



The Parker Ranch installation in Hawaii

Financing Program Support for ARRA Recipients

PACE Webinar
November 18, 2009



Cisco DeVries, Renewable Funding LLC

Mike Martin, San Francisco, California

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Merrian Fuller, Lawrence Berkeley National
Laboratory (moderator)



Cisco DeVries Renewable Funding

DOE Webinar * November 18, 2009

Climate and Energy Crisis



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Our Secret Weapon



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- Reduce energy use
- Save money
- Create jobs
- Cut greenhouse gas emissions

\$520B investment by 2020 would yield savings of \$1.2 trillion and 1.1 gigatons of GHG. (McKinsey Report, 2009)

Create 6+ million new jobs

What's the Hold Up?



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- **Utility Bills:**
Simple monthly service



- **Solar, Energy Efficiency:**
Large upfront cost



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Cisco's iPhone Bill

\$119/ month

\$1428/ year

\$28,560/ 20 years



Cisco's PG&E Bill

\$129/ month

\$1548/ year

\$30,960/ 20 years



Property Assessed Clean Energy

Voluntary Program allows property owners to install solar and energy efficiency projects with little or no upfront cost. Costs repaid on property tax bills over 20 years.



PACE: How it Works



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City or county creates type of land-secured financing district or similar legal mechanism



Property owners voluntarily sign-up for financing and install energy projects



Proceeds from Clean Energy Bond or other financing provided to property owner to pay for energy project



Property owner repays bond through property tax bill over up to 20 years



Removes many of the financial hurdles to installing solar systems and energy efficiency upgrades

- No upfront cost to the property owner
- Payments fixed for 20 years
- Customer chooses contractor/installer
- Property tax transfers to the new owner when the property is sold
- Utility bills decrease due to energy savings
- Credit analysis is on the property, not the person



Low risk financing tool for cities and counties

- Helps cities and counties meet their climate and energy goals
- Program costs can be paid out of the financing
- No liability or other exposure to a city's general fund
- Financing mechanism well known to local governments and bond market
- Promotes the “green” economy, creates green jobs

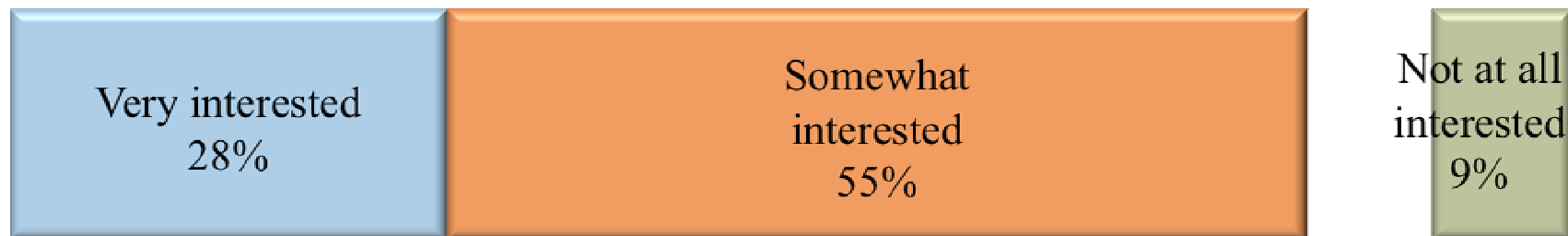
Strong California Demand



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Now that you know a little more about local government financing programs for energy and water improvements, how interested would you be in participating in this type of program if it were made available?



Challenges to Implement



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- Legal Authority/ Structure
 - Voluntary program, private property
- Financing
 - On-demand bond financing for small projects
- Administration/ Application Processing
 - Line up expectations, requirements, timelines
 - Cost effective administration
 - Regulatory scheme, quality assurance
- Marketing and Outreach

Legal Issues to Consider



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- Create viable opt-in procedure
- Allow improvements on private property
- Ensure “senior” lien and have clear connection to use of taxation power
- Avoid any required local government liability
- Generally advisable to amend existing law than to create a totally new one
- Allow for both energy efficiency and renewable energy projects



- **Repayment Security:**
 - Senior lien on the property
 - Entire property secures repayment, not just capital improvement
- **Requirement:**
 - Massive supply of capital (\$500+ Billion in U.S.)
- **Key Issue:**
 - Municipal financing is used for large capital projects
 - PACE require seamless, on-demand availability of funds for individual projects

Emerging Financial Structures



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- Aggregated Bond Issuance
 - Boulder County, CO
- Interim Financing Model
 - City/ County Funds
 - Sonoma County and Palm Desert
 - Private Capital
 - Berkeley/ San Francisco/ San Diego (Renewable Funding)
- Babylon, NY model
- Commercial Banks



- Coordinate stakeholders, integrate into system
- Cost effective administration
 - Education, Marketing
 - Decision Tools
 - Customer Service
 - Application Processing
 - Funding
- Regulatory scheme, quality control
- Tracking and reporting

BerkeleyFIRST Website



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www.berkeleyfirst.renewfund.com

BerkeleyFIRST

Financing Initiative for Renewable and Solar Technology

[Learn More](#)

[Apply Now](#)

[Check Status](#)

[Contact Us](#)



Login Email

Password

[Go»](#)

[New Users Start Here »](#)

[Login Help »](#)

Go Solar with BerkeleyFIRST! Berkeley has launched a new tool to help property owners 'go solar' by financing the cost on property tax bills—no upfront cost, 20 year fixed interest rate, and debt transfers with the property.

Learn More »

Finance your solar installation with the FIRST program.

Apply Now »

Five minutes to complete your application, approval within a week.

Check Status »

Returning applicant? Log in and check your status.

NEWS & UPDATES

07.09.08 5.82% Interest Rate Fixed for 20 Years

10.26.07 Berkeley's Radical Solar Plan, *San Francisco Chronicle* »

[Receive email updates about the BerkeleyFIRST solar financing program »](#)



Welcome from the
City of Berkeley!

Thank you for visiting Berkeley FIRST. We are very pleased to offer Berkeley property owners this exciting new way to "go solar" without the upfront cost.

In 2006, Berkeley residents overwhelmingly approved Measure G, which called for aggressive local action to reduce greenhouse gas emissions. Berkeley FIRST is one of the new tools we are putting in place to help the community meet our ambitious goals. With energy costs on the rise and the impacts of global warming already being felt, there is no better time for residents and businesses to reduce their utility bills and their carbon footprints. [\[read more\]](#)


Mayor David H. Barron

Powered by Renewable Funding, LLC Financing Initiative for Renewables and Solar Technology

<http://www.eere.energy.gov/>

BerkeleyFIRST Success



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“The entire process has been flawless, from quote and installation through the rebate and funding process. Everyone I dealt with was terrific and made the process painless.”

-- Aaron Mann, BerkeleyFIRST homeowner
(quoted on City of Berkeley website)

Renewable Funding



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ADOPTION

Step-by-step assistance to help cities set up the financing district and to determine program component



EDUCATION & ADMINISTRATION

Comprehensive information for property owners and complete on-line application processing, screening and administration



FINANCIAL PACKAGE

Provide seamless program funding by purchasing all Clean Energy bonds on demand and disbursing funding to property owners



A partner to
provide a
turnkey PACE
program for
cities and
property owners



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RENEWABLE FUNDING

Cisco DeVries

510.451.7902

cisco@renewfund.com

www.renewfund.com



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San Francisco Sustainable Financing

Program Design Overview
November 18, 2009

Mike Martin
SF Public Utilities Commission



Policy Objectives



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- Sustainability
- Scalability
- Flexibility
- Achieve self-sufficiency with a minimum of public financial support

Conceptual Framework



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- Establish “microbond” purchase commitment with administrative and financial partner
- Support aggregation of microbonds into a remarketing at earliest practicable date
- Utilize available grant funding sources to reduce borrowing costs, barriers to entry
- Pursue the above with an eye toward obtaining an investment-grade future credit rating for program

Financial Agreement Structure



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- Establish initial bond purchase commitment by partner
 - combination of cash and credit facility
- Establish covenants as to pursuit of remarketing
 - Includes City commitments to support efforts
- Establish process of augmenting bond purchase commitment as initial commitment is exhausted
 - Replenishment of existing commitment using remarketing proceeds
 - Negotiation of larger facility, more favorable terms



- Incorporate regular bond issuances as project application pipeline becomes more reliable
- Modify structure as needed to take advantage of credit enhancements at federal and state level
 - Grants, federal guarantees, tax credit bonds
- Tailor financing approaches to more challenging building types
 - large commercial
 - multifamily housing, affordable or market rate



- Establish policymaker objectives and constraints early in process
- Keep a close eye on federal and state funding sources
- Build off of program successes



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Long Island Green Homes

Dorian Dale
Town of Babylon, New York

www.TheBabylonProject.org

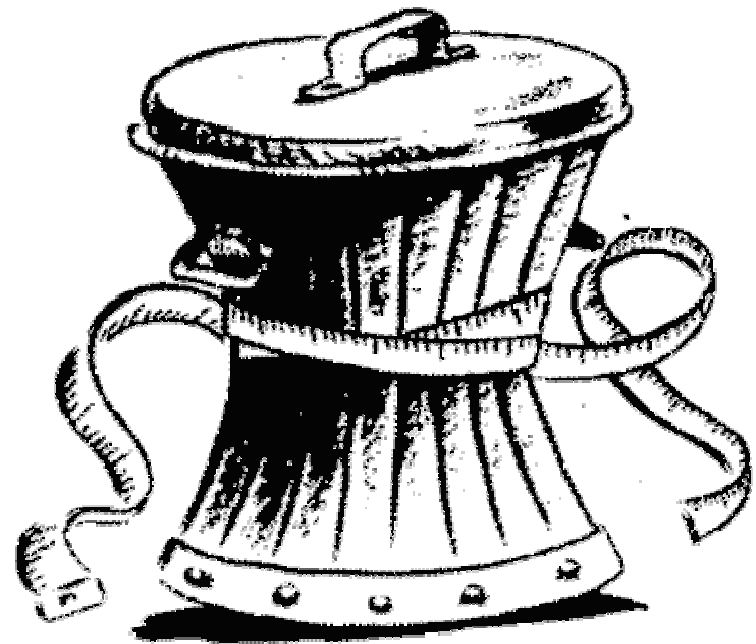


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NY State Laws 2009, Ch 409 Affirms Babylon Carbon Law *Redefining Energy Waste as a Solid Waste*

“Such charges (energy efficiency improvements installed or implemented on residential properties) shall be a lien upon the real property. ...A garbage improvement district created pursuant to this article may include...the prevention or reduction of waste matter consisting of carbon components of energy waste from residential properties.”



PACe setter



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LONG ISLAND GREEN HOMES

We make it *easy* to make your home more *comfortable* and *affordable*

A **benefit assessment** can be established when a municipality provides a specific improvement on a parcel of property for a public purpose, assessing the cost of the benefit against the property.

In the case of *Long Island Green Homes*, the energy-efficient improvements to homes serve a vital purpose, remediating the environmental damage caused by leaky and inefficient homes.

The benefit assessment stays with the property, not the homeowner. Once the homeowner sells his home, his liability for payments is over.



Progress Update



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Jobs Completed	155
Audits Completed	304
Inactive Jobs	49
Jobs In Progress	120

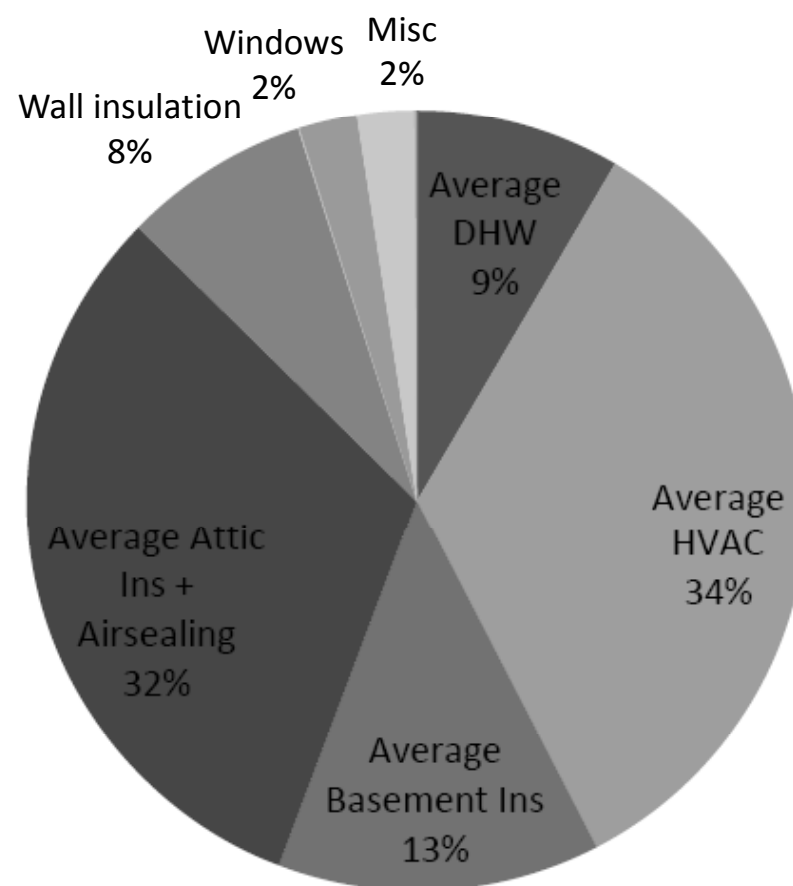
Total Cost of Projects (est.)	\$ 1,247,566.79
Average Project Cost	\$ 8,101.08
Average Annual Savings	\$ 1,011.75
Average Payback Period (yrs)	8.334246575
Average SIR	2.043971631
Average DHW	\$ 702.05
Average HVAC	\$ 2,815.53
Average Basement Ins	\$ 1,106.33
Average Attic Ins + Airsealing	\$ 2,618.83
Average Wall Ins	\$ 641.38
Average Lighting	\$ 3.93
Average Windows	\$ 199.18
Average Misc	\$ 198.26
Average Comfort and Safety	\$ 7.19

Types of Measures Installed



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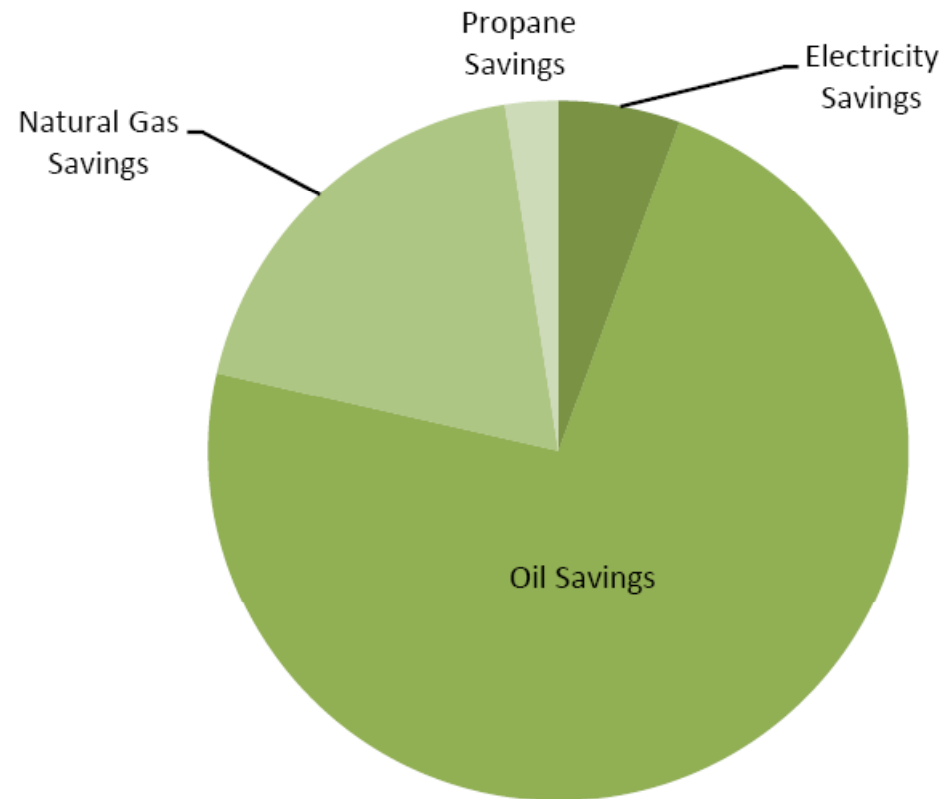
Breakdown of measures in the "Average" LIGH House

CO2 Savings



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Total CO2 Saved(annualized)	1450947.893 Lbs	725 tons
Total Solid Carbon Saved (annualized)	406265.4101 Lbs	
Total Annual Electricity Savings	94,902 Kwh	81615.7 lbs CO2
Total Annual Oil Savings	47284.5 Gallons	1058416 lbs CO2
Total Annual Natural Gas Savings	23410.5 Therms	275426 lbs CO2
Total Annual Propane Savings	2794.5 Gallons	35490.2 lbs CO2



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Sonoma County Energy Independence Program



John Haig
Energy & Sustainability Division Manager

County of Sonoma, General Services Department

What is SCEIP?



Climate Protection

AB 811

Environmental Goals

Economic Stimulus

First Cost Hurdle

Why does Sonoma County have this program?

Status of Energy Independence Eight Months of AB 811

SCEIP opened on March 25th, 2009.

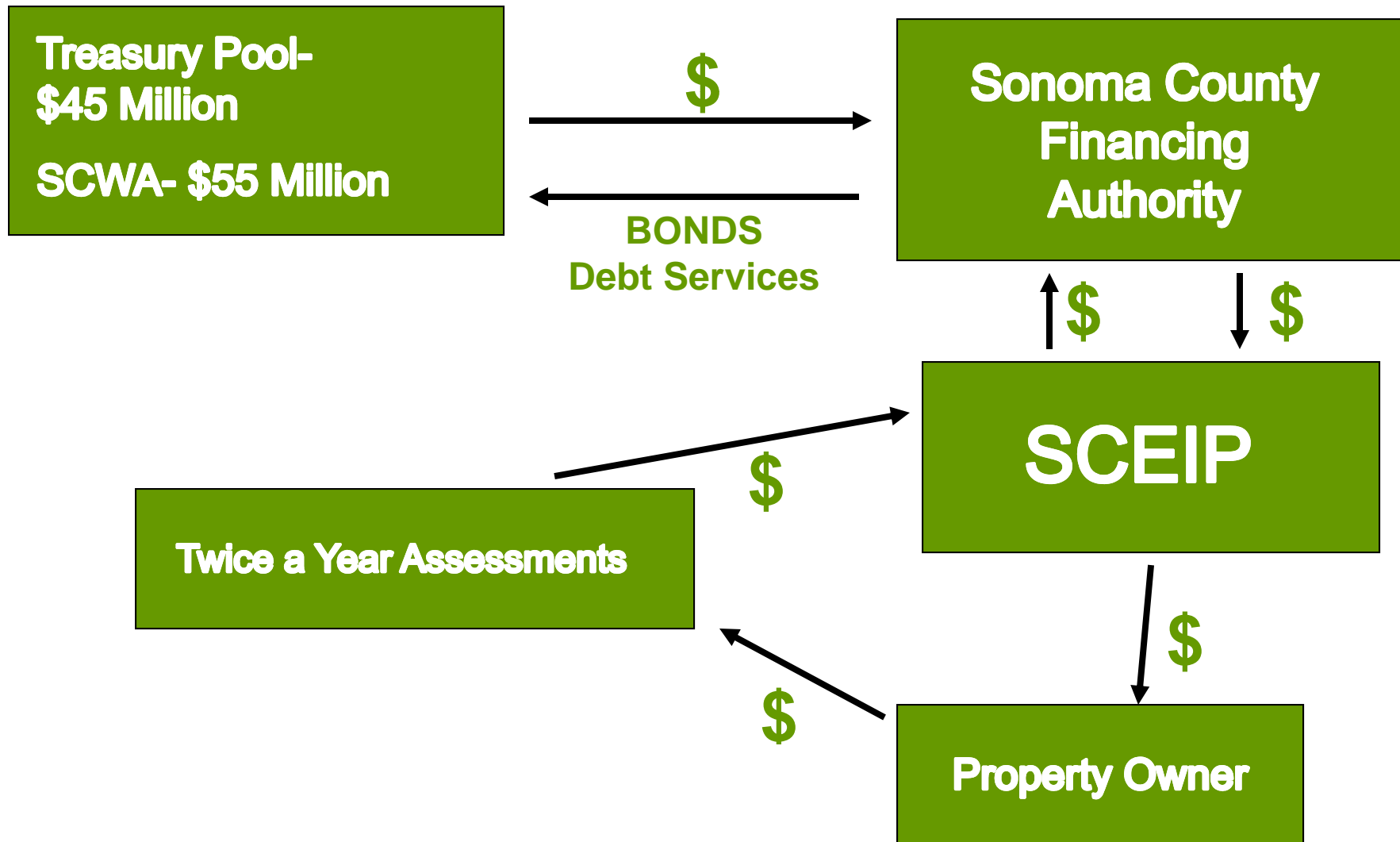
The first contract was signed on April 16th

30 Million Dollars in Applications!



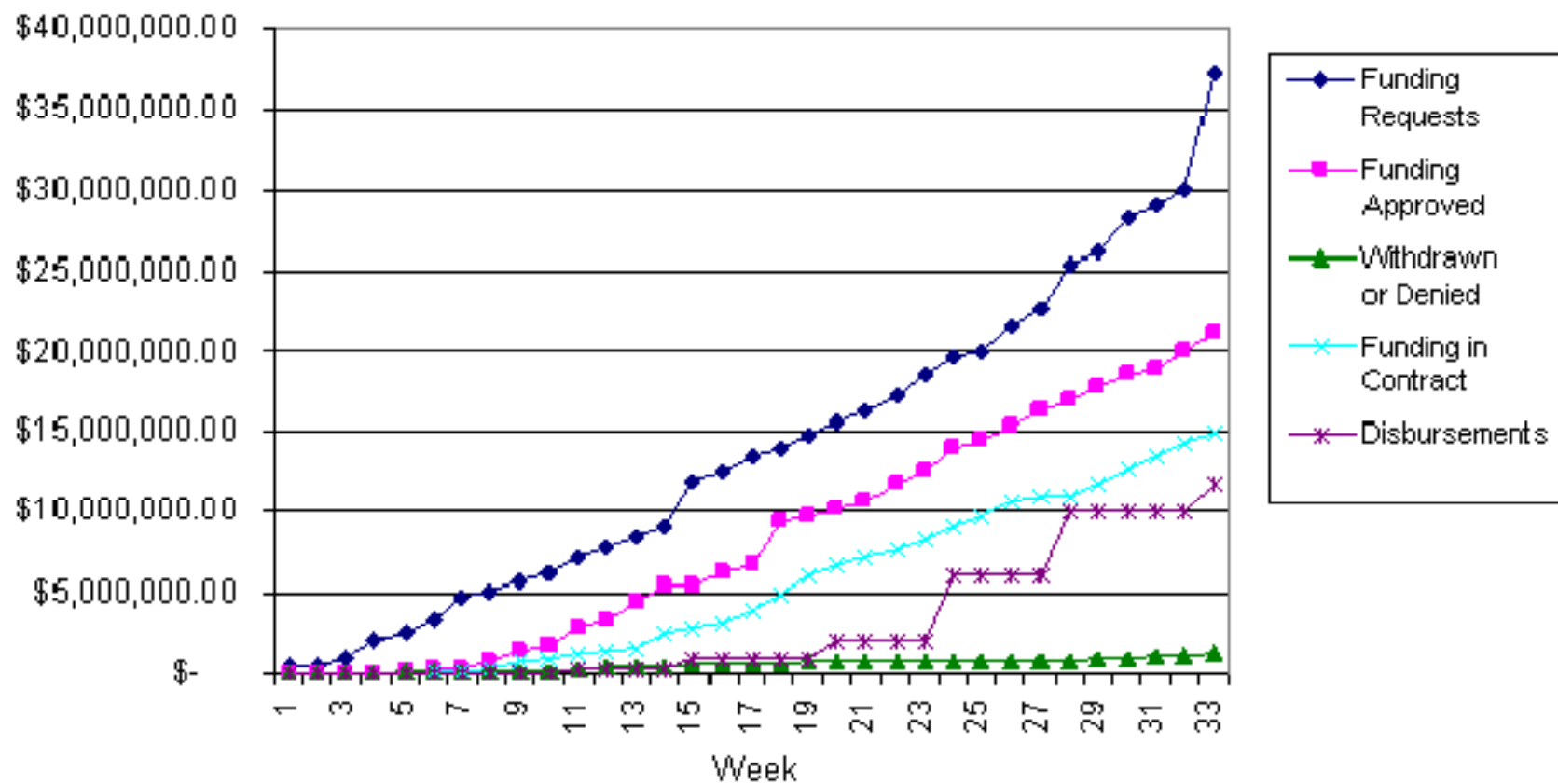
Reduce emissions and create jobs; we're all in it together.

\$100 Million



\$100 Million Funding Current Applications in Dollars

Cumulative Funding Volume

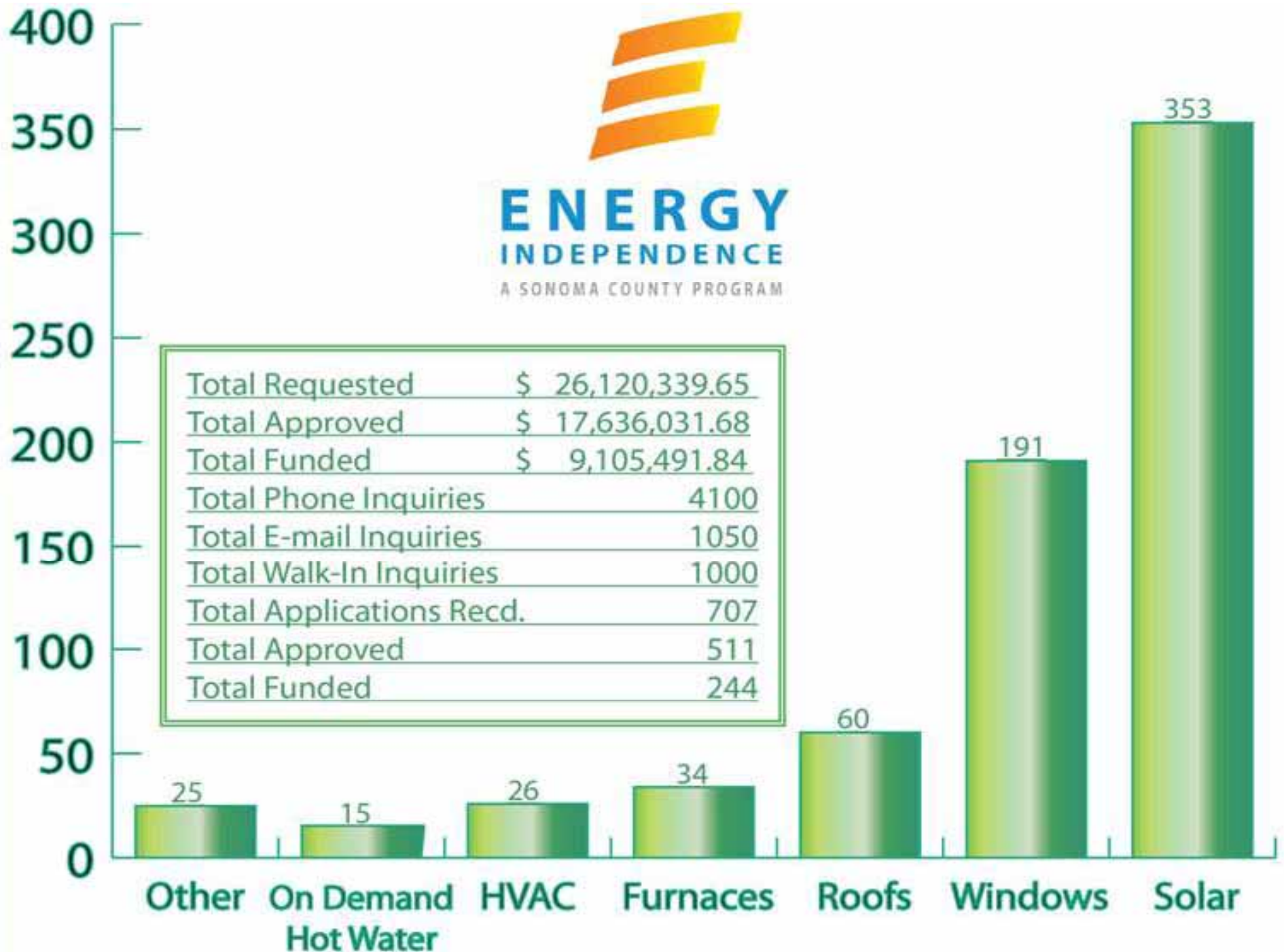




ENERGY INDEPENDENCE

A SONOMA COUNTY PROGRAM

Total Requested	\$ 26,120,339.65
Total Approved	\$ 17,636,031.68
Total Funded	\$ 9,105,491.84
Total Phone Inquiries	4100
Total E-mail Inquiries	1050
Total Walk-In Inquiries	1000
Total Applications Recd.	707
Total Approved	511
Total Funded	244



What we should have done...



**Tracking
& Systems
Reporting
Staffing**

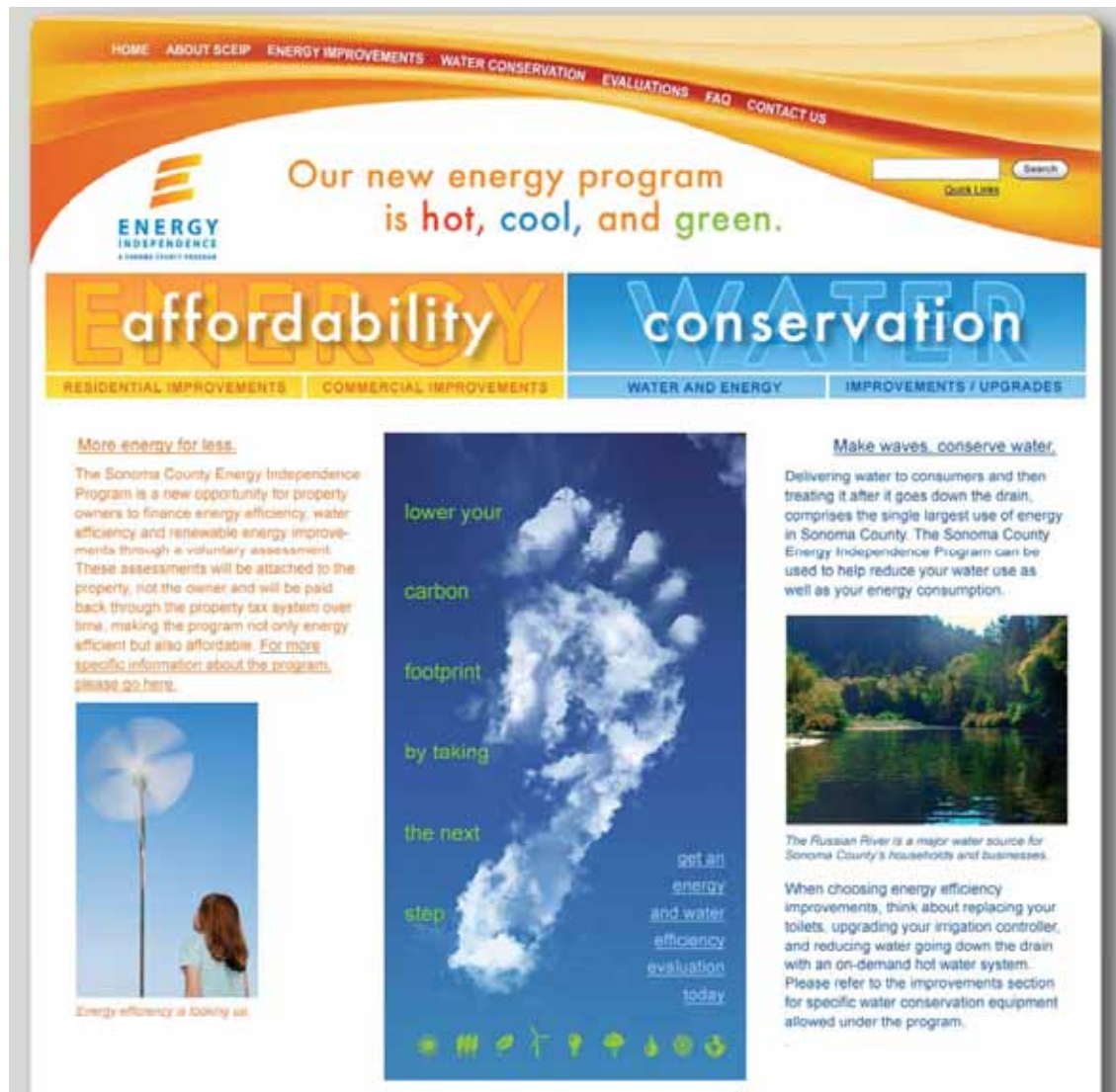
And another thing...



Payments
Financing
Bonding
Timing issues

SCEIP Website

www.sonomacountyenergy.org



HOME ABOUT SCEIP ENERGY IMPROVEMENTS WATER CONSERVATION EVALUATIONS FAQ CONTACT US

ENERGY INDEPENDENCE
A SONOMA COUNTY PROGRAM


Our new energy program is **hot, cool, and green.**

affordability **conservation**

RESIDENTIAL IMPROVEMENTS COMMERCIAL IMPROVEMENTS WATER AND ENERGY IMPROVEMENTS / UPGRADES

More energy for less.


The Sonoma County Energy Independence Program is a new opportunity for property owners to finance energy efficiency, water efficiency and renewable energy improvements through a voluntary assessment. These assessments will be attached to the property, not the owner and will be paid back through the property tax system over time, making the program not only energy efficient but also affordable. For more specific information about the program, please go here.



Energy efficiency is looking up.


lower your
carbon
footprint
by taking
the next
step

get all
energy
and water
efficiency
evaluation
today



Make waves, conserve water.

Delivering water to consumers and then treating it after it goes down the drain, comprises the single largest use of energy in Sonoma County. The Sonoma County Energy Independence Program can be used to help reduce your water use as well as your energy consumption.



The Russian River is a major water source for Sonoma County's households and businesses.

When choosing energy efficiency improvements, think about replacing your toilets, upgrading your irrigation controller, and reducing water going down the drain with an on-demand hot water system. Please refer to the improvements section for specific water conservation equipment allowed under the program.





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Questions?

www.sonomacountyenergy.org

(707) 521-6200



ENERGY
INDEPENDENCE
A SONOMA COUNTY PROGRAM



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Ann Livingston, Boulder County, CO
November 18, 2009

Basic County Information



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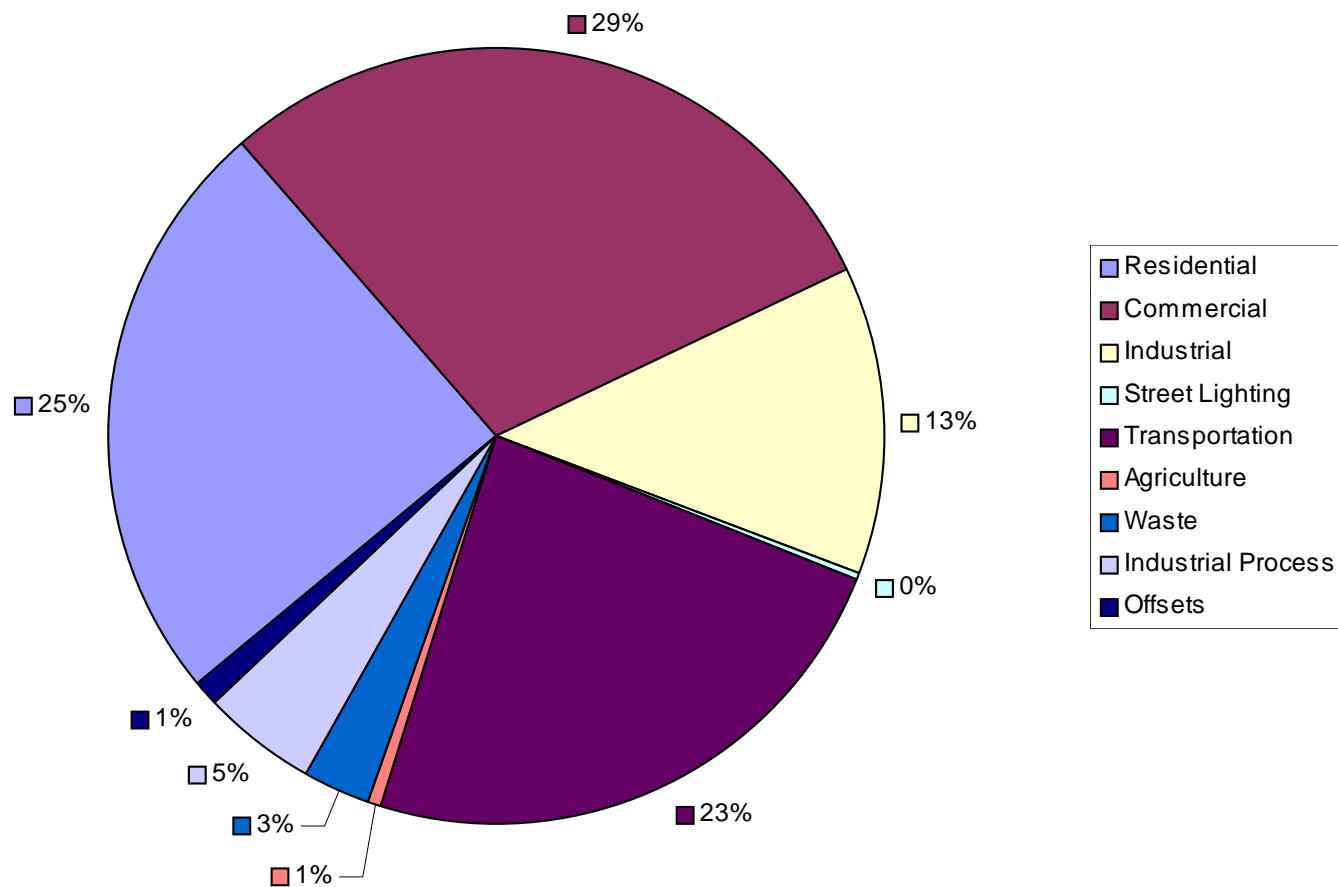
- Population: 300,136
- Land area: 474,320 acres (741.125 mi²)
- 67% of county land area is publicly owned—
nearly 89,000 acres of County Open Space
- Political structure:
 - 3 County Commissioners, no County Manager
 - 10 incorporated municipalities, 6 utilities

Boulder County's Emissions



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Program Purpose



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- To help residential and commercial property owners reduce their environmental impact and likely save money by providing full financing for energy efficiency improvements and installation of renewable energy technologies.
- Key strategy in Sustainable Energy Plan
- Authority: HB 08-1350 and County Ballot Measure 1A

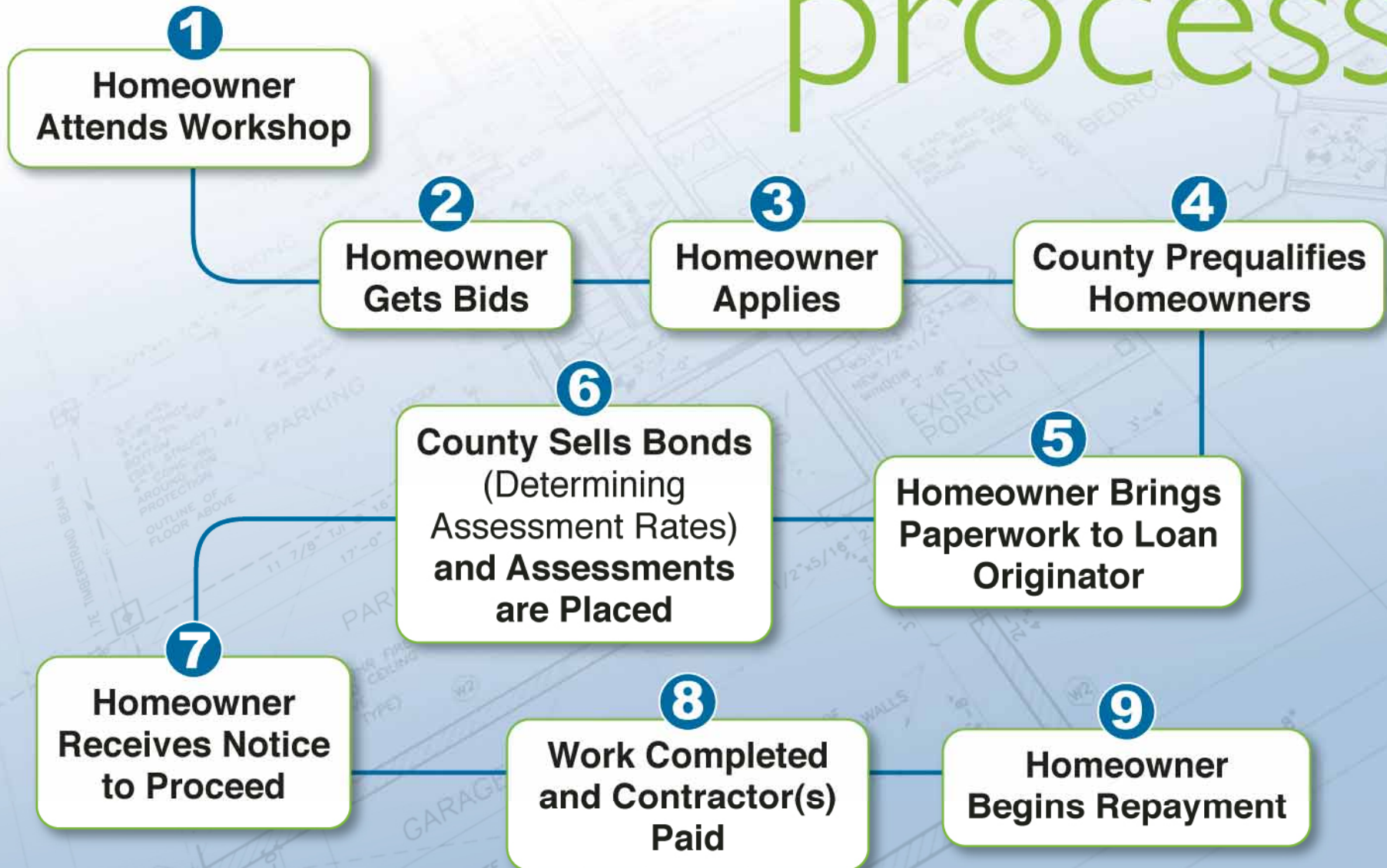


- Energy efficiency and renewable energy (RE/EE) measures
- All properties within Boulder County can participate
- Countywide pool of funds obtained through sale of bonds
- Up to the full upfront cost of improvements is loaned
- Property owners opt in (minimal general fund allocation)
- Special assessment placed on property
- Complements rebate and incentive programs



- Allows us to generate enough in loans to be cost effective (relatively small population county)
- Three elected offices: BOCC, Assessor, and Treasurer
- Opt in by municipalities
- Centralized staffing and messaging
- 6 electricity providers, 1 gas provider, and 11 building divisions (10 municipal and 1 county)

ClimateSmart loan program **application & financing** process



saveenergy save money saveenergy saveenergy save money

Eligible Measures



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- Fixtures to property
- 40+ measures allowed to meet different needs and desires
- Useful life must average 15 years or more under normal conditions (by traunch, not property)
- Minimum standards (on eligible measures list)
 - Attic example: upgrade to R-38 is the minimum value we will cover--R-50 is ok as well, but R-24 is not
 - Some items must be part of a package or may only be replacements



- Air Sealing and Ventilation
- Insulation
- Space Heating and Cooling
- Water Heating
- Lighting
- Daylighting
- Windows, Doors, and Skylights
- Reflective Roof
- Pool equipment and landscaping (open only)
- Solar Hot Water
- Solar Electric (PV)
- Small Wind
- Wood or Pellet Stoves



- Participants are be required to sign a utility bill release (during loan origination) so we can monitor the impact of the program
- We also monitor the distribution of loans throughout the county
- Information is integrated with GIS layers and information for other related programs



- Population
- Participation in other programs: REAP, Energy Corps, etc
- Average cost of jobs under Home Performance with Energy Star and other EE/RE retrofit programs
- Collection of information from public
- Participation levels at each phase and attrition rates

Residential Loan Sizes



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- Minimum: \$3,000 per home
- Maximum:
 - Open Loans (funded by taxable bonds): 20% of statutory actual value of property or \$50,000, whichever is less—6.68%, 6.8%
 - Income Qualified Loans (funded by tax-exempt bonds, 115% AMI): \$15,000, as per federal law—5.2%, 5.8%
 - Income Qualified Loans may be combined with Open Loans up to the Open Loan maximum

Residential Loan Sizes & Types



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- Rounds one and two
 - About \$10 million in projects
 - Vendors indicate significant impact/multiplier Average loan size \$17-18k, well above estimate of \$10k
- 20-25% under \$10,000
- EE--over half of total dollars
- PV, windows, and insulation are top three measures in dollars
- Income Qualified Loans
 - 1/3 of dollars
 - About half of loans



- Lack of ability to guarantee a rate (or exact amount of fees) in advance makes borrowers uneasy
- New types of programs require significant amount of contact with participants and staff time
- Program integration is important
- Can impact local companies between program announcement and loan approval
- Can generate interest in EE measures, harder to manage than RE
- Local economic stimulus--creates a ripple effect
- Need to keep working at the state and federal levels

Contact Information



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www.climatesmartloanprogram.org

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Boulder County Sustainability Coordinator

Alivingston@bouldercounty.org

303.441.3517

Resources



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Send feedback & requests for technical assistance on financing to:

Bret Kadison – financingrapidresponse@ee.doe.gov

Resource Portal for Financing Programs

<http://www.eecbg.energy.gov/solutioncenter/financialproducts/default.html>

How to Guide for PACE Programs <http://rael.berkeley.edu/files/berkeleysolar/HowTo.pdf>

Federal Government's Policy Framework for PACE Financing Programs

http://www.whitehouse.gov/assets/documents/PACE_Principles.pdf

State legal authority for PACE programs is tracked by the DSIRE database

[http://www.dsireusa.org/incentives/index.cfm?EE=1&RE=1&SPV=0&ST=0&searchtype=P
TFAuth&sh=1](http://www.dsireusa.org/incentives/index.cfm?EE=1&RE=1&SPV=0&ST=0&searchtype=P
TFAuth&sh=1)

Websites of the programs featured in this webinar:

- Berkeley - <http://www.berkeleyfirst.renewfund.com>
- Boulder County - <http://www.bouldercounty.org/bocc/cslp/>
- Babylon - <http://ligreenhomes.com> , www.TheBabylonProject.org
- Sonoma County - <http://www.sonomacountyenergy.org/energy-improvements.php>