

Energy Upgrade California

Is Your House Leaking Energy and Money?

November 29, 2011

Hayward, CA

Reduce energy use. Save money. Create jobs.



Introduction

Energy Upgrade California™ is a statewide program providing significant incentives to help homeowners make their homes more comfortable, healthy, and energy efficient.

www.EnergyUpgradeCA.org



Reduce energy use. Save money. Create jobs.



A Transformative Energy Program

Statewide program expectations

- Upgrade 100,000 buildings
- Create 12,000 construction-related jobs
- Evolve thinking to the Whole House approach
- Reduce greenhouse gas (GHG) emissions to mitigate climate change
- Improve air quality and health

Funding

Funding sources

- State Energy Program/American Recovery and Reinvestment Act (ARRA) stimulus funds
- Investor Owned Utility Whole House Retrofit Program
- California Energy Commission-administered Energy Efficiency and Conservation Block Grants
- Better Buildings Program
- Employment Development Department Workforce Investment Act

How can an Energy Upgrade help me?

Whether they're **12 years or 120 years old**, most homes share some common **problems...**



Reduce energy use. Save money. Create jobs.



What's the Problem?

“We’ve got the furnace on 24/7, but it’s **still** too **cold** and **drafty**.”



Reduce energy use. Save money. Create jobs.



What's the Problem?

“In the summer we sleep downstairs, because it’s so **hot** in our bedrooms.”



Upgrade your home. Conserve. Save money.

What's the Problem?

“Sometimes
I wonder if the house
makes her asthma
worse.”



What's the Problem?



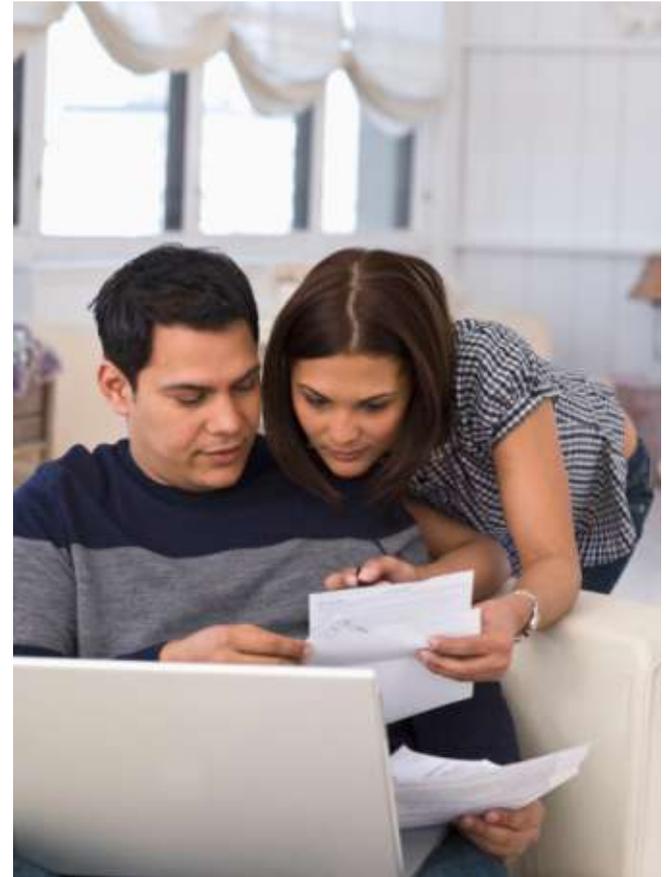
“I want to help the **environment** however I can, including in **my home.**”

Reduce energy use. Save money. Create jobs.



What's the Problem?

“I dread opening our **utility bills** each month—I wish we could find ways to **lower** them.”

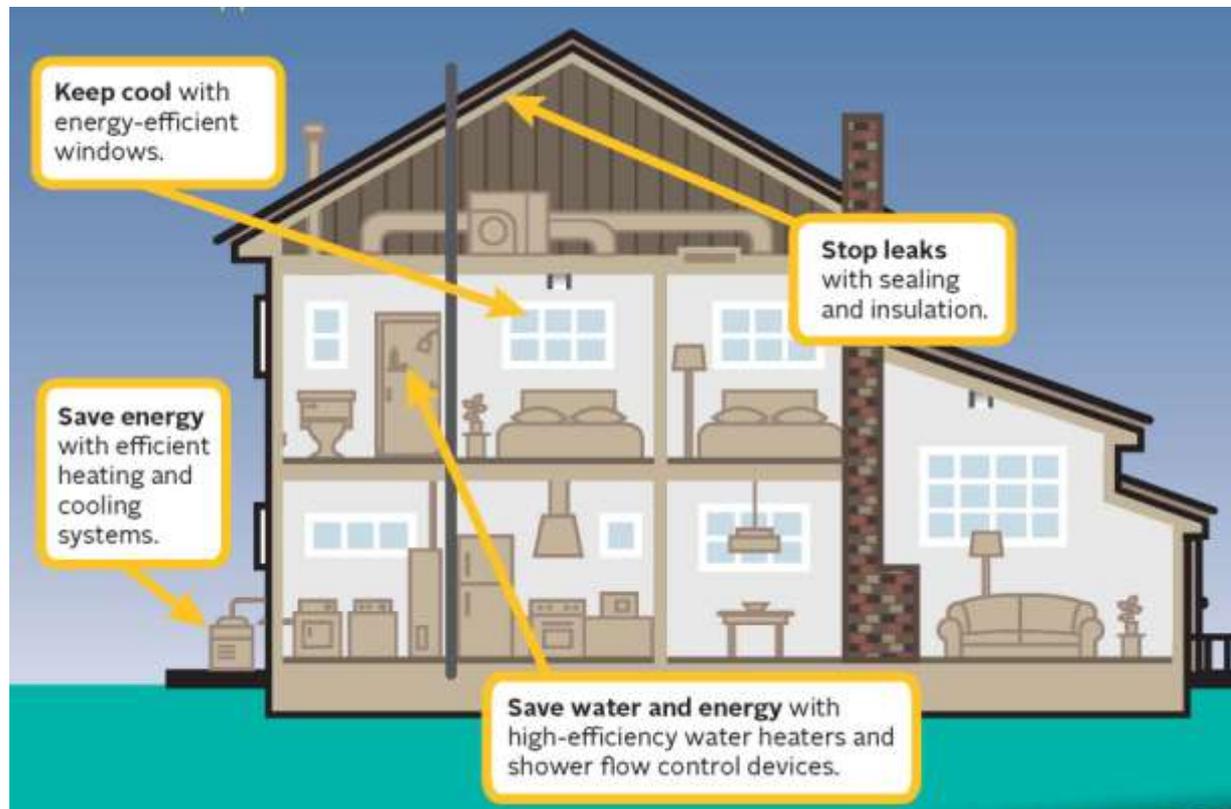


Reduce energy use. Save money. Create jobs.



Whole House Approach

Your house is a system with complex interactions



Reduce energy use. Save money. Create jobs.

Key Message

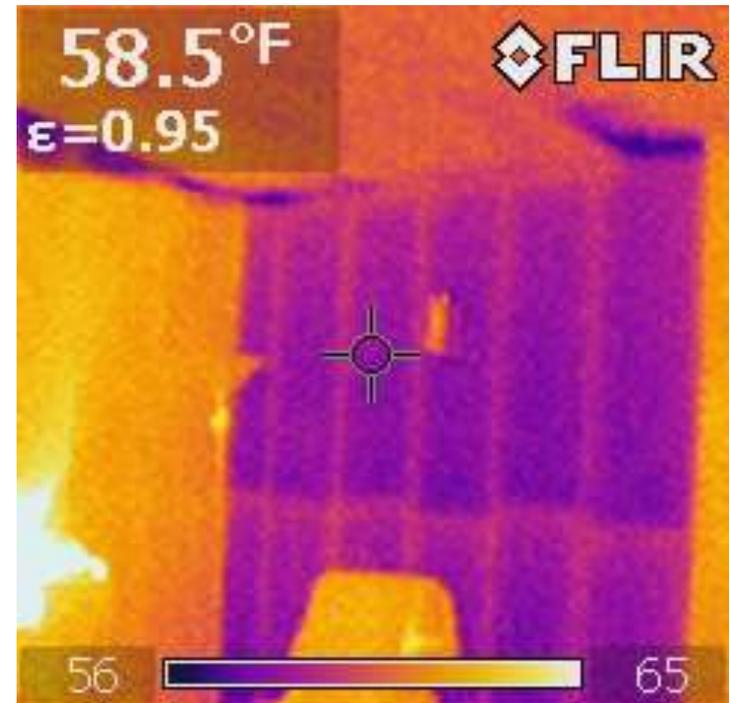
- **Home performance contractors and energy experts are taking a new approach to home improvement that considers the whole house as a system and uses before and after testing to achieve measurable results.**

Measured Performance



Reduce energy use. Save money. Create jobs.

Thermal Imaging



Reduce energy use. Save money. Create jobs.

Simple Fixes



Uninsulated Attic



Reduce energy use. Save money. Create jobs.

Moist, Uninsulated Crawlspace



Reduce energy use. Save money. Create jobs.

Duct Problems



Reduce energy use. Save money. Create jobs.

Air Sealing



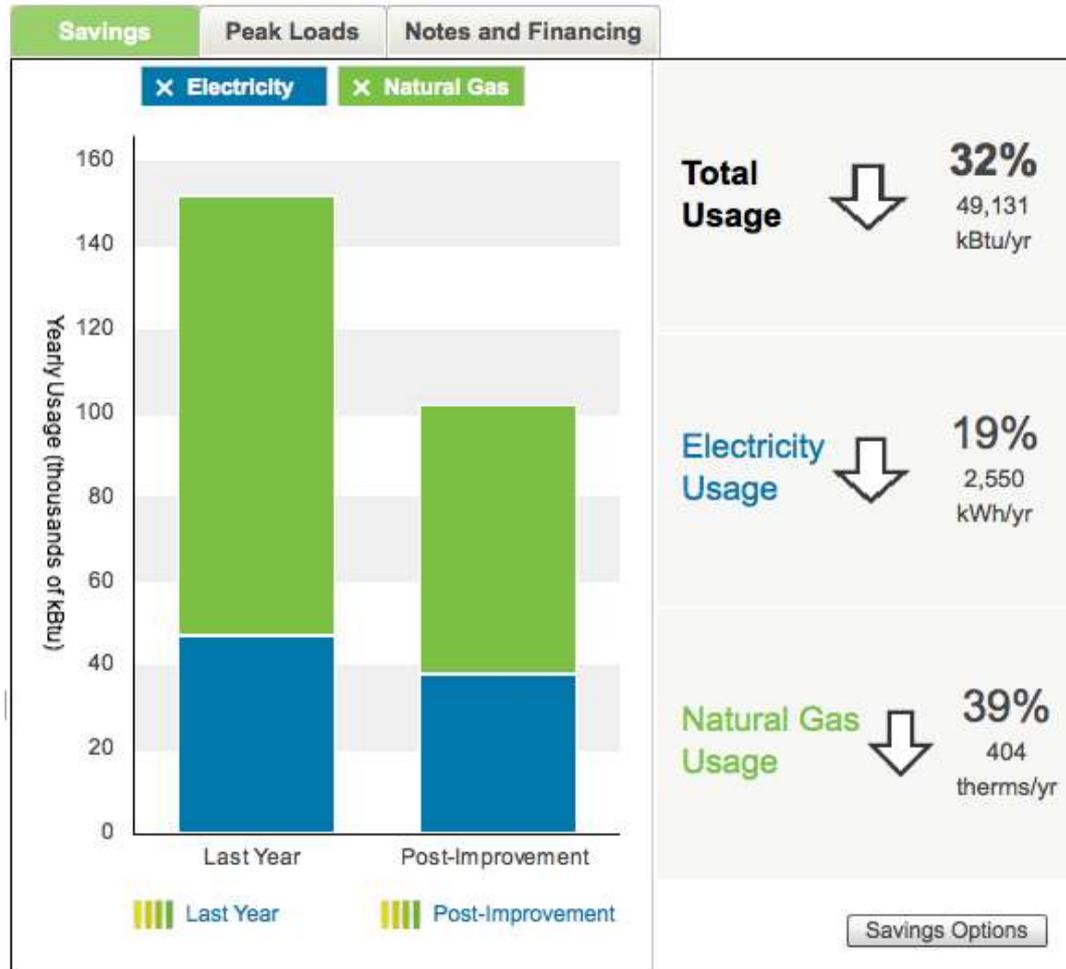
Reduce energy use. Save money. Create jobs.

Attic Insulation



Reduce energy use. Save money. Create jobs.

Software Modeling



Reduce energy use. Save money. Create jobs.

Asbestos



Reduce energy use. Save money. Create jobs.

Combustion Safety



Reduce energy use. Save money. Create jobs.

Statewide Utility Incentives

Basic Upgrade Package		Advanced Upgrade Package	
Required Measures	Incentive	Required Basic Package Measures + Custom Measures	Incentive
<ul style="list-style-type: none"> • Air sealing • Attic insulation • Duct sealing • Hot water pipe insulation • Low-flow showerhead with thermostatic control • Smoke alarms and carbon monoxide detectors • Combustion safety testing 	Up to \$1,000	Choose from elements such as: <ul style="list-style-type: none"> • High-efficiency furnaces • Energy-efficient cooling systems • Energy-efficient water heaters • Wall insulation • Energy-efficient pool pumps • Dual pane energy-efficient windows • Cool roofs 	\$1,500 to over \$4,000
Approximately 10% energy savings		Required 15%-40% energy savings	

Additional Incentives

Extra incentives are available by region, including:

- Co-marketing and preferred pricing programs for contractors
- Additional rebate money from cities and counties
- **City of Hayward: Up to \$4,000**
- **Association of Bay Area Governments: Up to \$2,000 (limited time)**

Current Incentives Available

PG&E Advanced Upgrade Package* with City of Hayward Rebates

Efficiency Improvement	PG&E Rebate	City of Hayward Rebate	Combined Assessment Rebate**	Bay Area Region	Total Possible Rebate
10%		\$1,000	\$250		\$1,250
15%	\$1,500	\$1,500	\$550	\$2,000	\$5,550
20%	\$2,000	\$2,000	\$550	\$2,000	\$6,550
25%	\$2,500	\$2,500	\$550	\$2,000	\$7,550
30%	\$3,000	\$3,000	\$550	\$2,000	\$8,550
35%	\$3,500	\$3,500	\$550	\$2,000	\$9,550
40%	\$4,000	\$4,000	\$550	\$2,000	\$10,550

* This description is provided for example only. Rebates may change. See your contractor for details.

** A Home Energy Assessment is required for the Advanced Upgrade Package. A City of Hayward rebate of \$250 and a Regional (from the Association of Bay Area Governments) rebate of \$300 are available if a Home Energy Assessment is completed and if approved upgrade work is completed.

ACT NOW!!

Deadlines:

January 31, 2012 – Assessment must be completed and application must be submitted by contractor

February 15, 2012 – Upgrade must be completed and approved by PG&E (only applies to regional rebates)

April 30, 2012 – Upgrade must be completed and approved by PG&E (only applies to City rebates)

CHF Energy Upgrade Program

Low-interest loans and grants

- 3% fixed interest rate, 15-year fully amortizing
- Grant of 15% of project cost, up to \$1,250
- Alameda County Income limits: \$55,380 - \$147,680
- www.chfloan.org
- FUNDS CURRENTLY EXHAUSTED

Financing

Other Financing Options

- Cash-out refinance
- Line of credit
- EGIA GEOSmart Program
- Title 1
- 401K Loan
- Signature Loan

Case Study – Duct Leakage



Test In:

467 cfm total (35.9%)

254 cfm to outdoors (19.5%)

Case Study – Duct Sealing



Reduce energy use. Save money. Create jobs.

Case Study – Duct Sealing



Reduce energy use. Save money. Create jobs.

Case Study – Duct Sealing



Reduce energy use. Save money. Create jobs.

Case Study – Duct Sealing



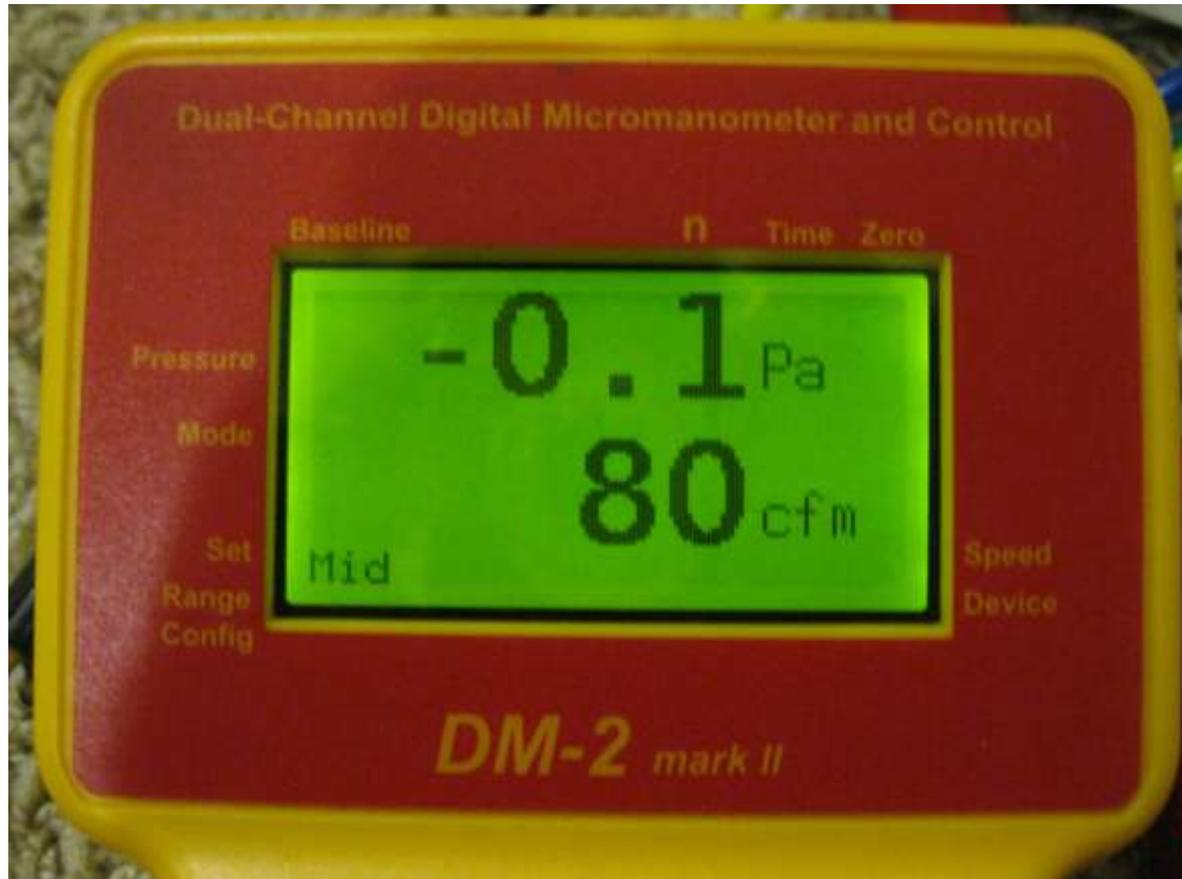
Reduce energy use. Save money. Create jobs.

Case Study – Duct Sealing



Reduce energy use. Save money. Create jobs.

Case Study – Duct Sealing



Reduce energy use. Save money. Create jobs.

Case Study – Duct Leakage



Test In:

467 cfm total (35.9%)

254 cfm to outdoors (19.5%)

Test Out:

182 cfm total (14.0%)

85 cfm to outdoors (6.5%)

Case Study – Air Leakage



Building Airflow Standard:
1,600 cfm

Test In:
3,190 cfm

Case Study – Air Sealing



Reduce energy use. Save money. Create jobs.

Case Study – Air Leakage



Reduce energy use. Save money. Create jobs.

Case Study – Air Leakage



Reduce energy use. Save money. Create jobs.

Case Study – Air Leakage



Reduce energy use. Save money. Create jobs.

Case Study – Air Leakage



Building Airflow Standard:
1,600 cfm

Test In:
3,190 cfm

Test Out:
2,175 cfm

**32% reduction in
building shell leakage**

Case Study – Duct Insulation



Reduce energy use. Save money. Create jobs.

Case Study – Combustion Safety



Reduce energy use. Save money. Create jobs.

Case Study – Combustion Safety



Reduce energy use. Save money. Create jobs.

Case Study – Low-Flow Devices



Reduce energy use. Save money. Create jobs.

Case Study - Lighting



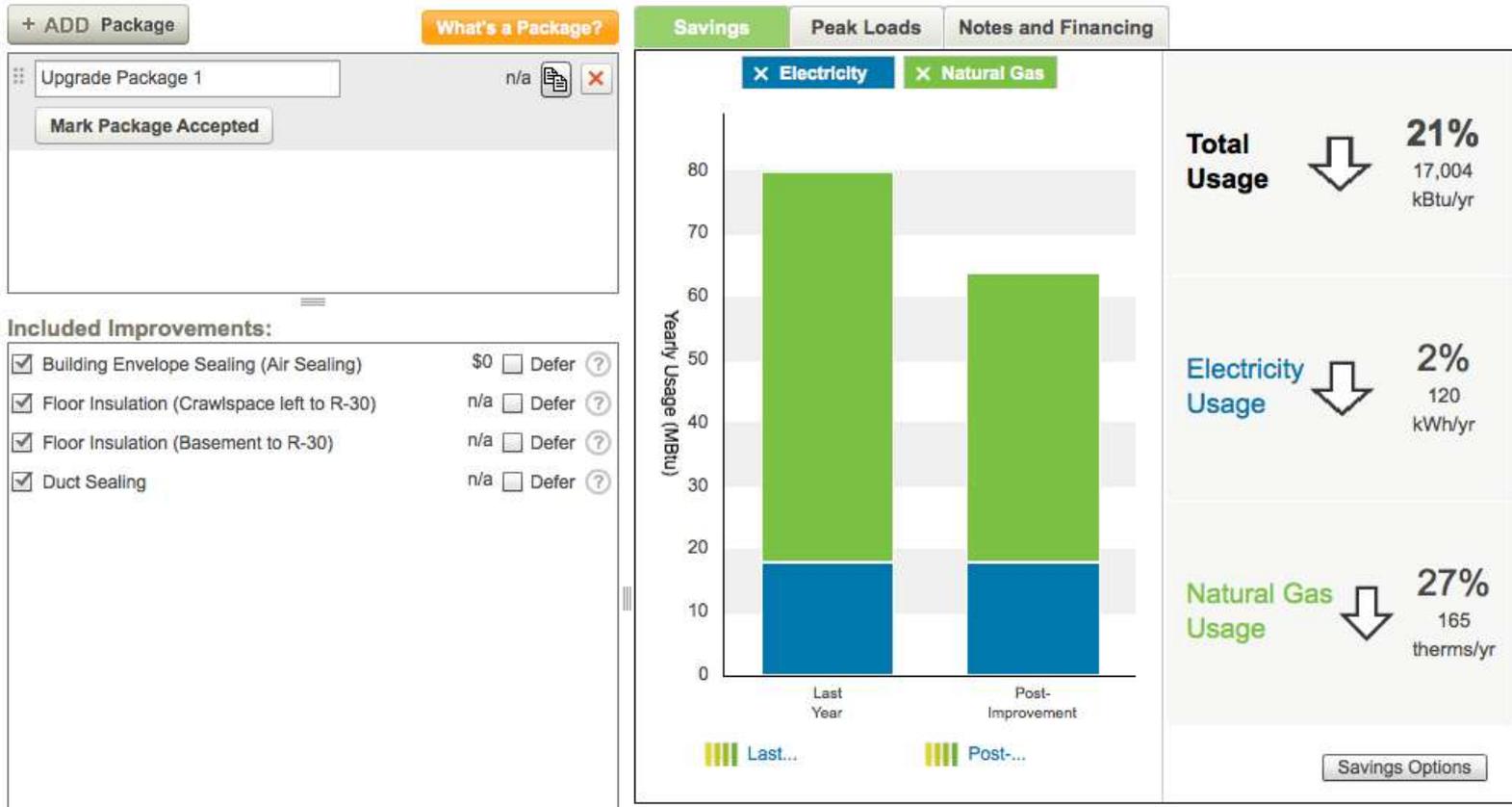
Reduce energy use. Save money. Create jobs.

Case Study - Controls



Reduce energy use. Save money. Create jobs.

Case Study – Modeled Savings



Reduce energy use. Save money. Create jobs.

Case Study – Actual Savings

	September - November 2010	September - November 2011	Reduction
Electricity Usage	1,059 kWh	820 kWh	23%
Gas Usage	58 therms	48 therms	17%

Wins

- Make your home more comfortable
- Improve your indoor air quality
- Make your home more energy and water efficient
- Potentially lower your utility bills
- Potentially increase your home value



Reduce energy use. Save money. Create jobs.



Wins

- Achieve greater energy independence
- Reduce greenhouse gas emissions to mitigate climate destabilization (help the environment)
- Support the local economy
- Create jobs



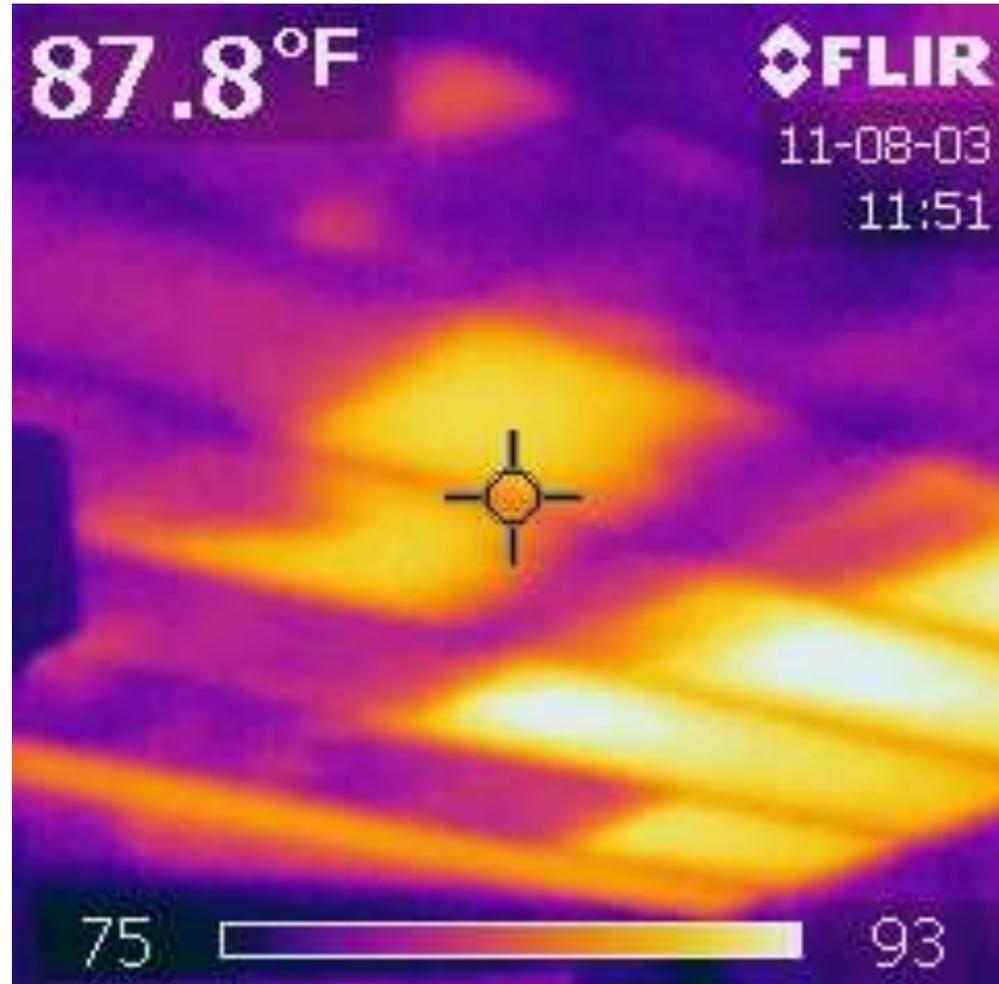
Frischer house - Hayward



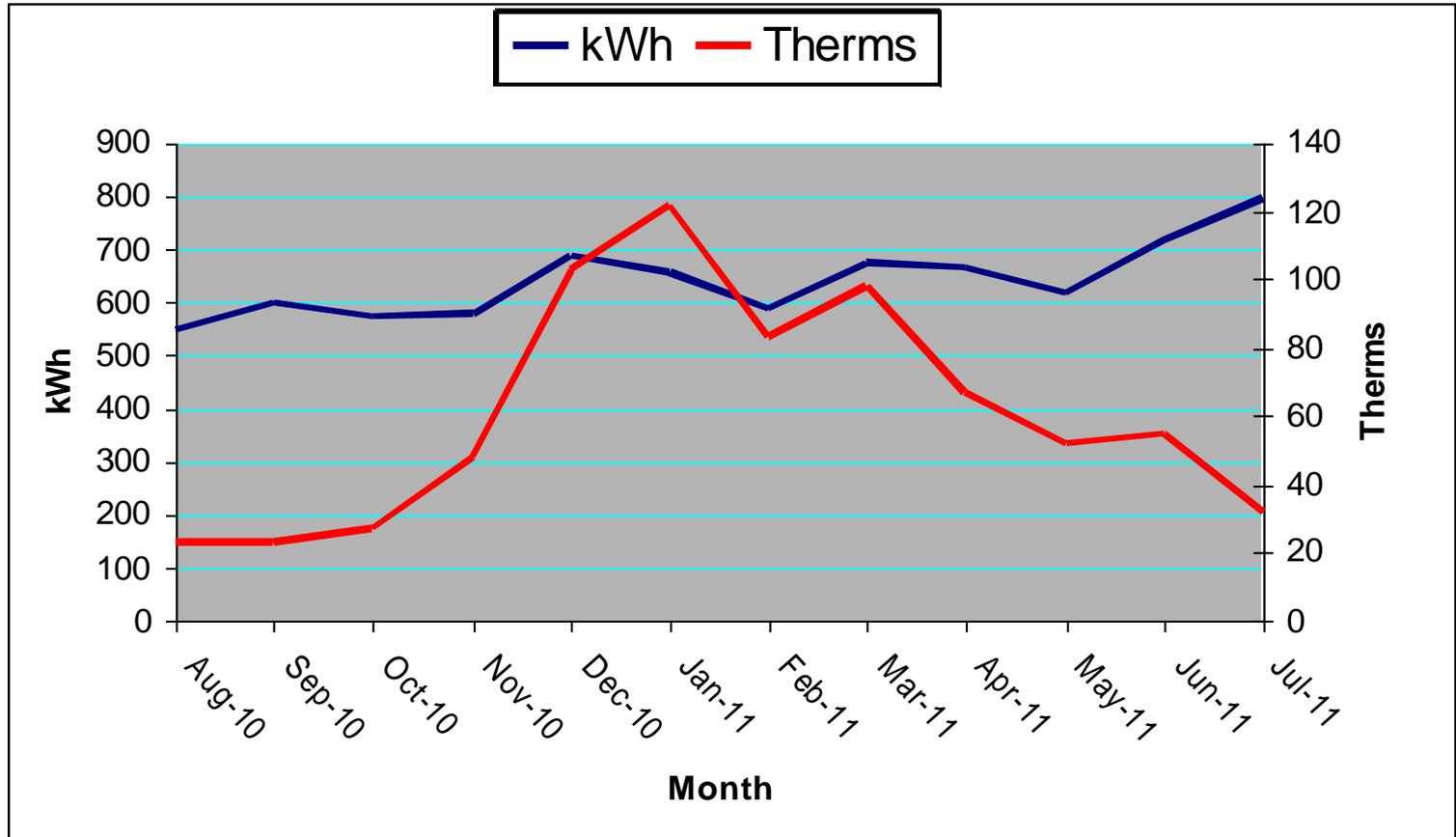
Two old wall heaters



Thermal image of ceiling: Insulation is poor.



Annual energy use, pre-retrofit.



Recommendations

- Improve ceiling insulation.
- Insulate walls (also reduces air infiltration)
- Replace low efficiency wall heaters with high efficiency central heat.
- Add bath fan.



'Drill & fill' wall insulation



Reduced carbon emissions & utility bills

CO ₂ (lbs/year)	Existing	Improved	Savings
Electricity	2,918	2,724	194
Fossil Fuel	6,885	3,635	3,250
TOTAL	9,802	6,359	3,444

*PG&E utility bill savings \$525/year...
... and a more comfortable home !*



Reduce energy use. Save money. Create jobs.



Project costs

Sub-Total for Home Performance work:	\$9,550
PG&E whole house retrofit rebate:	-\$4,000
City of Hayward rebate:	-\$4,000
Federal tax credit	-\$500
Total after incentives (out-of-pocket)	\$1,050



The Basic Process



Go to
EnergyUpgradeCA.org
to find an expert



Plan your project



Complete your
upgrade



Get your rebate!

Reduce energy use. Save money. Create jobs.

The Program Website

Energy Upgrade California's one-stop-shop

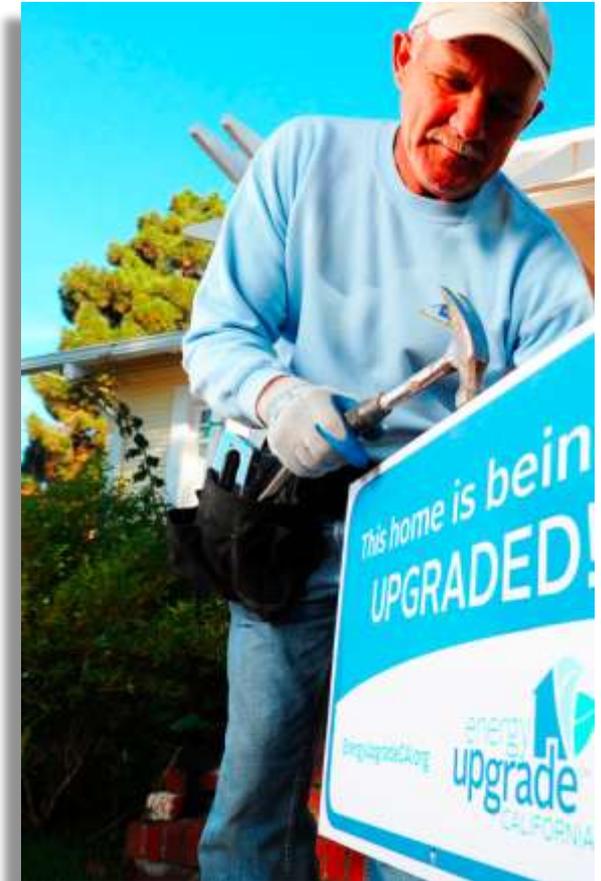
Visit www.EnergyUpgradeCA.org to:

- Plan an energy upgrade project tailored to your home
- Find a list of Participating Contractors
- Find out which rebates and incentives are available in your local area
- Watch a video about the program
- Sign up for email updates



Participating Contractors

- Trained for Energy Upgrade California
- Valid CA contractor's license, bonding, certifications, training
- Experts in energy efficiency
- Certified by Building Performance Institute (BPI)



Thank You

David Siddiqui

+1 510 908 4092

Dsiddiqui@ecoact.org

www.EnergyUpgradeCA.org



Reduce energy use. Save money. Create jobs.

