

5400 E Olympic Blvd • Third Floor
Los Angeles • CA 90022
T 323.721.1655
F 323.724.3560
www.TELACU.com

March 29, 2011

Ms. Julie A. Fitch
Director, Energy Division
California Public Utilities Commission
505 Van Ness Avenue, Room 4004
San Francisco, CA 94102-3298

VIA EMAIL & US MAIL

Re: Energy Division Staff Recommendations for a Multi-Family Plot

Dear Ms. Fitch:

On March 22, 2011, TELACU received from Ms. Sarita Sarvate of CPUC's Energy Division ("ED") an email titled "Energy Division Staff Recommendations for a Multi-Family Pilot," which appears to direct the IOUs to prepare in their upcoming ESAP applications a multi-family pilot project (the "Pilot"). ED's recommendations on this Pilot are based on a multi-family proposal submitted on December 16, 2010 to Pacific Gas and Electric Company and ED by the California Housing Partnership Corporation ("CHPC") titled "Low Income Energy Efficient (LIEE) Comprehensive Retrofits for Multifamily Properties".

TELACU and other parties stated their opposition to CHPC's proposal. Today we strongly state our opposition to ED's rehashed version of that proposal.

Energy savings truly targeted to benefit low-income families living in multi-family housing appears to be a secondary goal of both CHPC's December proposal and ED's current recommendations. The primary goals of the CHPC proposal and ED's current recommendations appear to be to:

1. Provide funds for Assisted Housing Owners who possess buildings with antiquated energy systems that are in need of capital repairs;
2. Provide funds for Assisted Housing Developers trying to finance new projects which, unless provided ESAP funds, are not feasible due to financing shortages in the housing industry;
3. Gain control of a portion of ESAP funds by "providing a single point of delivery";
4. Target benefits primarily toward federally "assisted, affordable" housing at the expense of families living in "non-assisted" housing.

TELACU repeats and herein restates its objections to these improper uses of ESAP ratepayer funds.

The mission of CHPC, according to its website (www.chpc.net), is to gather financial resources for "assisted" low income rental housing, also called "affordable housing," "HUD housing," "Section 8 housing," "deed-restricted housing," and "Low Income Tax Credit Property."

Mr. Matt Schwartz, president of CHPC, fulfilling his job to gather financial resources for "assisted" housing, described his plan to use ratepayer energy efficiency dollars for Assisted Housing Owners who possess buildings with antiquated energy systems that are in need of capital repairs in an August, 2008 article in a magazine called The Urbanist. Mr. Schwartz's article, brazenly titled "A Piece of the Pie. Financing Affordable Rental Housing: A Greener Path Ahead," outlines his strategy to surreptitiously use ESAP funds for financing assisted housing projects. His article begins:

"Finding the money to develop rental homes affordable for low-income families has never been more difficult. (Emphasis added.) The collapse of the financial markets last fall, generally attributed to systemic failures in the single-family mortgage markets, has made it extremely difficult for most developers to obtain debt and equity financing on reasonable terms."

Later in the article, he states:

"With tens of billions of dollars of capital repair needs already documented in older publicly and privately owned affordable housing — equipped with mostly antiquated heating and cooling systems and without proper insulation — there is a tremendous opportunity for advocates to make the case that investing in the greening of affordable rental housing is an essential part of our nation's carbon reduction strategy."

Similarly, the magazine Affordable Housing Finance announced in June 2010, "Weatherization to the rescue. Weatherization might be the last chance for some developers struggling to bring projects to the closing table," and described the cure for an otherwise economically infeasible assisted housing project: "Weatherization is a crucial component to make this project work."

CHPC's December proposal, filled with unexamined claims and assertions, explicitly targets ESAP and EE funds for an effective "carve out" to benefit HUD assisted affordable housing. Among other points, the proposal says, "Properties certified by HUD and DOE as eligible under ARRA as (*sic*) eligible for WAP will be deemed eligible for participation, as will all properties self-certifying pursuant to the process described below," and then describes the process to prove HUD eligibility (CHPC Proposal, page 4).

It is very clear – ESAP ratepayer funds have been targeted by CHPC and other groups for capital repair and financing purposes. This is the true intent of CHPC's proposal and we believe ED is now at risk of falling prey to this strategy.

A relatively small portion of low-income multi-family ratepayers live in HUD-qualified assisted affordable housing. In fact, a program that targets HUD assisted housing will create more barriers and drain resources away from the housing where most low-income multi-family ratepayers live: unassisted housing.

TELACU wrote to Commissioners that "CHPC's December 16 proposal... would take away from the LIEE program \$80 million per year for each of three years (2012 -2014) and use it exclusively for HUD-qualified assisted affordable housing." We stated "our firm belief that all low-income multi-family



housing, assisted or not, should have increased access to LIEE program measures..." We reiterate those concerns.

We closed with, "We therefore ask that you direct PG&E and CPUC staff to take no action on CHPC's proposal until it has been distributed to all interested parties, examined in an evidentiary hearing so that elements of the proposal may be closely scrutinized, subjected to discovery, tested by cross-examination, and recommendations presented." We believe this is a reasonable request.

TELACU is both a longstanding advocate for the energy efficiency needs of California's low-income families and a major owner/developer of assisted housing, providing housing for thousands of low-income families and senior citizens. We therefore understand first-hand the ever-increasing challenges that owner/developers of low-income multi-family assisted housing have in addressing capital repair needs and shortages of financing. However, we firmly believe that fulfilling these needs by raiding a program designed to help the least-served population of low-income Californians is just plain wrong and disingenuous.

TELACU also knows that assisted multi-family housing developments and tenants are among the most-assisted in the low-income housing space. By basing the Pilot's recommendations and guiding principles on CHPC's proposal, ED's recommendations completely ignore the needs of households occupying non-assisted multi-family housing. Non-assisted multi-family housing is where the large masses of underserved low-income people live – households which are among the least assisted in California.

TELACU is preparing a data request to learn the basis for ED's assumptions and figures in its recommended Pilot. In the meantime, TELACU requests answers to the following questions:

Question 1: This proposed Pilot was not included in Decision 08-11-031, and does not appear to be either a Commission order or an ALJ order. Is ED ordering the utilities to include this Pilot project in their applications? If so, under what authority?

Question 2: Which Commissioner's office is overseeing this Pilot?

Question 3: Which specific "various stakeholders" were invited by ED to explore the development of the Pilot? With which of these stakeholders did ED actually explore development of the Pilot? Where and when did this occur?

Question 4: What factors did ED consider when it decided not to notify all parties to A08-05-022 that it was "exploring the development of a pilot project"?

Question 5: What was the process ED used for "exploring the development of a pilot project"? Were there workshops? Were interested parties notified that ED was "exploring the development of a pilot project"? If so, when and by what means?

Question 6: Does ED agree that, when "exploring the development of a pilot project" using ESAP and EE funds for low-income multi-family housing, the Commission and ratepayers are best served when that



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process is open and transparent, and provides an opportunity for all interested parties to participate? If so, then was such a process followed?

It appears to us that ED is moving quickly and possibly beyond its authority in an effort to implement an unexamined Pilot which would predominantly benefit owner/developers of assisted multi-family housing. ED's recommendations are conclusionary and assume facts that are not in evidence (such as identification of barriers to serving the multi-family market and steps necessary to reduce those barriers.) We suggest that this is outside of the processes long established by the Commission. Instead, we recommend a process which is fair, open, and transparent – a process by which the Commission may properly examine an issue like this in sufficient detail in order to build a substantive record upon which it can base a decision.

We therefore request that you rescind your recommendations for the Pilot and provide to ALL stakeholders in the proceeding answers to the questions we have asked regarding this matter.

We would appreciate your prompt response.

Sincerely,

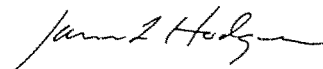
TELACU



Michael Lizárraga



David C. Lizárraga



James Hodges

Enclosures: Email from Sarita Sarvate with Attachments dated March 22, 2011

c: CPUC Commissioners
CPUC Commissioner Advisors
ALJ Kimberly Kim
Sarita Sarvate, ED
Orson Aguilar, Greenlining
Mark Toney, TURN
Ralph Cavanagh, NRDC
Alex Sotomayor, Maravilla Foundation
Members of the Low Income Advisory Board
Service List of A0805022



Michael Lizarraga

From: Sarvate, Sarita <sarita.sarvate@cpuc.ca.gov>
Sent: Tuesday, March 22, 2011 3:46 PM
To: Sarvate, Sarita
Subject: Energy Division Staff Recommendations for a Multi-Family Pilot
Attachments: Multi-Family Pilot Principles-3-22-11doc.doc; Multi-Family Pilot Recommendations-3-22-11.doc; Multi-Family Pilot Scope Data-3-22-11.xls

Greetings

Please find attached the CPUC Energy Division's (ED) Principles for a Low Income Multifamily Housing Pilot and the underlying assumptions and analyses thereof.

The Energy Division has been exploring the development of a pilot project for treating California's under-served multi-family housing sector with various stakeholders over the last several months. ED anticipates that the final pilot proposal would be included in the IOUs' Energy Savings Assistance Program Budget applications for the 2012-2014 cycle. The aim of the pilot is to explore cost-effective, whole building approaches to providing energy efficiency to low income multifamily housing.

Based on recent work by the California Home Energy Retrofit Coordinating Committee (CA HERCC), the existing Energy Upgrade California program, the Energy Savings Assistance Program, and the Multifamily Energy Efficiency Rebate (MFEER) program, ED has developed a range of estimates for the cost and scope of an effective, yet measureable pilot. In its analyses of various pilot outcomes, ED has attempted to balance the size of the pilot with considerations of equity and cost-effectiveness.

Sarita Sarvate

Supervisor,
Low Income Programs
Energy Division
California Public Utilities Commission
505 Van Ness Avenue,
San Francisco, CA 94102
(415) 703-5574

Low-Income Multifamily Pilot

Guiding Principles

Energy Division recommends consideration of a Low-Income Multifamily Pilot that adheres to the following Principles:

1. Be consistent with demonstrating progress toward the relevant 2020 goals and strategies identified in the Energy Efficiency Strategic Plan:
 - a. Multifamily buildings will achieve a 40% reduction in energy purchases over 2008 baseline, and
 - b. Increase number of households treated under the Energy Savings Assistance Program (formerly known as LIEE) to produce long term energy savings;
2. Be implemented during the 2012-2014 program portfolio cycle and completed before the end of the 2014 program year;
3. Be jointly developed with at least two large California investor owned utilities (IOUs) and implemented in at least two large IOU service territories;
4. Fully leverage and integrate the Energy Savings Assistance Program with utility core energy efficiency programs and other applicable State, Federal and local programs in order to streamline and improve program delivery, and achieve maximum energy efficiency savings relative to the expenditures by ratepayers, taxpayers, and other financial investments. This shall include but not be limited to:
 - a. Leveraging with the US Department of Housing and Development, California Community Services and Development, and various local government partnership programs.
 - b. Seeking to minimize overall project and program financial and transaction costs, including access to relevant data needed to inform subsequent upgrade activities.
 - c. Avoiding double counting of energy savings.
5. Include as eligible measures first those approved in the current Energy Savings Assistance Program, then the first four tiers of the energy efficiency “loading order,”¹ which recommends building improvements in the following order:
 1. air sealing to obtain a tight building envelope;
 2. insulation to complete the thermal boundary;
 3. proper sizing, design, installation, combustion safety testing and commissioning of space heating and cooling systems;
 4. proper sizing, design, installation, combustion safety testing, commissioning and insulation of hot water systems, including distribution;
 5. efficient lighting and appliances, and demand response measures; and
 6. renewables.

Although not recommended for this pilot program, installation of measures in tiers 5-6 at time of treatment could further leverage available single measure rebates. The costs of the installed Energy Savings Assistance Program approved measures and any financial incentives awarded based on energy savings achieved from the measures installed from

¹ “2008 Energy Action Plan Update”, California Energy Commission and California Public Utilities Commission, February, 2008.

IOU program funds under 1-4 would be allocated to the pilot budget. All other measure costs should be leveraged with existing single measure rebates or from other outside funding sources.

6. Institute a performance-based program based on demonstrated reductions in kW, kWh and Therms.
 - a. Pilot development should explore an approach similar to the Energy Upgrade California single family performance-based program where incentives awarded are based on the percentage of projected energy savings (site BTUs) per home. This pilot should consider a similar structure with variations made suitable to the multifamily market segment.
7. Aim to treat a minimum of 18,000 multi-family units with a maximum of 24,000 multifamily units with a total pilot budget not to exceed \$46 Million, in total. (Estimates comprising this figure consist of \$28.4 Million from the Energy Savings Assistance Program and \$17.1 Million from Energy Upgrade California / EE Core.)
8. Reduce barriers to multifamily participation (including providing a single point of delivery for program to the greatest extent feasible);
9. Promote equity across the low-income housing sector by targeting buildings with the highest proportion of the tenants that are eligible for the Energy Savings Assistance Program and ensuring that these tenants represent under-served households;
10. Ensure consistency with applicable California Public Utilities Commission cost-effectiveness guidance by:
 - a. Installing the most cost-effective measures that provide an energy resource for California, while reducing low-income customers' bills and improving their quality of life, and
 - b. Ensuring compatibility of pilot with portfolio-level cost-effectiveness requirements
11. Ensure that benefits accrue to tenants (including, but not limited to, energy bill savings, health and safety improvements, and improved comfort of residents); and
12. Educate participants on the benefits of energy efficiency and the gains from conservation behaviors.

Recommendations for Multifamily Low Income Pilot Pilot Scope/Budget/Penetration Parameters

Pilot Scope and Budget Recommendations

Energy Savings Assistance Program (ESAP, formerly known as ESAP) staff and Energy Efficiency Program (EEP) staff at the Energy Division jointly recommend a penetration target for the Multi-Family (MF) whole building pilot of between 3-4% of the California ESAP population, or 18,000 - 24,000 units. We also recommend an IOU total budget range for the pilot of between \$34 Million - \$46 Million (Estimated EE Portion \$13 Million - \$17 Million; ESAP Portion \$21 Million - \$28 Million.)

The following is not intended as a prescriptive approach or requirement, but rather a starting point for discussion. Our recommendation is based on analysis with the assumptions and results provided below. While we have used these assumptions to build our analysis and make our recommendations, we caution the IOUs and involved stakeholders to diligently formulate their own assumptions for the actual pilot program design. We consider that the range of potential approaches to incentive design for this pilot are not yet fully understood, and that a range of approaches could be contemplated.

Recommended Budget and Penetration Target

1. Penetration Target- Between 3-4% ESAP Population, or 18,000 - 24,000 Units
2. Total Pilot Cost- \$34 Million – \$46 Million (estimated EE Portion \$13 Million - \$17 Million; ESAP Portion \$21 Million - \$28 Million)
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: Calculated based on EE Incentive Level of **25%** given at estimated total project cost of \$2900/Unit¹. With a program average ESAP subsidy of \$1200/unit plus an EE contribution of \$750 (which is 25% of the total estimated \$2900 project cost per unit) the ratepayer contribution will amount to \$1925/Unit (ESAP+EE).
5. ED anticipates that the remaining cost of the project will come from other sources.

Potential Lower Minimum Budget and Penetration Target (not recommended):

1. Penetration Target - Between 1-2% ESAP Population, or 6,000 - 12,000 Units
2. Total Pilot Cost - \$8 Million - \$16 Million
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: (Calculated based on EE Incentive Level of **5%** Incentive given at estimated cost of \$2900/Unit- ESAP Subsidy estimated at \$1200/Unit, with Average Budget per Unit - \$1,345/Unit (ESAP + EE))

Potential Higher Maximum Budget and Penetration Target (not recommended):

¹ The estimated cost of \$2900/Unit is from the Multifamily Subcommittee of the California Home Energy Coordinating Committee (MF HERCC) report (Table A- 1) dated October 2010:

http://www.builditgreen.org/_files/Admin/HERCC/MF_HERCC_report_10152010.pdf

1. Penetration Target - Between 4-5% ESAP Population, or 24,000 - 30,000 Units
2. Total Pilot Cost - \$56 Million - \$70 Million
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: (Calculated based on EE Incentive Level of 40% Incentive given at estimated cost of \$2900/Unit- ESAP Subsidy at \$1200/Unit, with Average Budget per Unit - \$2,360/Unit (ESAP + EE))

Table 1 summarizes how we assessed potential pilot budgets given a) different penetration targets, and b) different Energy Upgrade California(EUC)/EE Core contributed incentive levels. The ESAP contribution is fixed for all scenarios at \$1200, based on the current average per unit cost for the program. The bottom row indicates the combined ESAP and EUC/EE Core budget allocated per unit under the range of budget results.

Table 1:

# Homes	ESAP Penetration Target	Funding @ 5% Incentive	Funding @ 10% Incentive	Funding @ 20% Incentive	Funding @ 25% Incentive	Funding @ 30% Incentive	Funding @ 40% Incentive
5,912	1%	\$7,951,909	\$8,809,178	\$10,523,716	\$11,380,985	\$12,238,254	\$13,952,792
11,824	2%	\$15,903,818	\$17,618,356	\$21,047,432	\$22,761,970	\$24,476,508	\$27,905,584
17,737	3%	\$23,855,727	\$26,427,534	\$31,571,148	\$34,142,955	\$36,714,762	\$41,858,376
23,649	4%	\$31,807,636	\$35,236,712	\$42,094,864	\$45,523,940	\$48,953,016	\$55,811,168
29,561	5%	\$39,759,545	\$44,045,890	\$52,618,580	\$56,904,925	\$61,191,270	\$69,763,960
	EE	\$145	\$290	\$580	\$725	\$870	\$1,160
	ESAP	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
	\$/Unit (ESAP+ EE)	\$1,345	\$1,490	\$1,780	\$1,925	\$2,070	\$2,360

ASSUMPTIONS: Estimate based on 40 unit building built before 1980 to 20% savings levels and a MFHERCC Estimate of \$2900/Unit (with ESAP budget of \$1200/unit and assuming the above mentioned EE incentive cost reimbursement level.)

In our analysis, for a 25% incentive funding scheme, we assumed that the existing EE EUC core IOU program would pay 25% (\$725) of the MFHERCC \$2900/Unit estimate for 20% energy savings/unit. We combined this with a ESAP contribution of \$1200/Unit (the highest ESAP average cost/unit of all four IOUs) to estimate a theoretical total cost per unit. Table 2 shows the ranges of total funding commitments by program, and by penetration rate, with our recommended budget levels indicated in red:

Table 2:

MFHERCC Estimate of \$2900/Unit @ 25% Incentive (by ESAP and EUC / EE Core Funds)				
# Homes	ESAP Penetration Target	ESAP Funds at \$1200/Unit	EE Funds at \$ 725/unit	Total
5,912	1%	\$ 7,094,640.00	\$ 4,286,345.00	\$ 11,380,985.00
11,824	2%	\$ 14,189,280.00	\$ 8,572,690.00	\$ 22,761,970.00
17,737	3%	\$ 21,283,920.00	\$ 12,859,035.00	\$ 34,142,955.00
23,649	4%	\$ 28,378,560.00	\$ 17,145,380.00	\$ 45,523,940.00
29,561	5%	\$ 35,473,200.00	\$ 21,431,725.00	\$ 56,904,925.00

Estimated \$/Unit (\$1200 ESAP+ EE)

\$ 1,925

According to the MFHERCC data, projected energy savings vary by climate zone. Table 3 shows approximate energy savings per ratepayer dollar based on the different funding levels for the pilot (and by climate zone.). The cost/unit of energy saved is notably high.

Staff recommends that Energy Division management consider this issue when considering the Energy Division’s recommended funding level for the ESAP MF Whole Building Pilot. We also recommend that management use this as a signal that additional work is needed to analyze current and planned whole house/building programs and pilots, develop a stronger theoretical foundation, and articulate a longer term (up to ten years) funding vision for these programs.

Table 3:

Total Funding Matrix (ESAP + EUC/EE Core Funds by Gas/Electric)										
	15% Incentive		20% Incentive		25% Incentive		30% Incentive		40% Incentive	
	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar
CZ 3	68.33	2.33	62.76	2.14	58.04	1.98	53.97	1.84	47.34	1.62
CZ 8	39.52	20.02	36.30	1.24	33.57	1.15	31.22	0.93	31.22	0.93
CZ 10	62.35	2.13	57.27	1.95	52.96	1.81	49.25	1.47	43.20	1.47
CZ 12	103.49	3.53	95.06	3.24	87.90	3.00	81.74	2.79	71.70	2.45

Summary

In sum, the pilot’s treated home goals could range from 5,912 to 29,561 MF units without factoring outside leveraging sources with an average per unit cost ranging from \$1,345-\$2,360. Projected pilot costs could range from \$7.9 Million to \$69.8 Million

CHPC Proposal

The original CHPC pilot proposal asked to treat 24,000 units (about 4% of the ESAP eligible population) with a ceiling of \$10,000/Unit. The maximum cost of that proposal in ratepayer dollars would be \$240 Million.

Staff Proposal

Aim to treat 18,000- 24,000 multi-family units with a funding request level between \$34 Million to \$46 Million. This figure consists of ESAP Portion \$21 Million - \$28 Million and Energy Upgrade California Portion of \$13 Million - \$17 Million.

TABLE 1
Total Funding Matrix (HEER + LUC Funds)

# Homes Permitted	Target	Funding @ 1%		Funding @ 2%		Funding @ 3%		Funding @ 4%	
		Incentive	Incentive	Incentive	Incentive	Incentive	Incentive	Incentive	Incentive
11,874	3%	\$3,900,816	\$11,632,584	\$7,754,376	\$23,262,752	\$15,509,584	\$46,774,464	\$31,012,672	\$87,787,344
17,717	3%	\$5,556,772	\$17,170,316	\$11,447,544	\$34,342,632	\$22,912,656	\$68,737,968	\$46,158,672	\$128,896,640
27,961	3%	\$8,385,252	\$25,155,756	\$16,788,832	\$51,366,496	\$34,252,320	\$102,756,960	\$67,104,704	\$187,861,664
		\$14,442,840	\$43,958,656	\$29,990,752	\$91,361,880	\$19,674,560	\$57,870,432	\$38,276,048	\$106,744,608
HEER		\$145	\$445	\$150	\$450	\$155	\$465	\$160	\$480
HEER + LUC		\$145	\$445	\$155	\$465	\$165	\$495	\$170	\$510
HEER + LUC + HEER		\$290	\$890	\$305	\$915	\$315	\$945	\$330	\$1,000

* Amounts are based on our best budget bid before 10/31/19. 2% ramped down, with HEER estimate of \$20,000 per lot and assuming the above existing LUC revenues (our independent bid)

TABLE 2
Total Funding Matrix (HEER + LUC Funds)

Permitted Units	HEER Funds at Risk	HEER Estimate of \$200/Unit @ 1% Incentive		HEER Estimate of \$200/Unit @ 2% Incentive		HEER Estimate of \$200/Unit @ 3% Incentive		HEER Estimate of \$200/Unit @ 4% Incentive		HEER Estimate of \$200/Unit @ 5% Incentive		HEER Estimate of \$200/Unit @ 6% Incentive	
		Units	\$	Units	\$	Units	\$	Units	\$	Units	\$	Units	\$
11,874	11,874	11,874	\$2,374,800	11,874	\$4,749,600	11,874	\$7,124,400	11,874	\$9,499,200	11,874	\$11,874,000	11,874	\$14,248,800
17,717	17,717	17,717	\$3,543,400	17,717	\$7,086,800	17,717	\$10,630,200	17,717	\$14,173,600	17,717	\$17,717,000	17,717	\$21,260,400
27,961	27,961	27,961	\$5,592,200	27,961	\$11,184,400	27,961	\$16,776,600	27,961	\$22,368,800	27,961	\$27,961,000	27,961	\$33,553,200
			\$9,510,400		\$19,020,800		\$28,531,200		\$38,041,600		\$47,552,000		\$57,062,400
HEER		11,874	\$2,374,800	11,874	\$4,749,600	11,874	\$7,124,400	11,874	\$9,499,200	11,874	\$11,874,000	11,874	\$14,248,800
HEER + LUC		11,874	\$2,374,800	11,874	\$4,749,600	11,874	\$7,124,400	11,874	\$9,499,200	11,874	\$11,874,000	11,874	\$14,248,800
HEER + LUC + HEER		23,748	\$4,749,600	23,748	\$9,499,200	23,748	\$14,248,800	23,748	\$18,998,400	23,748	\$23,748,000	23,748	\$28,497,600

* Current revenue on our budget bid before 10/31/19. 2% ramped down, and assuming payment level 2% (4% on cost)

TABLE 3
Other Metrics by City

City	Area	Estimate of HEER	% of HEER Funded under HEER
HEER	Area	20,141	100%
LUC	Area	20,141	100%
HEER + LUC	Area	40,282	100%
HEER + LUC + HEER	Area	60,423	100%
TOTAL	Area	1,852,834	100%

* Estimated Low Income Production based on HEER incentives (2% Incentive)
OR
Average % of units funded under the LUC Program that are MF (Based on 2010 taxworkload)

LIEE approved measures should be installed first if appropriate. Secondly, pilot properties should access EUC funds to cover, in loading order, 1) air sealing to obtain a tight building envelope; 2) insulation to complete the thermal boundary; 3) proper sizing, design, installation, combustion safety testing and commissioning of space heating and cooling systems; 4) proper sizing, design, installation, combustion safety testing, commissioning and insulation of the hot water systems, including distribution; 5) efficient lighting and appliances, and demand response measures, and 6) renewables, although not recommended for this pilot program. Lastly, for those measures offered outside of the LIEE or EUC, properties can access MFEER rebates or are encourage to access other outside funding sources to cover costs. To avoid double-dipping, measures accessed via LIEE or EUC are not eligible for MFEER rebates.

Measure	Energy Savings Assistance Program Approved	Include as a Pilot eligible measure?	MFEER rebates available to access outside of Pilot*
94% AFUE central natural gas furnace with built in VSM (CZ 11,12,13 only)	No	Yes	\$200/unit
94% AFUE Central natural Gas furnace with no VSM	No	Yes	\$150/unit
96% AFUE Central Natural Gas Furnace w/ VSM (CZ 11,12,13 only)	No	Yes	\$300/unit
96% AFUE Central Natural Gas Furnace w/o VSM	No	Yes	\$250/unit
Appliances	No	No	
Building Envelope	Yes	Yes	
Central System Natural Gas Water Heaters / Space Heating	No	Yes	\$500/unit
Centralized systems: heating, cooling, domestic hot water	No	Yes	
Cogeneration systems	No	?	
Commercial Pool/Spa Heater	No	?	
Common areas and exterior of property	Yes on Limited exterior lighting	Eligible Measures only	
Delamping fluorescent with electronic ballasts	No, traditional CFLs only or limited exterior lighting	Seek further input from IOUs/Parties	\$6/per
Doors	Yes Repair, No replacement	Yes Repair, No replacement	\$100/unit
Ducted Evaporative Cooling System, Level 1 and Level 2	No	Yes	\$300-600/unit
Electric storage water heater	No	Yes	\$30/unit
EnergyStar Room Air Conditioners	Yes for Room AC with owner Co-Pay	Yes (?)	\$50/unit
EnergyStar appliances	Yes for refrigerators with owner Co-Pay	Yes, once all possible shell measures have been installed	
High efficiency clothes washers (in coin-op laundry area)	Pilot Basis for SF only	Yes, once all possible shell measures have been installed	\$150/unit
High efficiency clothes washers (inside tenant dwelling)	Pilot Basis for SF only	Yes, once all possible shell measures have been installed	\$50/unit
High efficiency dishwashers	No	No	\$30-50/unit
High performance dual pane windows	Yes Repair, No replacement	Yes	\$0.75/sf
HVAC	No	Yes, for high efficiency HVAC systems (room systems only if central cannot be installed)	
Installation of gas and electric submeters	No	No	
LED Exit signs	No	No	\$35/per
Lighting/timers/occupancy sensors	Yes	Yes	
Multifamily central system natural gas boilers/space heating	No	Yes	\$1,500 / unit
Natural Gas Storage Water Heater	No	Yes	\$30-50 / unit
Occupancy sensor	Yes	Yes	\$10/unit
Package Terminal Air Conditioners and Package Terminal Heat Pumps	No	Seek further input from IOUs/Parties	\$100/unit
Photocells	No	Seek further input from IOUs/Parties	\$10/unit

Measure	Energy Savings Assistance Program Approved	Include as a Pilot eligible measure?	MFEER rebates available to access outside of Pilot*
Pool / Spa Pumps and Motors	Yes on Pool pumps only	Yes on Pool pumps only once all possible shell measures have been installed	
Pool and spa pumps, filtrations pumps, motors, and heater	Yes on Pool pumps only	Yes on Pool pumps only once all possible shell measures have been installed	
Refrigerator, freezer, and room AC recycling	Refrigerator with Owner Co-Pay	Refrigerator with Owner Co-Pay	\$25-35 *ARP
Renewables	No	No	
Roof insulation/cool roof	Yes on Attic Insulation	Yes	
Screw in CFL reflector bulbs-R30 and R40	No, traditional CFLs only	No	\$8-10/unit
Sink and faucet aerators	Yes	Yes	
Solar hot water	No	No	
Solar PV systems	No	No	
T8 or T5 fixtures with electronic ballasts	No, except for limited exterior lighting which may/may not correspond	Yes	\$32-45/unit
Time clocks	No	No	\$36/per
Toilets	No	No	
Unit furnaces	Yes on minor repairs, No on replacement	Yes	
VSD/VF[2] Pool Pump	No	Seek further input from IOUs/Parties	\$2.00/Mbtu
VSD[1] Pool Filtration pump/motor	No	Seek further input from IOUs/Parties	\$100/unit
VSM Air Handler System	No	Yes	\$50/unit
Wall insulation	No	Yes	\$0.50 / sf

*Rebates utilized outside of measure offerings funds may/may not be used in the determination of energy savings for performance threshold. No double counting of energy savings.

[1] VSD stands for Variable Frequency Drive.

[2] VF stands for variable frequency.

Total Funding Matrix (LIEE + EUC Funds by Gas/Electric)														
	5% Incentive		10% Incentive		15% Incentive		20% Incentive		25% Incentive		30% Incentive		40% Incentive	
	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm Savings/ Dollar	kwh Savings/Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar
CZ 3	83.06	2.83	74.98	2.56	68.33	2.33	62.76	2.14	58.04	1.98	\$53.97	1.84	\$47.34	1.62
CZ 8	48.04	1.64	43.37	1.48	39.52	20.02	36.30	1.24	33.57	1.15	31.22	0.93	31.22	0.93
CZ 10	75.79	2.59	68.42	2.34	62.35	2.13	57.27	1.95	52.96	1.81	49.25	1.47	43.20	1.47
CZ 12	125.80	4.29	113.56	3.88	103.49	3.53	95.06	3.24	87.90	3.00	81.74	2.79	71.70	2.45

Total Funding Matrix (LIEE + EUC Funds)								
# Homes	LIEE Penetration Target	Funding @ 5% Incentive	Funding @ 10% Incentive	Funding @ 15% Incentive	Funding @ 20% Incentive	Funding @ 25% Incentive	Funding @ 30% Incentive	Funding @ 40% Incentive
11,824	2%	\$ 15,903,818	17,618,356	\$ 19,332,894	\$ 21,047,432	\$ 22,761,970	\$24,476,508	\$27,905,584
17,737	3%	\$ 23,855,727	26,427,534	\$ 28,999,341	\$ 31,571,148	\$ 34,142,955	\$36,714,762	\$41,858,376
23,649	4%	\$ 31,807,636	35,236,712	\$ 38,665,788	\$ 42,094,864	\$ 45,523,940	\$48,953,016	\$55,811,168
29,561	5%	\$ 39,759,545	44,045,890	\$ 48,332,235	\$ 52,618,580	\$ 56,904,925	\$61,191,270	\$69,763,960
\$/Unit (\$1200 LIEE+ EUC)		\$ 1,345	\$ 1,490	\$ 1,635	\$ 1,780	\$ 1,925	\$2,070	\$2,360

HERC Estimate of \$2900/Unit @ 25% Incentive (by LIEE and EE Funds)		
LIEE Funds at \$1200/Unit	EE Funds at \$ 725/unit	Total
\$ 7,094,640.00	\$ 4,286,345.00	\$ 11,380,985.00
\$ 14,189,280.00	\$ 8,572,690.00	\$ 22,761,970.00
\$ 21,283,920.00	\$ 12,859,035.00	\$ 34,142,955.00
\$ 28,378,560.00	\$ 17,145,380.00	\$ 45,523,940.00
\$ 35,473,200.00	\$ 21,431,725.00	\$ 56,904,925.00
\$/Unit (\$1200 LIEE+ EUC)		\$ 1,925

* ASSUMPTIONS: Estimate based on 40 unit building built before 1980 to 20% savings levels, with HERC Estimate of \$2900/Unit (and Max LIEE budget of \$1200/unit and assuming the above mentioned EUC incentive cost reimbursement level)

CZ (yrs)	Estimated Improvements Summary				BTU Conversion		
	HERS Index	kWh	Therm	1 kWh = 3413 Btu	1 therm = 100,000 Btu	Total	
3	Savings	8,878	3,510	30,300,614	351,000,000	381,300,614	
	Split			7.95%	92.05%	100.00%	
8	Savings	21,725	1,464	74,147,425	146,400,000	220,547,425	
	Gas/Electric Split			33.62%	66.38%	100.00%	
10	Savings	39,534	2,130	134,929,542	213,000,000	347,929,542	
	Gas/Electric Split			38.78%	61.22%	100.00%	
12	Savings	37,973	4,479	129,601,849	447,900,000	577,501,849	
	Gas/Electric Split			22.44%	77.56%	100.00%	