscape lighting</p>	<p>Site Information</p> <p>Address 123 Jones Street Anywhere, California 9410x</p> <p>General Information Conditioned Floor Area 2,200 ft² Bedrooms 4 House Type Single Family Foundation Type Slab-on-Grade</p>	<p>Official Home Energy Rating in conformance with the requirements of the California Energy Commission www.energy.ca.gov</p> 
	<p>Qualifying Information Goes Here:</p>	<p>Energy Efficiency Features</p> <p>Insulation Ceiling R-19 Wall R-11 Floor over crawlspace None Slab Edge None</p> <p>Windows Frame Aluminum Glazing Single</p> <p>Heating System Gas furnace, 0.80 AFUE Unsealed air distribution ducts</p> <p>Cooling System None</p> <p>Water Heating System Gas storage type, 0.52 EF</p>	<p>HERS Provider: Acme Energy Rated Homes 934 Energy Efficient Way Power Junction, California www.AcmeEnergyRatedHomes.com</p> <p>Rating Information Rating Number xxxx-yyyy Certified Rater EEH, Inc. Stockton, CA Rating Date: January dd, yyyy</p>
<p>HERS Provider and/or Sponsor Co-Branding Logos Go Here:</p>	<p>Rater Signature _____ Date _____</p>		

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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**

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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**

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HUD Secretary Calls for Energy Disclosure



- Homeowners have no idea what their new home is going to cost in energy bills or how savings from retrofits could provide a return on investment
- Ultimately, if energy bills are going down, there ought to be some mortgage benefits to that
- Need a scoring system that would allow you to understand what you are buying and allow lenders to factor that into the mortgage

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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.**
- **Looking for Partners to Collaborate**

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What's Next for the HERS Pilot Program

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

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California Utility Allowance Calculator

- **Recently Developed by the Energy Commission and Adopted for State/Federal Affordable Housing Tax Credit Qualification by Tax Credit Allocation Committee**
- **Overcomes Major Barrier to Energy Efficiency and Solar by Establishing Project-specific Utility Allowances**
- **Previously Utility Allowances Based on Building Vintage or Number of Bedrooms Did Not Change if Energy Efficiency or Solar Investments Were Made**
- **Allows Projected Reduced Energy Bills to be Recognized in Obtaining Financing for Affordable Housing Projects**
- **Requires HERS Raters to Do Phase I Style Field Verification and Diagnostic Testing As for Title 24 Compliance and Other Incentives Programs**

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Additional HERS Information

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HERS Website:

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

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