



Annual Report On Region 9 Energy Strategy and Action Plan

In fiscal year 2005 Region 9 initiated a comprehensive program to implement HUD’s Energy Action Plan, a strategy to promote energy efficiency and reduce energy consumption in HUD-funded and assisted properties.

This reports provides a summary of significant energy actions and initiatives undertake by Region 9’s program and field offices with assistance and support from the Regional Energy Representative.

Promoting Energy Efficiency Through Energy Workshops, Training and Outreach Activities

During 2005 Region 9 completed over 30 workshops, training and consultation events that provided information and technical assistance on energy efficiency strategies, energy programs and services, no cost/low cost energy efficiency measures, and best practices.

Efforts were made to reach each of HUD’s core constituency groups to better understand their energy efficiency needs and opportunities to promote energy efficiency. The constituency groups reached by Region 9 energy outreach include *public housing authorities, multifamily sponsors and asset managers, local community development and housing agencies, community organizations, and residents of HUD properties assisted by HUD programs.*

Event Descriptions	Number
<i>Energy Workshops/ Roundtables</i>	<i>20</i>
<i>Energy Efficiency Training</i>	<i>11</i>
<i>Energy Efficiency Technical Consultations</i>	<i>9</i>
<i>Outreach Meetings with Energy Program and Service Providers</i>	<i>>25</i>

In addition, the Regional Energy Coordinator initiated outreach with over 25 energy efficiency programs and service providers to explore potential partnerships with HUD’s Energy Action program. The partnerships that have been created as a result of this outreach will provide technical assistance and tangible energy efficiency improvements to HUD properties and grantees. The value of these improvements and services is projected to exceed several millions dollars through 2008.¹

¹ Organization contacted include: *California Energy Commission, Affordable Home Energy Service, Con Sol Engineering, Energy Rated Homes of Nevada, GeoPraxis, H&L Energy Savers, Richard Heath and Associates, Hescong Mahone Group, ICF Consulting, Intergy Corporation, RESNET, Rocky Mountain Institute, Strategic Energy Innovations, Synergy Energy Management, South West Energy Efficiency Programs, Ecos Consulting, SAFE BIDCO, CalHFA, Enterprise Foundation, LISC, PG&E, SMUD, SDG&E, AMERESCO, and WESCO.*

Energy Workshop Training and Outreach Highlights

Multifamily Property Training: Multifamily training on property energy efficient property management practices was conducted in February and March in partnership with the Energy Action Training Academy, a program funded by the California Public Utilities Commission. The energy efficiency training was provided on February 16-17 and March 22-23. The training program included two courses:

- *Energy Efficiency for Property Managers* - A basic course for property managers on monitoring energy consumption and approaches and resources for undertaking energy efficiency improvements.
- *Energy Efficiency for Maintenance Staff* - A hands on comprehensive building operations course for maintenance personnel. The course reviews techniques useful for reducing energy consumption and maintaining energy efficient building systems.

Multifamily Staff Training on Energy Efficiency: HUD's Regional Energy Representative and Con Sol Engineering provided training to HUD's San Francisco office multifamily staff on updates to Title 24, California's energy performance standards. The standards, which went into effect in October 2005, materially effects building energy performance requirements for all new construction projects. Information was provided on new energy design requirements for hot water and HVAC systems, lighting, insulation, and building construction quality. The training program also included presentations on Energy Star rebate programs for new construction.

Public Housing Energy Workshops: HUD's Regional Public Housing HUD's and the Regional Energy Representative provided a series of successful workshops on Energy Performance Contracting and resource leveraging strategies. The workshops presented materials on HUD's financing incentives, provided information on energy efficiency funding resources, and offered technical information from Energy Service Companies and energy resource providers useful in developing agency energy plans. Over 50 public housing authorities received training on Energy Performance Contracting.

CPD Regional Energy Efficiency Conference: Over 200 participants attended CPD *Energy Efficiency and Affordable Housing Conference* cosponsored by the Enterprise Foundation and BP Solar. The event included participants from southern California entitlement communities, participating jurisdiction, public housing authorities, non-profit housing developers, and energy service provides. The event included a plenary presentation by the Regional Energy Representative on HUD's Energy Action Plan and breakout workshops on:

- Funding Programs Available for Energy Efficient Housing (SCE, HMG)
- Energy Audits – How to Know What your Housing Needs (Performance 4)
- Green Building standards and examples of successful projects for single and multifamily projects (Global Green, City of Santa Monica, RCAC, and BP Solar)

Reducing Energy Consumption in Public Housing and HUD Assisted Housing Properties

Each year, HUD expends an estimated \$4 billion annually on utility costs. Accordingly, a significant priority of HUD's Energy Action Plan is the reduction of energy consumption in HUD-funded and assisted properties. In 2005 Region 9 undertook several targeted initiatives to assist public housing authorities and HUD-assisted properties reduce energy consumption in existing properties.

Public Housing - For public housing, Regional staff provided training on Energy Performance Contracting, technical support in addressing energy audit requirements, and assistance in accessing and leveraging energy programs, rebates, and services to reduce energy consumption.

Public Housing Energy Efficiency Highlights

Fresno Evaporative Cooler Replacement Program: The Fresno Housing Authority has over 1,100 units of public housing made up of mostly duplexes and single-family units. In 2005 the Fresno Housing Authority completed a comprehensive retrofit replacing the cooling systems for 348 units with high-energy efficient evaporative coolers. In developing its retrofit plan, the Fresno Housing Authority considered the life cycle costs of new systems. Key factors considered included electric consumption, maintenance calls, and customer comfort. After on-site testing, the Housing Authority selected a higher cost product that requires less maintenance and labor and uses only one-third of the energy required for conventional air conditioning. The newer evaporative coolers were also very effective at producing cold air and providing a high level of comfort to the Housing Authority's residents during Fresno's summer months when the temperature typically exceeds 100 degrees. Another plus is that the cost of operating evaporative coolers is an eligible operational cost under HUD's guidelines.

As part of this project, the Fresno Housing Authority was able to leverage \$104,400 in rebates from the Pacific Gas and Electric Company. The Housing Authority plans to purchase an additional 325 evaporative coolers in 2006, which are also eligible for energy rebates.

San Diego Energy Team Partnership: In 2004/2005 the San Diego Housing Authority partnered with the San Diego Gas and Electric Company's Energy Team program to make energy efficiency improvements to over 1,000 units of public housing. The Energy Team program provides a basic weatherization measures to low-income households to reduce household energy consumption and costs. The program provides shell sealing, ceiling insulation, refrigerators, air conditioners, water heaters, energy-saving light bulbs and porch light fixtures and health and safety improvements. Typical energy savings realized under the program are 10% to 20%.

The Energy Team program is mandated by the California Public Utilities Commission and funded by the Public Benefits Fund.

Multifamily Housing - For multifamily housing, Regional staff conducted outreach and training to multifamily asset managers, assisted properties in completing energy audits, and initiated a multifamily weatherization pilot involving 6 projects in California's San Joaquin Valley.



In support of the California Multifamily Weatherization initiative, the following actions were completed during 2005 by multifamily housing staff and the Regional Energy Representative.

- ❑ Project Targeting: Criteria was developed with the multifamily office to identify candidate projects for weatherization pilot program and energy efficiency outreach.
- ❑ Energy Audits/Assessments: Energy audits and assessments were undertaken for several project including - *The Californian, Shiloh Arms, Franko Center, Park Street Apartments, Fresno Silvercrest, Pioneer Towers, and various EAH, Inc properties.*
- ❑ Resource Leveraging: Resources were leveraged from energy programs and services approved by the California Public utilities Commission. These include:
 - Design For Comfort - \$151,000 (The Californian)
 - Design For Comfort - \$84,000 (Shiloh Arms)
 - Energy Actions – Energy audits, training and project technical consultation
 - PGE Energy Partners Program – Low income weatherization measures
 - SMUD Energy Efficiency Incentives – Lighting and appliance rebates
 - DOE/Weatherization Assistance Program Providers
- ❑ Technical Assistance: Design for Comfort and Energy Action provided consultation support to assist in the design and implementation of energy retrofits plans, develop equipment specifications, and review bid proposals.
- ❑ Training: Design For Comfort and Energy Action provided training to operations and maintenance staff and residents on practices for improving and maintaining energy efficiency.



These initiatives have resulted in measurable energy reduction and assisted staff in developing successful models for completing energy retrofits.

Multifamily Weatherization Pilot Initiative

The Californian (Fresno, CA): The Californian, a 217 unit HUD-assisted affordable housing project in Fresno, was identified as a one of 7 potential candidates in Region 9's multifamily Weatherization Pilot initiative and during 2005 completed the first phase an energy efficiency retrofit. The retrofit included:

- High Efficiency DHW Boiler System Replacement
- High Efficiency Variable Speed Control System on Water Booster Pumps
- High Efficiency HVAC System Tune-up (including VFD's on hydronic pumps)
- Attic Insulation (R-30)
- Reduce Air Infiltration (weatherization, interior door sweeps, etc.)
- Energy Star lighting fixtures
- Energy education

Assistance provided to the property manager through the Design for Comfort program included a building energy audit, extensive consultation in the design and implementation of the energy retrofit, and bid reviews. Design for Comfort also provided \$151, 200 for the boiler replacement and related energy improvements. In an excellent example of cross-program coordination, the Energy Partners Program (implemented by Richard Heath and Associates in association with the City of Fresno and Pacific Gas & Electric) funded measures not covered by the Design for Comfort program.

The energy retrofit will reduce energy consumption by over 24% (1,962,651 kBTU/yr) and reduce energy costs by nearly \$30,000 a year. The energy improvement have a pay back period of approximately 5 years

Franco Center (Stockton, CA):

The Housing Authority of San Joaquin County has initiated energy efficiency retrofits to increase the energy efficiency of the historic Franco Center housing development, Franco Center, a 110 unit HUD-assisted multifamily project in downtown Stockton California.

Franco Center received assistance from the Energy Action/LISC, which conducted energy consultation with the project officials and performed energy audits. The services provided by Energy Action/LISC included developing of boiler specifications appropriate for building characteristics that was included in an RFP and a lighting replacement plan. The Water and Energy Service Corporation also did a site review of the property to determine the feasibility of financing energy improvements through a energy performance contract.

To implement the project, Franco Center obtained CAL HFA financing (\$1.8 million) to cover the costs of replacing a boiler, chiller, and boiler controls. Additional funds were sought for other improvements, including energy efficiency windows, but could not be found. Improvements at Franco Center are underway.

Technical Support For Community Energy Efficiency Initiatives

During 2005 Region 9's program offices and Regional Energy Representative provided technical support to HUD-assisted multifamily properties, public housing agencies, and Participating Jurisdictions to facilitate local energy efficiency projects.

A key focus of our technical support was assisting local agencies develop energy efficiency standards and guidelines to improve the energy performance of housing developed or rehabilitated with HUD programs. Technical support also included providing support to State and regional working groups created to develop recommendations on appropriate energy efficiency strategies. The Regional Energy Representative also facilitated access to energy programs and resources to conduct energy audits and finance energy improvements and provided guidance on cost-effective energy strategies and improvements.

Technical Support Highlights

HOPE VI Energy Design Charrette: HUD's Fresno Field Office sponsored a project design charrette on June 8 to assist the Fresno Housing Authority examine and incorporate energy efficiency and green building measures in a \$60 million HUD VI project. The energy design charrette included over 20 participants from Fresno, the EPA, DOE, Strategic Energy Innovations, and HUD PIH officials. This technical support assisted the housing authority's identify feasible, cost-effective strategies for achieving Energy Star and LEED Certification for the project. Additionally, the Regional Energy Representative facilitated participation by Consol Engineering to assist Fresno's design team meet Energy Star standards and submit documentation to qualify for Energy Star rebates (\$150/ unit).

CPD Energy Efficiency Technical Assistance: During 2005, five communities in the San Joaquin Valley requested CPD technical assistance to assist them in identifying prescriptive measures and protocols for increasing the energy efficiency of housing assisted by HUD's HOME and CDBG programs. The request was approved in 2005 and will be delivered in 2006.

Statewide Workshops on Improving Energy Efficiency in Existing Building: Region 9 participated on a Statewide Task Force on Energy Efficiency established by the California Legislature (AB 549) to propose a series of integrated and cost effective strategies for reducing peak and overall energy consumption in existing residential building in California. HUD joined the California Association of Realtors, California Building Industry Association, local government officials, municipal utility companies, housing developers, appraisers, residential energy professionals on residential working groups to assist the California Energy Commission develop strategies and actions to increase the energy efficiency of the existing housing stock. The workgroups recommendations were included in an action plan developed prepared by the California Energy Commission was submitted to the California legislature in December 2005.

Energy Partnerships and Strategic Alliances

An important element of Region 9's Energy Strategy is facilitating partnerships and alliances with energy program and service providers to the bolster energy efficiency efforts of HUD and HUD's constituents.

In Arizona, California, and Nevada, Public Benefits Funds have been created by state legislatures that provide energy efficiency programs. In Arizona, public utility companies invest over \$1 million annually in low-income energy efficiency measures. In Nevada over \$2.5 million is provided to weatherize low-income households. And in California, between 2006 to 2008 over \$2 billion, over \$650 million a year, will be invested in state funded energy efficiency program, including several programs mandated by the California Public Utilities Commission that benefit low-income households and affordable housing properties. These programs provide opportunities to leverage additional resources for energy efficiency improvements and lower the household energy costs for low-income families, which represent a significant and disproportionate income burden.

Energy Partnership Initiatives

PGE –HUD Low Income Energy Assistance Partnership: In partnership with the Pacific Gas and Electric Company (PGE), Region 9 is working with public housing authorities and assisted multifamily properties to increase household access to the CARE (California Alternative Rates for Energy) program. During 2005, HUD initiated two pilot initiatives to increase access to CARE. In Fresno, property managers at 12 HUD-assisted multifamily properties in the Fresno service area received training on the CARE program and disseminated application packages to residents. In addition, a pilot program was initiated with 7 public housing authorities (Alameda, Contra Costa, Fresno, Marin, Oakland, San Joaquin, and Yolo) to enroll Section 8 voucher holders. This entailed tailoring outreach efforts to meet the needs of each PHA to safeguard client information and streamline the dissemination packages to eligible households.

PGE considers the pilot highly successful. At the end of 2005 nearly 7,000 new households enrolled in CARE as a result of this initiative. The CARE program provides a 20% discount on household energy costs for low-income households, which reduces household energy costs by approximately \$300 per year. This effort will generate an estimated \$2.1 million in reduction to utility costs.

Participants	Applications Received	Applications Certified	Rate
- Fresno Multifamily	1,133	818	72%
- Contra Costa HA	1,265	927	73%
- San Joaquin HA	1,518	1,427	94%
- Fresno HA	1,118	915	82%
- Alameda HA	810	656	81%
- Oakland HA	2,274	1,892	83%
- Marin HA & Yolo HA	428	315	74%
TOTAL	8,546	6,950	81%

Additionally, HUD's energy partnerships with the Department of Energy and the Environmental Protection Agency offer opportunities to access technical expertise and other Federal resources to support residential energy programs and HUD's initiatives to promote Energy Star standards and products.

San Joaquin Clear Air/ Clean Energy Working Group and California Partnership for the San Joaquin Valley

In October 2004, the Presidential Executive Order creating a Federal Interagency Task Force on the Economic Development of the Central San Joaquin Valley was amended naming HUD as the permanent lead. The federal Task Force has undertaken 3 initiatives, including a Clean Air/Energy Efficiency Initiative that focuses on alleviating the region's poor air quality and promoting energy efficiency and renewable technologies.

Under this initiative HUD, DOE, and the EPA have explored several opportunities to increase energy efficiency in the Valley, initially through Rebuild America, a voluntary program providing tools and assistance to communities seeking to accomplish energy-related objectives.

Through this initiative technical assistance has been provided to the City of Fresno and Fresno Housing Authority in the design of affordable housing projects and outreach has been accomplished with HUD grantees in the Central Valley to identify appropriate strategies and programs for promoting energy efficiency.

During 2005, the scope of this initiative was significantly expanded to include a comprehensive and coordinated multi-task action plan to accomplish three objectives:

- Making residential buildings more energy efficient.
- Developing results-oriented community energy partnership.
- Promoting renewable energy strategies and projects.

Actions undertaken in 2005 have directly assisted community efforts to establish policies promoting energy efficiency and the development of housing projects that will exceed State energy performance standards.

Additionally, the Clean Air/ Clean Energy initiative complements and supports the objectives of the California Partnership for the San Joaquin Valley, which was established by Governor Schwarzenegger through Executive Order S-5-05 (June 2005).

Special Energy Initiatives

Region 9 assisted HUD's Energy Task Force with several activities and initiatives supporting HUD's national energy efficiency objectives. During 2005, the Regional Energy Representative made a substantial contribution to the drafting of the Department's Phase II Action Plan, prepared briefing papers on energy issues, and presented recommendations for consideration of HUD's program areas to improve the effectiveness of HUD's Energy Action Plan.

Region 9 staff also participated in a National Energy Conference sponsored by the Department of Energy on behalf of HUD's Energy Task Force, conducted a regional roundtable with FHA lenders to provide feedback on barriers to HUD's Energy Efficient Mortgage Insurance program, and assisted the Office of Public and Indian Housing in perfecting a waiver request for energy efficient utility allowances.

Energy Efficient Utility Allowances

HUD's National Energy policies encourages housing sponsors to incorporate Energy Star building standards in new affordable housing developments. Yet, the additional costs for energy efficiency measures beyond residential building code can pose a barrier to adopting Energy Star standards unless appropriate incentives are available to cover the higher first costs.

One promising market-based solution for projects financed by low-income tax credits is to allow affordable housing sponsors to use *Energy Efficiency Utility Allowances* in newly developed projects that achieve an Energy Star building standard. Under this approach, utility allowances would reflect the lower energy consumption of energy efficient buildings. This adjustment would increase the project's cash flow and thereby permit project revenues to cover the higher incremental debt service of including additional energy investments in the project.

Since most tax credit projects use PHA Section 8 utility allowances, this approach needs the assistance of PHA's in setting a utility allowance to reasonably reflect the energy costs for this type of building (e.g. Energy Star building).

In California, with the support of the headquarters' PIH office, Region 9 developed the documentation requirements for the waiver submissions from two public housing authorities requesting HUD's approval to create energy efficient utility allowances. Region 9 also prepared informational materials to brief PIH staff and the Energy Task Force on this issue.

The waiver requests from the San Francisco Housing Authority and the Housing Authority for the County of San Joaquin were approved. To date, 12 housing authorities in California have approved Energy Efficiency Utility Allowances.