

Home Energy Response (ER) Network: Making Comfort & Efficiency Accessible

Gainesville City Commission | March 04, 2015

Proposed Consortium

City of Gainesville

Capital City Bank

Community Weatherization Coalition

UF / Program for Resource Efficient Communities

- Optimal residential EE improvements \leq \$2,500
- Desirable financial products \geq \$5,000
- Low (to no) equity in homes
- Poor credit histories
- Lack of education on which improvements to make at which times & under what decision moments
- Lack of feedback on actual energy (& cost) savings
- Poor accountability (borrowers, lenders, contractors)

- Diversity of home improvement options
 - Cost (low → high)
 - Installation (easy → hard)
 - Return on investment (fast → slow)
- Consumer education tailored to unique household needs & knowledge
- Consumer choices on financing
 - Secured: Mortgage / refinancing
 - Secured: Home equity loan / line of credit
 - Unsecured: Tailored for households unable to access secured options
- Streamlined workflow
 - Auditing
 - Lending
 - Installation
- Quality assurance
 - Data management
 - Pre vs. post intervention assessment

City of Gainesville

Home Energy Response (ER) Network: Making Comfort & Efficiency Accessible

- Building Science & Education Partners
 - **Data Management:** University of Florida
 - **Field Management:** Community Weatherization Coalition
 - **Educational Content Development:** Both
- Administrative Partners
 - **Program Parameters:** City of Gainesville
 - **Utility Parameters:** GRU
 - **Financing Parameters:** Capital City Bank

- Home ER = household empowerment program
 - 38 qualified improvement services (based on existing UF program)
 - Provide **ALL** consumers with tools for improving household energy & financial management
 - Provide contractors with tools for improving consumer engagement & performance-based services
- Successful outcomes would include:
 - More accessible, affordable, & incremental energy efficiency retrofits
 - Reduced energy use & utility costs
 - Improved home comfort & safety
 - Improved household financial management
 - More proactive household planning
 - Simplified periodic home maintenance
 - Fewer unexpected building system & appliance failures

- START = Simple Triage and Rapid Treatment
 - *Noun*: “(in medical use) the assignment of degrees of urgency to wounds or illnesses to decide the order of treatment of a large number of patients or casualties”
- “3 R’s” of the Home ER triage concept
 - Level 1 - Relief (i.e., stop the energy bleeding)
 - Level 2 - Recovery (i.e., stabilize the home energy system)
 - Level 3 - Refinement (i.e., sustain long-term home energy performance)
- Community Energy Response Teams
 - GRU auditors, CWC style community volunteers, &/or UF Cooperative Extension Agents as Stage 1 first responders
 - Professional home energy raters & contractors as Stage 2 & 3 expert responders

- GRU utility grid-tied
- Owner-occupied
- Residential building types
 - 1-unit (e.g., SF detached)
 - 2 to 4-unit (e.g., duplex, quadplex)
 - \leq 2-story conditioned area multi-unit (e.g., row style townhouse)
- Any licensed contractor allowed
 - For a fee, UF could manage a preferred contractor network to increase quality control

- Secured parameters
 - Utilize existing financial industry products
 - Loan sizes, tenors, & rates all variable & market driven
 - Add standardization, building science, & quality assurance
- Unsecured parameters
 - Tailored to low income households
 - Primarily focused on Quick Fixes, Performance Evaluation, & Level 1 & 2 improvements
 - No home equity required
 - Loan sizes = \$500 to \$5,000 (Beacon credit score limits TBD)
 - Loan tenors = 12 to 84 months (1 to 7 years)
 - Interest rate = TBD (estimated 7% to 10% APR)
 - Ideally, credit worthiness only alters loan size &/or tenor, not APR
 - Crucial for program data management to enable lender(s) to gain benefit of CRA credits (otherwise small loan sizes are less palatable to lenders)

- Secured options use existing lending industry parameters
- Unsecured Option A: GRU Participant Agreement
 - Borrower applies to private lender(s) (web, phone, branch)
 - Lender(s) pay contractor direct via co-signed check
 - Borrower repays with monthly line item on GRU bill
 - If possible, include estimate of comparative energy savings (vs. pre intervention)
 - GRU forwards aggregated loan repayment funds to lender(s) on assigned timeframe (e.g., monthly, quarterly) minus small repayment processing fee (TBD)
 - Note: GRU does NOT serve as a lending institution, merely a loan repayment collection service provider
 - Contingency workflow TBD for managing borrower change of address (both staying within & leaving GRU service territory)
- Unsecured Option B: Private Lender Turnkey
 - Borrower applies to private lender (web, phone, branch)
 - Lender(s) pay contractor direct via co-signed check
 - Borrower repays private lender direct (web, phone, mail)

- Main Categories
 - Performance Evaluation
 - Quick Fixes
 - Level 1 – Relief
 - Level 2 – Recovery
 - Level 3 – Refinement
- Service Sub-Categories
 - Audits & Inspections
 - Appliances & Electronics
 - Better Living
 - Comfort & Space Conditioning (HVAC)
 - Lighting
 - Water Heating
 - Weatherization of Building Envelope

My Florida Home Energy

 Florida Department of Agriculture and Consumer Services
 Adam H. Putnam, Commissioner

HOME INTERACTIVE TOUR YOUR PROFILE YOUR PLAN FIND HELP



INTERACT, PLAN, FIND SUPPORT & SAVE

START THE TOUR



STEP 1:
INTERACT WITH US

about your home and we'll **Tip You** **ers & sense** energy efficient ce, while you interactively create zed plan to start saving energy y.



STEP 2:
CREATE YOUR PLAN

Review your estimated energy costs of living and your home energy improvement plan of actions based on your responses to our interactive tour from Step 1.

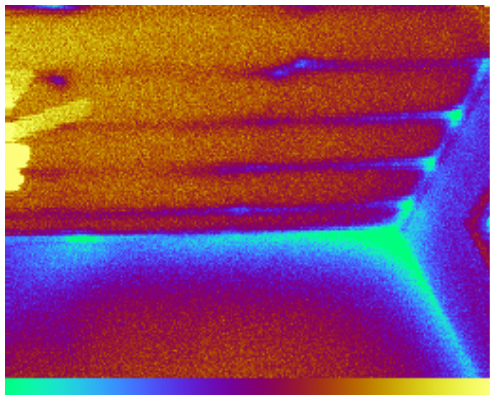


STEP 3:
FIND HELPFUL SUPPORT

Find helpful support from our extensive home energy education library and receive advice on how to select a good contractor when to apply for financing, and where to search for incentives.

Home Interactive Tour Your Profile Your Plan Find Help Feedback

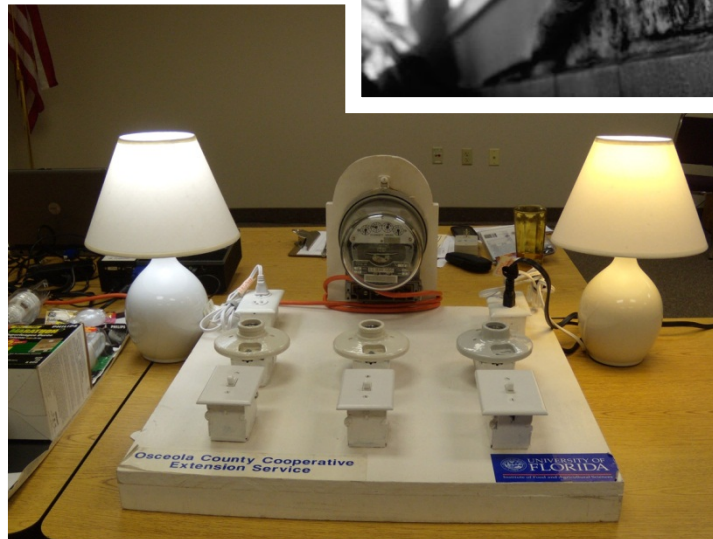
The interactive tour questions and energy cost estimates on this site are powered by [Berkeley Lab's Home Energy Saver™](#) calculation engine, but are not endorsed or certified by Berkeley Lab.



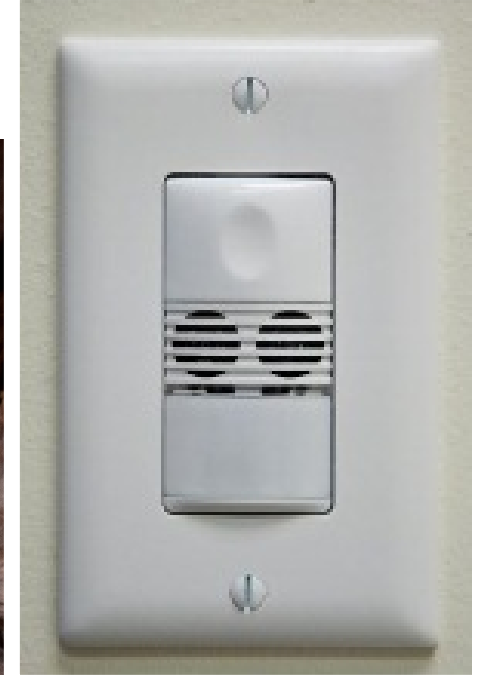
Home ER: Quick Fixes



Home ER: Level 1 - Relief



Home ER: Level 2 - Recovery



Home ER: Level 3 - Refinement



- Option to modify & use FEEL program
 - www.FloridaEnergyEfficiencyLoan.com
 - Development costs are minimal, but ongoing administrative costs would need to be negotiated
- Responsive web design (RWD)
 - Website scales to fit device screens
 - E.g., Desktop, notebook, tablet, smart phone, etc.
- Fully web enabled workflow
 - Contractor application forms
 - Project authorization/certification forms
 - Enables form completion & image uploads in field (or back at the office)



Get Loan Pre-Approval at FAIRWINDS Credit Union



Start Your Story ▾


Qualified Improvements

Find Contractors

Portfolios

Blog


Resources ▾




How To: Insulate Your Attic

Introduction Heat flows from warm areas to cool areas. In Florida, this often means heat is flowing from a warm outdoors to an air-conditioned indoors. On winter days, heat flows [...]


[Learn How to Insulate Your Home](#)



How To: Save Money With Conservation Behaviors



How To: Select Energy Efficient Appliances



How To: Insulate Your Attic

What We Do

The Florida Energy Efficiency Loan (FEEL) is a multi-partner household empowerment program. Our mission is to provide you with the tools for improving your household's energy and financial management. Through tailored treatments, the FEEL program will help you to build confidence in your innate internal capacity for creating constructive change in your own life story. We fulfill our mission through public engagement, knowledge sharing, and financial lending focused on an improvement path for your unique home energy lifestyle. We judge success through the following outcomes:

- > Reduced energy use and utility costs
- > Improved home comfort and safety
- > Better financial management
- > Proactive household planning
- > Simplified periodic home maintenance
- > Reduced home system and appliance failure
- > More accountable and satisfying daily living
- > More participatory communities



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Home

Qualified Improvements

Qualified Improvements

Table of Contents & Shortcut Hotlinks

Shortcuts to the improvement plans and categories are highlighted below.

Packaged Plans

- Do-It-Yourself (DIY)
- FEEL Thrifty
- FEEL Comfortable
- FEEL Safe
- FEEL Whole

Custom Plans

- Performance Evaluation
- Appliances and Electronics
- Better Living
- Comfort and Space Conditioning (HVAC)
- Lighting
- Water Heating
- Weatherization of Building Envelope
- Additional Details

Select a Predefined Packaged Plan...

The FEEL program and your home energy improvement story are completely defined by you. Our process provides the flexibility Florida's homeowners need in refining their lifestyles. Anyone can start with a blank page

Qualified Improvements

- » Performance Evaluation
 - » PE.AS1. Quick Web Audit
 - » PE.AS2. Volunteer Walk-Through
 - » PE.AS3. Utility Provider Audit
 - » PE.AS4. Professional HERS Audit
 - » PE.IS1. Home Inspection
 - » PE.IS2. Infrared Thermography
- » Appliances & Electronics
 - » QF.AU1. ENERGY STAR® Clothes Washer
 - » QF.AU2. ENERGY STAR® Dishwasher
 - » QF.AU3. ENERGY STAR® Refrigerator
- » Better Living
 - » L1.EL1. Home Energy Efficiency Training
 - » L1.EL2. Financial Management Training
 - » L1.HS1. Indoor Environmental Quality Remediation
 - » L1.HS2. Plumbing Systems Remediation
- » Comfort & Space Conditioning (HVAC)
 - » QF.CU1. ENERGY STAR® Ceiling Fans

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All Elements Energy



Embracing Energy Efficiency

About Our Company

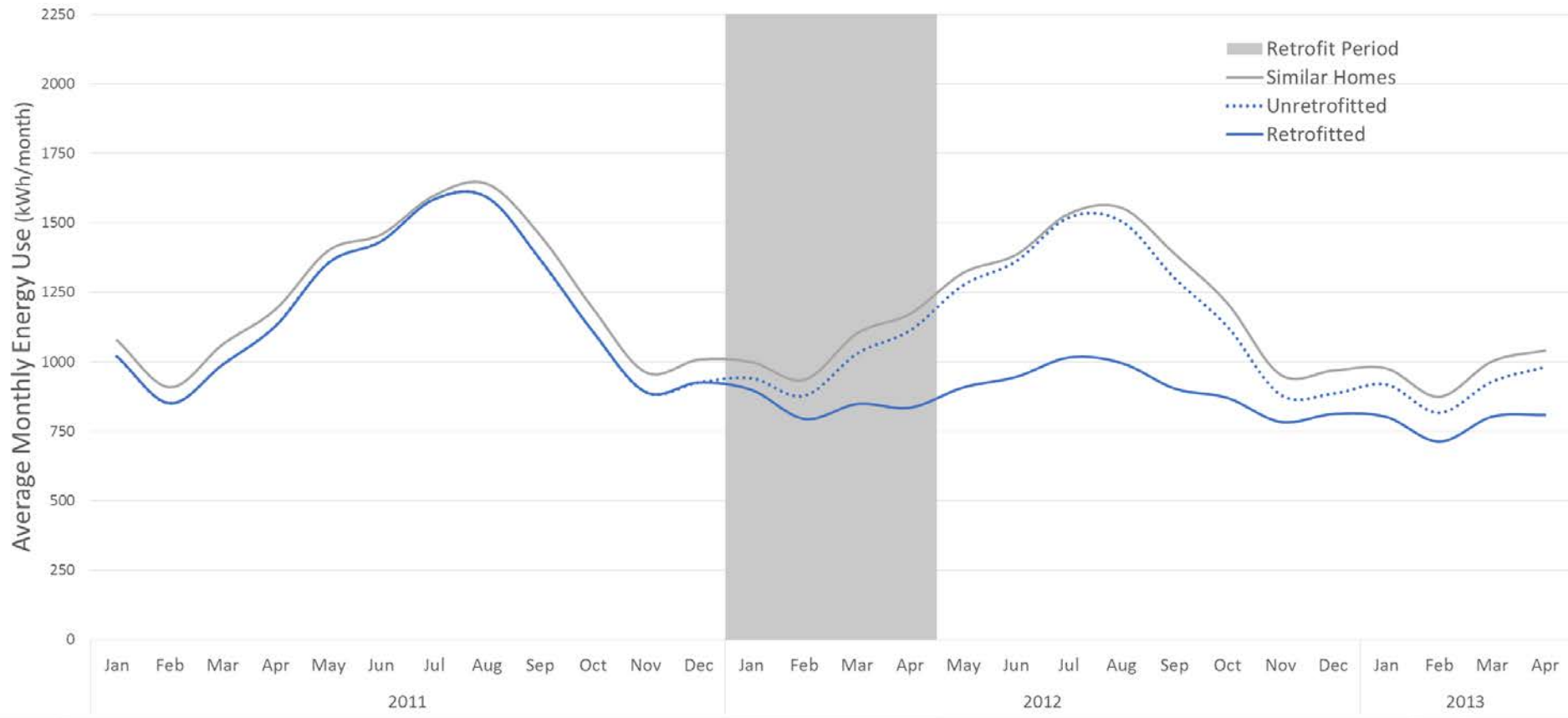
We believe that we can make a difference. The team at All Elements is committed to providing homeowners and businesses with energy saving and sustainable solutions. We are guided by the belief that education will lead to a community that is determined to leave our children a better world.

Customer Service Contact Information

- Many of these QA/QC options would require negotiated fees
- Workflow accountability & self discipline
 - UF/IFAS Extension network curricula & agents
 - CWC staff & volunteer audit services
 - Commitment statements
 - Goal setting statements
 - Signatures pre/post improvement
- Selective test-out & permit copies
- Performance monitoring
 - Identify deficiencies
 - Retrain PICs
 - Sanction continued deficiencies
 - Remove under-performing PICs
- Feedback & follow-up

Example: UF/PREC Analytics

Monthly Energy Consumption For Retrofitted Home



Month	Electricity Savings (%)	Electricity Savings (\$)
May	29%	\$47.77
June	31%	\$54.04
July	33%	\$65.40
August	34%	\$66.24
September	31%	\$51.65
October	23%	\$33.33
November	11%	\$12.79
December	8%	\$9.61
January	13%	\$15.20
February	13%	\$13.51
March	14%	\$16.46
April	18%	\$22.38