



## October is Energy Awareness Month!

This year's theme, "A Sustainable Energy Future; Putting All the Pieces Together," encourages you to see yourself as a piece of a larger puzzle—fitting into the big picture, shaping our energy future, and moving our nation toward energy independence. What better way to get involved than to perform fundamental energy and conservation examinations of the equipment in your home.

As part of Energy Awareness Month's Commit to Conserve (C2) promotion, PHAs are encouraged to help residents identify energy and utility leaks. PHAs can train residents to perform inspections, minor maintenance and small-scale safety repairs around their residences. By investing in inexpensive test and repair items, residents can become involved in activities, if permitted by state and local laws, which would result in significant energy, water, and cost savings to the PHA. This would improve the building envelope and provide relatively simple maintenance to mechanical and plumbing equipment, including improving the safety of the units, such as replacing smoke detector batteries. The inspection efforts could include:

- Dye testing of toilets to identify leaks
- Inspection of shower heads
- Inspection of air conditioner/furnace filters
- Inspection of weatherstripping around windows and doors
- Identification of caulking deficiencies
- Inspection of refrigerator gaskets for sealing and heat exchange coils for cleanliness
- Inspection of lights and lamps for upgrade to compact fluorescent lamps (CFL's)
- Inspection and testing of smoke detectors
- Verify the operation of exhaust fans
- Inspection for evidence of rodents or other pests
- Set up recycling bins

These inspections would be largely visual, seeking to either identify energy waste or indoor environmental issues that can be easily identified and repaired by the maintenance staff. It is likely that there will be maintenance issues that once resolved could increase energy efficiency while making the units healthier for residents. These repairs could include:

- Replacement of toilet valves
- Replacement of shower heads to low flow heads
- Replacement of air conditioner/furnace filters
- Installation of weatherstripping at windows or doors
- Installation of caulking to prevent infiltration of air or water
- Exchange of incandescent bulbs for CFLs and recycling of used CFL's
- Installation of smoke detector batteries
- Recycle bags/boxes

The tools and supplies required to perform the inspections would be inexpensive, with the tools costing as little as \$30 (simple hand tools such as a flashlight, screwdrivers, caulking gun, adjustable wrench, putty knife, utility knife, etc.).

The inspection might take about an hour with two to three hours for repairs. An estimate for the cost of an inspection and repairs would be \$80-100, including about \$30 for materials. The skills required for these activities are modest. Training for residents conducting the inspections or repairs could easily be presented in a short curriculum including both classroom and on-the job activities.

Because the skills developed may provide employment opportunities, the value of the training would be reinforced and might be foundational for many workers who might

### UPCOMING EVENTS

#### The Association of Energy Engineers World Energy Engineering Congress

▶ November 4-5, 2009 | Washington, DC  
☞ [www.tinyurl.com/yfhw6ej](http://www.tinyurl.com/yfhw6ej)

#### NAHRO Energy Performance Contracting Seminar

▶ February 8-9, 2010 | Los Angeles, CA  
☞ [www.tinyurl.com/luqmso](http://www.tinyurl.com/luqmso)

#### ASES National Solar Conference

▶ May 17-22, 2010 | Phoenix, AZ  
☞ [www.tinyurl.com/d8oqcr](http://www.tinyurl.com/d8oqcr)

#### Five Day Intensive EPC Course

▶ June 14-18, 2010 | Chicago, IL  
Call 312-554-0900 to register or contact Eugene Goldfarb, at ☞ [egoldf1@uic.edu](mailto:egoldf1@uic.edu)

learn more advanced green concepts such as installation or repair of energy conservation technologies. Following the development of these fundamental skills, the residents have potential for further employment with local energy and utility contractors in the area or as part of an energy performance contract with the PHA.

As an extension of this activity, these inspection and repair services could be provided to the private sector housing market or elsewhere in the community through resident-owned businesses. The C2 is voluntary for PHAs and residents. Dialogue between HUD and PHAs that implement these activities would be extremely valuable in learning how best to promote this activity and share lessons learned with other PHAs.

## EIA Projections for Heating Fuels this Winter Decrease

The Energy Information Administration (EIA) projects average household expenditures for space-heating fuels to decrease this winter (October 1 to March 31) by 8 percent, from last winter. This forecast principally reflects lower fuel prices and an anticipated milder winter than last year. The largest expenditure decreases are in households using natural gas and propane, projected at 12 and 14 percent, respectively. Projected electricity and heating oil expenditures decline by 2 percent (see [EIA Short Term and Winter Fuels Outlook](#) slideshow).

Thirty-five percent of all U.S. households rely on electricity as their primary heating fuel, ranging from 13 percent in the Northeast to 59 percent in the South. The number of households heating with electricity is growing faster, at an estimated annual rate of 2.5 percent, than all the other major heating fuels.

According to the National Oceanic and Atmospheric Administration's (NOAA) most recent projection of heating degree-days, the Lower-48 States are forecast to be 1 percent

warmer this winter compared with last winter and 1 percent milder than the 30-year average (1971-2000).

For additional information on the EIA projections visit ☞ <http://www.eia.doe.gov/oiaff/forecasting.html> and for additional tips on keeping heating costs down visit ☞ [http://www.energymaine.com/home\\_tips\\_heating.htm](http://www.energymaine.com/home_tips_heating.htm).

# Every Paperclip Counts

## A New Model of Operations for Public Housing Authorities

Yolo County Housing (YCH) is located in Woodland, CA in a predominantly rural farming and ex-urban county with four incorporated cities and several unincorporated villages scattered across a little over 1,000 square miles. The county has a total estimated population of 197,000 (2009 U.S. Census estimates).

Due to a budget deficit in 2006-2007 and a reduction of approximately 20% from its operations budget in 2007-2008 Yolo County Housing (YCH) began analyzing the way they did business and sculpting an action plan to operate more efficiently in all of their cost centers. Also, in April 2007, the YCH was reclassified as a troubled agency.

YCH began developing an action plan by investigating every cost center within the YCH budget. They deployed asset management in LIPH and further broke down the organization through a new system of cost centers. Following the basic tenet that every cost center must support itself, they looked at every line item within the budget in the same way.

YCH discovered that they were not fully deploying technology that could better help achieve their goals. They found inefficiency in their service contracts, water use, electricity, landscaping, and personnel distribution.

YCH developed a plan of action to build sustainable efficiencies via better deployment of resources and minimization/recycling of waste. This would improve YCH's financial status immediately, but would also reduce carbon and greenhouse gas emissions.

The first part of YCH's strategy was to develop and execute small projects that would do three things:

- Have an immediate beneficial financial impact;
- Capture the imagination of staff and help them to look at their assets and liabilities in a different way; and
- Create projects that would help improve community relations.

YCH began with an inventory of wastes in time, money and resources and an informal survey of what YCH was currently doing to remedy these wastes. In the first year YCH was able to complete several low- or no-cost projects, which had immediate financial payoffs including:

- YCH began diverting scrap lumber to a nearby wood co-generation plant instead of sending it to the landfill. In the first year, YCH saved dump fees and diverted 13,000 pounds of scrap wood from local landfills;
- YCH partnered with their local utility provider for no-cost energy audits. They also provided no-cost weatherization, light bulb replacement and energy efficient refrigerators in qualifying units. This initiative was primarily focused on non-LIPH units, but was ultimately used as part of any Energy Performance Contract (EPC) project in LIPH units. It has allowed YCH to improve residents' quality of life and spread scarce



rehabilitation funds farther;

- YCH completed a habitat restoration project that provided natural flood and erosion control, sustainability education for residents and, ultimately, a local 4-H Chapter at YCH. After completion, they entered into a HUD-approved easement with the Water Board for ongoing maintenance of the improvements at no cost to YCH, thereby providing free landscaping services for that portion of the property.
- YCH also partnered with the Davis Energy Group, Aztec Solar, the Department of Energy (DOE) and the National Renewable Energy Laboratory (NREL) for the installation and operation of 20 experimental solar hot water heaters on the roofs of Davis seasonal migrant center. The property is a field test site for a new type of solar hot water system. Both the equipment and the installation were provided at no cost to YCH; after four years, the agency owned the equipment at no cost. In the meantime, the YCH and the State of California Office of Migrant Services (OMS) receive the benefit of reduced hot water heating bills.

Reducing inefficiencies in procurement and purchasing was the single most effective way for YCH to "go green" and practice sustainable economics on a large scale. YCH was able to enroll in the Energy Star program, as well as a state-pooled purchasing program for computer equipment and a county/city pooled purchase program through Staples. By moving to pooled programs YCH was able to cut costs for office supplies and computer cartridges by 14% overall and has been able to cut the costs of cleaning supplies for buildings and units by 90% over conventional supplies. It also allowed YCH to decentralize most procurement and benefited the move to asset management by ensuring that goods continue to be properly procured throughout the organization.

YCH staff became great champions of greening the agency. Lisa Baker, YCH's Director, created the Executive Director's Challenge Fund, which rewards staff that implement cost savings and green innovations in operations. The Fund, which is provisioned by a \$100 per month donation from the Executive Director, is operated by employees (including former award winners). With the employee ideas inspired by this program, the YCH has been able to cut costs and improve service delivery in operations by:

- Changing to a more inexpensive filing system for closed files;
- Improving procurement, and cutting costs for computer-controlled thermostats while

shortening the turnaround time for replacements, and

- Cutting maintenance staff time for dumping, reducing landfill tonnage, avoiding dump fees by finding and entering into an agreement for a recycler pick up and recycling old stoves, refrigerators and batteries.

Also as part of employee concessions for cost savings in 2007, YCH went to a 36-hour work week and 72 hours of furlough. Staff began working a four nine-hour day work week. This gave employees a three-day weekend, which cut down employee driving and day care requirements while still maintaining effective operations. Reprogramming thermostats and lighting to shut off after hours and during the three day weekends saved YCH approximately \$6,000 over their budgeted amount in the first six months of implementation in one building. YCH has now moved to a 10 hour a day, four day work week -- in order to reap continued cost savings while reducing carbon and green house gases.

## Next Steps

The California Global Warming Solutions Act of 2006 (AB 32), which calls for greenhouse gas reductions, has been a catalyst for many local governments to look at ways to reduce carbon and greenhouse gas emissions. The YCH Board of Commissioners, five of whom are also members of the County Board of Supervisors, has been engaged in this issue. In 2008, the YCH Board adopted a Climate Change Resolution and has pledged the agency to reduce greenhouse gas emissions. The YCH is an active member of Yolo County's Climate Change Compact and sits on the Local Government Steering Committee.

This vision has been a driving force behind YCH's greening initiatives. In 2008-2009, the YCH was able to complete its greenhouse gas and carbon footprint analysis for its 2006 baseline year. The YCH has uploaded its data to the National Climate Registry; thus becoming the first housing authority in the nation to be registered.

For additional information on Yolo County Housing's energy saving and green initiatives contact Lisa Baker, YCH Director at [lbaker@ycha.org](mailto:lbaker@ycha.org).

We want to hear from you! Please send us nominations for projects to be highlighted in the EcoWise success stories.

Contact us at [ecowise@deval.us](mailto:ecowise@deval.us)

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