Energy Efficiency-Based Utility Allowances: A Driver for More Efficient Affordable Housing

Nehemiah Stone, Sean Denniston, Charles Ehrlich, and Puja Manglani,
Heschong Mahone Group, Inc.

ABSTRACT

"Affordable Housing" has traditionally meant housing that was cheap to build and therefore inexpensive to rent. When housing is designed and constructed such that tenants cannot afford to pay for utilities, it ceases to qualify as "affordable" by any reasonable standards. On the other hand, housing construction is a business similar to any other, and if the developer cannot realize a return on an investment in energy efficiency upgrades, how can society expect the developer to make those investments?

One potential mechanism for solving this classic split-incentive problem is to allow the developer to charge higher rents as long as the tenant will not be worse off; in other words, as long as the increase in rent is offset by savings in utility costs. Given the formulas with which many affordable housing funding agencies determine "allowable rents," both goals can be met by appropriately adjusting the utility allowance to recognize the effect that energy efficiency upgrades have on actual utility costs.

This paper describes the primary method public housing authorities (PHAs) use to develop standard utility allowance (UA) schedules, the link between UA schedules and rent for subsidized housing, and how the EFFICIENT AFFORDABLE HOUSING PROGRAM has been helping PHAs to adopt a second tier (energy efficiency based) UA schedule. The paper also establishes the correlation between the adjusted UA schedule and the costs/savings of efficiency upgrades.

Introduction

Studies [Copeland; Power] have shown a strong link between tenants' ability to pay for their utilities and their ability to hold onto their living quarters. U.S. EPA and others claim that inability to pay for utilities is the second most common reason why currently homeless people lost their last dwelling. [Benfield and Brown] While the average household pays approximately 5% of its monthly income on utilities, the average household in subsidized housing pays about 20%. The average senior household on social security (SSI), pays over 25%. [HUD] While modest investments in energy efficiency can reduce their tenants' energy bills by 25%-50%, developers seldom make these investments. Their lenders require them to demonstrate a positive pro-forma net income stream, and they reject any "extra" that does not have a clear payback mechanism.

Similarly, PHAs need to make sure that the total of rent and utilities stays affordable to low-income tenants. Rent plus utilities[1] comprises the "housing burden." By direction of the U.S. Department of Housing and Urban Development (HUD), the housing burden for low-

[1] For new construction, the PHA cannot know what the utility costs will be since there is no billing history. Therefore, they use a "utility allowance" as the surrogate for utilizes. The utility allowance schedules are developed for public housing and housing voucher programs, but are applied to new construction to determine the allowable rents.

income households must not exceed 30% of the household's monthly income. For new affordable housing projects, the target income level of tenants is known, so the allowable rents can be calculated using the following formula:

$$Rent = (Income \times 30\%) - UA$$

A reduced UA, based on energy efficiency, results in higher rental income for the developer without making the tenant worse off. This then, provides the payback mechanism to justify the efficiency investment.

PHAs' Utility Allowance Schedules

The most common method that a PHA uses to develop its utility allowance schedule starts with a survey of all the affordable housing within its jurisdiction. They collect data on number of bedrooms, presence of major appliances, energy source for heating, water heating, cooking, etc., and which uses are paid for by tenants versus owners. The PHA collaborates with local utility companies to get billing data for the surveyed units, which they analyze to determine the average utility cost of each of the ends uses, by apartment size (number of bedrooms). The table below shows a sample utility allowance schedule from one PHA in California.

Example Standard Utility Allowance Schedule

		Dwelling Unit Size						
		0 BR	1 BR	2 BR	3 BR	4 BR	5 BR	6 BR
Heating	Gas	$8	$9	$12	$15	$20	$21	$24
	Electric	$10	$11	$15	$19	$26	$27	$31
Cooking	Gas	$5	$7	$9	$13	$15	$19	$21
	Electric	$6	$8	$10	$14	$16	$20	$22
Water Heating	Gas	$7	$9	$12	$14	$18	$21	$23
	Electric	$9	$12	$16	$18	$23	$26	$30
Other Electric		$9	$13	$16	$20	$25	$29	$32
Water & Sewer		$14	$20	$26	$32	$42	$48	$54

Note: This is the format of one PHA's UA schedule, but the values have been changed for the example.

Not all PHAs use the same method of establishing UAs. The goal stated by HUD, the governing body for PHAs, is to develop a reasonable estimate of the cost of utilities for a reasonably conserving household for the number of bedrooms and type of equipment and amenities in the dwelling unit. Yet, HUD leaves PHAs a significant amount of latitude in developing their UA schedules. Some PHAs use engineering models to estimate the amount of energy that "should" be used for various functions, and then multiply by current utility rates. Others use hybrids of these two methods. In fact, among the approximately 3,200 PHAs in the United States, there are probably at least 100 various methods used. Consequently, UA schedules vary dramatically, even among neighboring PHAs. The PHA that developed the table above, for example, does not make allowances for air conditioning or trash.[2] In addition to the categories in the table above, a neighboring PHA provides allowances for trash, AC, lighting,

[2] Utility allowances often cover non-energy "utilities," such as garbage collection and even rental of a refrigerator if the property owner does not supply one.

and a tenant-supplied refrigerator. In addition to omissions or creation of supplementary categories, allowances for the basic categories can vary by as much at 300%.

Application of Standard UAs

Until recently, very few PHAs had more than one allowance schedule. Some, with geographically large jurisdictions and significantly different climate conditions, split the jurisdiction into two regions and had separate UA schedules for each. A few others developed one schedule for new construction and one for existing units. But these were the exception. Generally the one UA schedule is applied to all new construction as well as the existing units from which the data was derived.

New construction of affordable housing requires the financial support of various state and local agencies as well as institutional lenders. In evaluating the viability of a project, these agencies and institutions need an estimate of the net income the project will have available for repayment of loans. The utility allowance, when subtracted from the allowable housing burden for the target tenants, reveals the amount of rent that tenants can pay. To determine what the utility allowance should be, the developer simply adds up the individual allowances for each of the end uses relevant to their project. The table below provides an example for a two-bedroom apartment with all gas appliances (based on the UA schedule in the previous section).

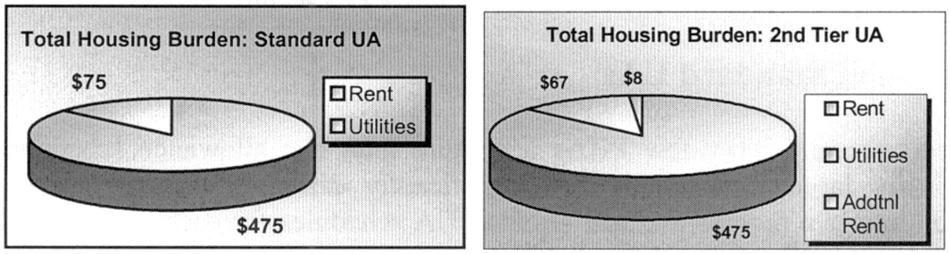
Example Utility Allowance for a 2-Bedroom Apartment

2 Bedroom Apt.	
Heating	
Gas	$12
Electricity	
Cooking	
Gas	$9
Electricity	
Water Heating	
Gas	$12
Electricity	
Other Electric	$16
Water and Sewer	$26
Total	$75

Based on the UA schedule above.

Due largely to advancing building energy codes, even "standard" new construction is more energy efficient than the average of all existing units. The energy portion of the utility allowance from a standard UA schedule could be significantly more than the actual cost of utilities for even a modestly energy efficient affordable housing project. Rent based on the standard UA schedule would be significantly lower than rent based on a more accurate estimate of the utility costs. The impact of this discrepancy is illustrated in the two figures below.

Rent Impact of Standard vs. Energy Efficiency Based UA Schedules



The total housing burden for the tenant is the same, but in the case with the energy efficiency based utility allowance, the property owner is allowed to charge more rent. This difference could provide a return on the investment that it takes to make the apartments more energy efficient; a return of almost $100 per year per apartment.

Developing Energy Efficiency Based UAs

The EFFICIENT AFFORDABLE HOUSING (EAH) Program works with housing authorities to develop a second tier UA schedule that can be used by developers of energy efficient affordable housing. EAH is a third party program (non-utility) program funded by the California utility ratepayers, under the auspices of the California Public Utilities Commission (CPUC). It began as a pilot program in 2002 and has been expanded statewide for the PY2004-05 period. The primary goal of EAH is to help PHAs develop and adopt an energy efficiency-based utility allowance schedule, to create a long-lasting impetus for energy efficiency in affordable housing.

As mentioned earlier, neighboring PHAs' UA schedules can have striking differences even when the circumstances (e.g., climate, utility rates, etc.) are quite similar. Nonetheless, the assumption from which EAH starts its analysis is that the PHA's standard utility allowance schedule is "correct." The methodology used to develop Energy Efficiency-based Utility Allowance Schedules (EEBUA) does not *replace* the housing authority's current method of creating a utility allowance schedule, but rather, builds upon it.

EAH creates two separate EEBUAs: one for new construction that is 15% better than current standards require, and one for existing construction that undergoes a retrofit to improve energy performance by 20% over the existing conditions. In both cases, the PHA's existing utility allowance schedule is used as the representation for energy use of the *average* of all subject units in the jurisdiction.

The following sections present the two methodologies used to develop (1) the energy efficient retrofit schedule and (2) the energy efficient new construction schedule. It is important to note that EAH staff only analyzed upgrade features that affect heating, cooling and water heating use.

Energy Efficient Retrofit

Adjusting the standard utility allowance schedule for energy efficient retrofit projects is very straightforward. A 20% improvement in energy efficiency should produce a 20% reduction in energy costs. Therefore, the standard UA schedule is simply reduced proportionally to produce the energy efficient retrofit UA schedule.

Energy Efficient New Construction

The process for creating the energy efficient **new construction** UA schedule is more complex. Since the standard schedule is based on *typical* existing apartments in the PHA's jurisdiction, the analyst first has to develop a ratio of the energy used in energy efficient new construction to the energy used in *typical* existing construction. To estimate energy use in existing buildings, we model the performance of a set of *typical* buildings with features representing an average of building vintages. As an average of 1940s through 1990s buildings[3], we use 1978-83 building practices. We then create a ratio of the energy use estimates (for heating, cooling and water heating) in the typical existing buildings to the energy use estimates in efficient new construction. The resulting ratio is applied to the existing utility allowance schedule to generate EEBUA for the energy efficient new construction.

The Building Models

The building model in the analysis is a two-story, 16-unit multifamily building. The model was used by the California Energy Commission (CEC) in analyzing potential energy code changes for 2005. The 16 units share a central common wall with eight units on each long wall. For the EAH analyses, we created versions of the model with all units the same size: studio apartments, one-bedroom units, etc. This resulted in seven building models; one with 16 studio apartments, another with 16 one bedroom apartments, etc. The conditioned volume, envelope areas, and window areas in each model were increased/decreased by unit type, but the ratio of window to floor area was kept constant across all models.

A separate building model was used for each unit type (e.g., studio, one bedroom, etc.) to increase the accuracy of the results. The increase in square footage from one unit type to the next is not linear, and neither is the performance. For example, a two bedroom unit that is x% larger than a one bedroom unit will not result in consumption of x% more energy. Nor will the two units consume the same amount of energy per square foot. Additionally, a three bedroom unit isn't the same percentage (or square footage) larger than a two bedroom, as a two bedroom is over a one bedroom.

Building features (wall insulation, furnace efficiency, window specifications, etc.) for the existing condition (average, or 1978-83 vintage) are extracted from the California Residential Manual's section on default assumptions for modeling existing buildings[4] and are reproduced in the table below. The features in the "existing" models are what the CEC considers to be typical for 1978-83 vintage homes.

[3] The stock of affordable housing in California is reasonably represented this way. However, some areas of the country might have a significantly larger proportion of older buildings.

[4] "CEC Residential Manual for Compliance with the Energy Efficiency Standards (for Low-Rise Residential Buildings)." 2001. 7-22, Table 7-6.

Building Measures Circa 1978-83 vs. Current Standards

Feature	*Existing* Model	(Standard Model) 2001 Prescriptive Min.
Roof R-value	R-19 (.047 U-factor)	R-30 – R-38
Wall R-value	R-11 (.098 U-factor)	R-13 – R-19
Slab Edge	.76 U-factor	.76 U-factor
Duct Insulation	R-2.1	R-4.2
Building Leakage (SLA)	4.9	4.9
Duct Leakage	28%	6%
Window U-factor	1.02	.60 - .75
Window SHGC	.64	.40 – No Req.
Gas Furnace	.78	.78
Electric Heat Pump	5.6	6.8
Space Cooling	8 SEER	10 SEER
Domestic Water Heating	.53 EF	.58 EF

The Analysis

All buildings were modeled using MICROPAS (v6.01), a program certified by the California Energy Commission to analyze low-rise residential buildings for state energy code compliance. EAH Staff analyzed each of the building models in all of California's 16 climate zones.[5] MICROPAS generates an energy budget in kBtu/sf/yr[6] for space heating, space cooling and water heating. MICROPAS actually creates two energy estimates; one for the building as proposed and another energy budget for a "standard building." The standard building is the same building as the proposed, but with measures (insulation, equipment efficiency, etc.) that allow it to *just meet* the minimum requirements of the current building code (see table above). For this analysis, certain measures were upgraded and others added to achieve a proposed budget 15% better than the standard budget. Note that in applications, developers can install whatever measures they want, as long as the efficiency gain is documented by modeling and a third party inspection.

By dividing the heating, cooling and water heating budgets of the "energy efficient" models by the corresponding energy budgets from the "existing" models, we create ratios between the two budgets for the three energy end uses. We then multiply the relevant portions of the standard utility allowance by the appropriate ratio to develop the energy efficiency based utility allowances.

[5] Many PHA jurisdictions encompass several California climate zones. Having run the model in all climate zones allows us to access data on the energy difference of new versus existing construction regardless of which PHA we are working with.

[6] Thousands of British Thermal Units per square foot per year.

Impact on Tenants

When dealing with affordable housing, there is a legitimate concern that reducing the utility allowance (thus allowing rent to be higher) could impact tenants' ability to afford housing. However, any increase in rent would be completely offset by the related decrease in the tenant's actual utility bills when the basis is a more energy efficient apartment. As an additional safeguard, EAH recommends energy efficient UA schedules that allocate some of the energy cost savings directly to the tenant. In both methods (existing and new construction) used to develop EEBUA schedules, a "safety factor" is applied to the adjustment factors. This conservatively protects individual tenants from having to pay more than they would had the property owner not taken advantage of the EEBUA.[7] Simply put, the utility allowance is reduced by only about 75% of the projected reduction in utility costs. This serves the dual purposes of protecting the tenants and passing some of the economic benefit directly to them. The primary result is that the tenant actually ends up paying slightly less each month in utilities than s/he receives from the reduced utility allowance.

For example from analysis that EAH provided to San Diego Housing Authority, the gas space heating budget for the "existing" version of the two bedroom model in Climate Zone 7 (the coastal area of the San Diego region) is 1.70 kBtu/sf/yr. The same budget from the energy efficient new construction schedule is 1.33 kBtu/sf/yr. This results in a ratio of .78. After the safety factor is applied (essentially "giving" ¼ of the savings to the tenant), the resulting adjustment factor is .84. San Diego Housing Authority's allowance for gas space heating in a two-bedroom unit is $8. Using the ratio between the two versions of the model as an adjustment factor, we get an energy efficiency based allowance of $6.68, which is then rounded to $7. The associated utility cost that the tenant pays will actually be a little less (see the table below).

The following table, also from the analysis for San Diego Housing Authority, compares the UA and actual energy costs for a tenant in a standard dwelling unit to the UA and actual energy costs for a tenant in a unit that is 15% more energy efficient than the current energy standards. It demonstrates that even though the UA for the energy efficient unit is lower than that for the standard unit, the difference between the estimated energy costs in the two cases is actually even greater. The table assumes that the standard Utility Allowance accurately reflects tenants' utility costs.[8] Energy rates used for this analysis are $.15/kwh for electricity and $.70/therm for gas, typical of this region.

[7] What the tenant pays is the total of the rent plus utility costs, minus the UA or EEBUA. For an apartment to remain affordable, it is important that the change in the rent (exactly equal to the difference in the two utility allowances) be the same or less than the reduction in actual utility costs.

[8] It is worth noting that heating and cooling requirements in San Diego's coastal areas are relatively quite low, whereas water and sewer utility costs are significant. Other areas of California, and indeed the country, will have substantially higher space conditioning costs.

Utility Allowances vs. Actual Energy Cost

UTILITY OR SERVICE	2-BR		2-BR	
	Standard Schedule	Actual Energy Cost	Energy Efficient Schedule	Actual Energy Cost
Gas Space Heating	$8	$8.00	$7	$6.24
Space Cooling	$0	$0.00	$0	$0.00
Gas Water Heating	$8	$8.00	$7	$6.10
Cooking	$5	$5.00	$5	$5.00
Other Electric	$16	$16.00	$16	$16.00
Water	$56	$56.00	$56	$56.00
Other				
TOTAL	**$93**	**$93.00**	**$91**	**$89.34**

Impact on Affordable Housing Developers

It is reasonable to question whether such a small incremental increase in rent could have enough influence on the decision-making process of affordable housing developers. Is there enough benefit from an energy efficiency based utility allowance schedule to encourage developers to adopt more energy efficient designs?

The following is a case study to illustrate the impact that an EEBUA schedule would have on a hypothetical new construction project. The project has 40 two-bedroom units and 12 three-bedroom units. Many of the assumptions (e.g, rents, allowable housing burden for tenants, “other” laundry income associated with the property, etc.) were drawn from a 53-unit apartment complex in San Diego called, "Vista Verde Apartments." All but one of the units were designed to be affordable to low- and very low-income families (41%-47% of median area income). The data in the “Cumulative Residual Comparison” table below, comes from a table in the *Development Form - Rental Income* that the applicant submitted to the local housing authority (San Diego Housing Commission). The following table, “Hypothetical Project Monthly Rental Income,” compares the rents and income figures for the Standard and Energy Efficient New Construction Utility Allowance Schedule. This example demonstrates the difference between the rental income using the two schedules, showing that the developer would receive an additional $1501 in rents per year with the EEBUA schedule. The tenants’ total housing burden remains unaffected.

Hypothetical Project Monthly Rental Income

						Standard Schedule
Unit Type	Bedrooms per Unit	Number of Units	Total Cost of Housing per Unit	Monthly Utility Allowance per Unit	Monthly Net Rent per Unit	Yearly Gross All Units
2-BR	2	40	$512	$93	$419	$201,082
3-BR	3	12	$512	$105	$407	$58,596
					Total Rent per Year	$259,678

						Energy Efficient New Construction Schedule
Unit Type	Bedrooms per Unit	Number of Units	Total Cost of Housing per Unit	Monthly Utility Allowance per Unit	Monthly Net Rent per Unit	Yearly Gross All Units
2-BR	2	40	$512	$91	$421	$202,042
3-BR	3	12	$512	$101	$411	$59,137
					Total Rent per Year	$261,179
					Total Rent per Year (w/o Energy Efficient Utility Allowance Tier 2	$259,678
					Difference	**$1,501**

The table below shows the fifteen-year net annual income for our case study, both with the standard UA schedule and with the recommended EEBUA schedule. The top half of the table shows the income and expense estimates from the application for the project. The bottom half shows what the income and expenses *would have been* with the EEBUA given the following assumptions:

- $5000 additional first costs (52 units X $96/unit)
- Rents from the table above
- Repayment (to the lender) of the additional $5k over the life of the 15-year mortgage
- No additional "Other" income or additional operating expense (the laundry facilities are assumed to be unchanged)

Note that in both sections of the table, years 8-12 are present in the calculations but hidden in the table since they add little additional information. The most notable lesson of the table is that even with a larger debt service (the additional loan payment for the energy efficiency measures), the net monthly income (residual cash) is significantly larger. The increase in cumulative residual cash by the 7th year is about $7500, and almost $18,600 after 15 years. This example is a very conservative one for making the case about EEBUAs. The standard utility allowances in most of the rest of the state are higher, leading to a larger difference for the EEBUA, and a larger rent increase for the developer.

Even in this conservative case, the developer is able to make more return on his/her investment while the tenants' total housing burden is not negatively impacted. In fact, the tenant's total housing burden slightly decreases while they also realize the value of increased comfort.

Cumulative Residual Comparison

Mortgage Amount	$963,000			Rental Income (Tier 1)	$259,678	Other Income	$4,800
Upgrade Cost	$5,000			Rental Income (Tier 2)	$261,179	Operating Expense	$105,000
Mortgage Rate	4.50%	Vacancy Rate	5.00%	Expenses	3.50%	Rent and other Rates	2.50%

Standard Schedule										
Year	1	2	3	4	5	6	7	13	14	15
Rental Income	$259,678	$266,170	$272,824	$279,645	$286,636	$293,802	$301,147	$349,238	$357,969	$366,918
Other Income	$4,800	$4,920	$5,043	$5,169	$5,298	$5,431	$5,567	$6,455	$6,617	$6,782
Gross Income	$264,478	$271,090	$277,867	$284,814	$291,934	$299,233	$306,713	$355,694	$364,586	$373,701
Vacancy	$13,224	$13,555	$13,893	$14,241	$14,597	$14,962	$15,336	$17,785	$18,229	$18,685
Effective Gross Income	$251,254	$257,536	$263,974	$270,573	$277,338	$284,271	$291,378	$337,909	$346,357	$355,016
Operating Expense	$105,000	$107,625	$110,316	$113,074	$115,900	$118,798	$121,768	$141,213	$144,744	$148,362
Net Operating Income	$146,254	$149,911	$153,658	$157,500	$161,437	$165,473	$169,610	$196,696	$201,613	$206,653
Debt Service	$89,669	$89,669	$89,669	$89,669	$89,669	$89,669	$89,669	$89,669	$89,669	$89,669
Residual Cash	$56,586	$60,242	$63,990	$67,831	$71,769	$75,805	$79,941	$107,027	$111,944	$116,985
Cumulative Residual	$56,586	$116,828	$180,817	$248,648	$320,417	$396,222	$476,163	$1,048,661	$1,160,605	**$1,277,590**
Energy Efficient New Construction Schedule										
Year	1	2	3	4	5	6	7	13	14	15
Rental Income	$261,179	$267,708	$274,401	$281,261	$288,293	$295,500	$302,887	$351,257	$360,038	$369,039
Other Income	$4,800	$4,920	$5,043	$5,169	$5,298	$5,431	$5,567	$6,455	$6,617	$6,782
Gross Income	$265,979	$272,628	$279,444	$286,430	$293,591	$300,931	$308,454	$357,712	$366,655	$375,821
Vacancy	$13,299	$13,631	$13,972	$14,322	$14,680	$15,047	$15,423	$17,886	$18,333	$18,791
Effective Gross Income	$252,680	$258,997	$265,472	$272,109	$278,911	$285,884	$293,031	$339,826	$348,322	$357,030
Operating Expense	$105,000	$107,625	$110,316	$113,074	$115,900	$118,798	$121,768	$141,213	$144,744	$148,362
Net Operating Income	$147,680	$151,372	$155,156	$159,035	$163,011	$167,086	$171,263	$198,613	$203,578	$208,668
Debt Service	$90,134	$90,134	$90,134	$90,134	$90,134	$90,134	$90,134	$90,134	$90,134	$90,134
Residual Cash	$57,546	$61,238	$65,022	$68,901	$72,877	$76,952	$81,129	$108,479	$113,444	$118,534
Cumulative Residual	$57,546	$118,784	$183,806	$252,707	$325,583	$402,535	$483,665	$1,064,195	$1,177,639	**$1,296,173**
Yearly Difference	**$960**	**$1,956**	**$2,988**	**$4,058**	**$5,166**	**$6,314**	**$7,502**	**$15,534**	**$17,034**	**$18,583**

Note: most data are from a developer application for the Vista Verde Apartments, San Diego.

Housing Authority Adoption

The type of affordable housing that a particular PHA pursues will affect the relevance of an EEBUA schedule to their practices and their interest in pursuing one. A PHA that only has public housing (affordable housing owned by the PHA) has no reason to adopt an EEBUA. HUD regulations allow them to set property specific utility allowance schedules for public housing that undergoes energy efficiency upgrades. However, there are very few PHAs that only have publicly owned housing anymore. Some PHAs have decided to divest their public housing and only offer assistance through housing vouchers. Others actively encourage developers to create affordable housing in their jurisdiction, providing loans or other benefits. Most PHAs use some mix strategies to achieve their desired amount of affordable housing.

EAH promotes the EEBUA to all housing authorities in California, and quite a few have adopted one or are in the process of exploring one with the EAH staff. However, a few have expressed various reasons why they are not (currently) interested.

- They have no staff time that they can free up to explore the issue
- Their standard UA is already so low that a reduction would be meaningless
- They are apprehensive about making any change without express written permission from HUD first – and HUD won't put their position in writing
- They see themselves in something of a competition with private (for profit and not for profit) developers, and the EEBUA only helps the private (non-public) developers
- They don't see a payback to the PHA for the effort to adopt

- They fear that an EEBUA would add an unacceptable level of complexity to the annual enforcement process
- They are unwilling to make a change unless all the neighboring PHAs with whom they coordinate make the exact same change

Some of the reasons given are show stoppers. For example, if the standard UA schedule is unrealistically low, there simply isn't any advantage to reducing it by ¾ of 15%. 88.75% of $4 still rounds out to be $4. There appears to be no fix for this problem short of encouraging the PHA to adopt a more "realistic" standard utility allowance schedule. The EAH staff have determined that such is not their purpose.

For some PHAs, the reluctance of HUD to definitively approve an energy efficiency-based utility allowance schedule has also been a show-stopper. Fortunately, HUD recently highlighted on PHA's EEBUA as a "best practice" in its monthly newsletter to the country's PHAs. EAH staff are now using that article to help assuage PHAs' worries about HUD's acceptance.

As another example, some PHAs have recently been hit pretty hard with budget cuts from both the state and federal levels. They are not able to fill open positions, so fewer people are doing as much, if not more work. It is difficult for them to find the time to sit down with EAH staff and learn about the program, much less take on the tasks associated with adopting an EEBUA. Nonetheless, there are now five PHAs in California that have adopted an EEBUA. At least six others are actively exploring the possibility through the EAH program. The solution to this barrier is to provide more on-site assistance to the PHAs. In the PY2004-05 expansion of EAH, we have included significant funds for this purpose and are offering to virtually place one of our staff part time in the PHA offices for a period to get the program up and running.

Despite the significant barriers listed above, there is growing recognition of the potential of energy efficiency based utility allowance schedules. At a workshop in 2003 with the state agencies who have programs that fund affordable housing (Housing and Community Development, Tax Credit Allocation Committee, Debt Limit Allocation Committee, and California Housing Finance Agency), affordable housing developers, housing advocates, and sustainable development advocates, Doug Shoemaker (the executive director of the Northern California Non Profit Housing Association) stated that working toward adoption of a two tiered utility allowance (EEBUA) schedule is the most important action that the attendees could take to promote energy efficient affordable housing.

Adoption is not the end of the effort however. Each PHA that adopts an EEBUA also needs to put a verification process into place to ensure that only those projects that deserve the EEBUA get to use it. For projects that are participating in a utility or other CPUC funded program,[9] a verification procedure is generally part of the program. PHAs can simply rely on the verification documentation from the program. For projects that are not participating in an energy efficiency public purpose program, EAH recommends that the PHA require the developer to hire a Home Energy Rating System (HERS) rater, and submit the HERS documentation to the PHA. For large, well funded PHAs, a third option is to have trained staff perform verification inspections.

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[9] In California, the California Public Utilities Commission selects and provides funding to program administrators for a broad portfolio of public purpose programs. Most of the dollars go to IOU administered programs but EAH, and about forty other programs, are administered by independent third parties.

Conclusion

Affordable housing is not affordable if the tenants cannot afford to pay for utilities. Yet why should a developer be expected to spend more dollars from an already tight budget if there is not mechanism to realize a return on the incremental investment? EEBUAs solve this problem by allowing developers to charge higher rents for those units that will verifiably cost the tenant less for energy. Many housing authorities are exploring this new idea to foster more energy efficient affordable housing in California. Many affordable housing developers are stepping up to support the concept. EEBUAs provide a direct incentive to the developers to invest in energy efficiency. They foster more comfortable dwellings without putting any extra burden on low-income tenants. And, they help PHAs fulfill their mission of assisting people with critical housing needs to obtain decent affordable housing.

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