

# Project to Design and Develop an Energy-Related Program

For Public Housing Residents and Renters

Volume I: Final Report

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# MASTER

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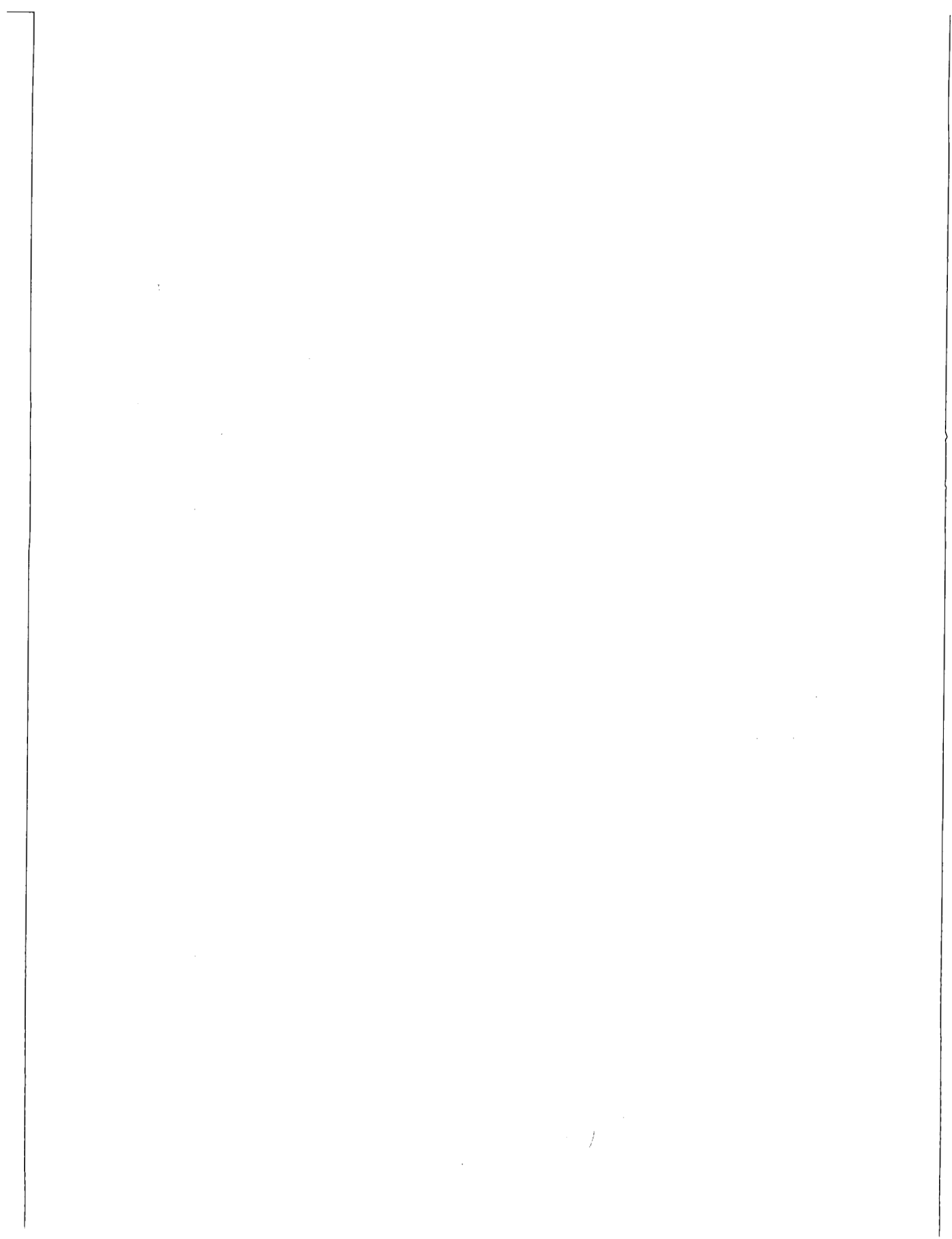
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## PREFACE

The growing urbanization of the United States is a worldwide phenomenon which has significant impact on total energy demand. The solution to this urbanization effect on energy demand will depend on specific strategies which will effectively alter the consumption patterns in the next decade.

Inefficient energy use contributes to a less efficient national economy and generates competitive problems in the international market. Since residential energy consumption constitutes a significant percentage of total energy consumption and space heating accounts for over 65 percent of residential energy consumption, it is apparent that translating energy savings into actual reductions in the amount of energy used in the residential sector is the ultimate challenge to any public energy policy. This should include the development of strategies to highlight specific methods by which the human dimension of energy use can be modified to reflect more efficient use of energy. Such actions must occur if our Nation is to achieve more efficient and equitable use of its limited energy resources.

Public education of energy conservation options and applications is the most effective method by which consumers' awareness of the need for energy-saving devices and applications of techniques of energy conservation may be increased. Most renters and public housing residents who do not make direct payments to their utility bills have a low sensitivity to the need to apply energy conservation methods to their daily decisions. This accounts for the fact that over 60 percent of public housing energy costs are the result of the households' lack of implementing effective conservation measures. To compound the situation, energy savings in the residential sector is perceived as being

very complex, since numerous interrelated functions must interact for the household to realize significant energy savings by individual consumers in the operation of their homes and apartments. In addition, most renters and public housing residents occupy older structures with lower thermal efficiencies and are not typical participants of energy audit programs. These factors make it more difficult to achieve increased energy conservation and energy efficiency, since the residents of the households do not play a role in the decisionmaking concerning retrofitting and incentive programs.

Attitudinal changes, through public education conservation programs, is the most effective method of generating pro-conservation behavior. Furthermore, the application of this type of strategy to maintain the viability of the energy conservation movement, particularly during periods of declining energy prices, is the most effective method of enhancing a public commitment to residential energy conservation objectives.

The Office of Minority Economic Impact, at the Department of Energy, provides appropriate technical assistance to enhance the development of minority organizations and minority communities. A significant percentage of low income and minority households is included among public housing residents. These segments of the population experience differential impacts of energy prices, are high consumers of energy, and lack the type of behavior which is relevant for modifying their energy consumption patterns. In addition, these segments of the population are characterized by larger household sizes and have less discretionary options to improve their energy consumption living patterns. Accordingly, numerous national benefits can accrue from their



The program focuses basically on the incentives and informational aspects of some residential energy conservation measures. Working directly with the PHAs, the approach of this project facilitates the development and design of a program which involves representatives of the potential users--who will, in turn, become influential in the marketing, distribution, and implementation of the program. This approach enhances the specificity and credibility of the program and facilitates some of the more qualitative aspects of residential energy conservation in a more definitive manner.

The packaging of this residential energy conservation program into four volumes, is designed to provide relevant information not only to public housing residents and to rental communities, but also to community - based organizations and utility companies which may utilize the information to develop specific program strategies relating to energy conservation issues. Such strategies can improve conservation knowledge by generating behavioral changes in energy use in that segment of the residential energy use sector.

**Volume 1 - Final Report On the Project to Design and Develop An Energy-Related Program For Public Housing Residents and Renters outlines the objectives and the basic approach to the overall project, identifies the demonstration areas, and make specific recommendations concerning the application of some strategies.**

Volume 2 - Energy Conservation Practices Participant Manual for Public Housing Residents and Renters provides alternative approaches to enhancing the effectiveness of energy conservation practices and measures; including a decisionmaking model to solving energy problems in the household.

Volume 3 - Instructor Training Manual For Use With Energy Conservation Practices Participant Manual is designed primarily to assist public housing residents and renters to improve their behavioral attitudes and their knowledge of conservation strategies; with the objective of modifying the conservation behavior and energy use of their families and other members of their community. This document is intended for use at "Energy Conservation Practices Training Institutes" which offer a framework for incorporating specific changes in the behavioral habits of residential energy consumers.

Volume 4 - Conservation Curriculum Guide For Public Housing Residents and Renters outlines effective procedures and options to improve the appliance purchase decisions and the use habits of residential energy consumers.

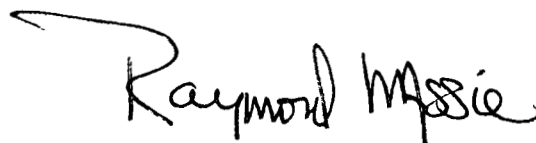
We hope that our effort to develop this unique program for these high energy-consuming segments of the population will enhance the commitment of the Department of Energy to specific residential energy conservation objectives. For the public housing residents and for renters, we hope that our effort to

dedicated adaptation of specific energy conservation practices and energy conservation educational programs.

The Design and Development of An Energy-Related Program for Public Housing

Residents and Renters was perceived by the office as an essential project which could effectively combine a number of strategies and methodologies to increase the market penetration of energy conservation practices of households in the rental and public housing segments of the residential energy use sector. The suggested approaches for this energy conservation educational program have been tested at public housing authority complexes (PHAs) in the east, north central, and north western United States. This approach facilitated more careful evaluation of the process and suggested conservation methods and assessment of specific dissemination techniques. Investigations encompassed housing structure; household type; characteristics of the respondent, including energy conservation knowledge, the degree of receptivity, and pro-conservation attitudes; economic disincentives; and demographic correlates relating to the three (PHA) demonstration areas. Outreach workers and informal social networks within the individual demonstration communities were used to deliver strategies of the information program. The information was then used as indicators to determine the basic areas of focus for establishing effective strategies for an educational program which could achieve sustained energy conservation for this segment of the residential sector. Because of the differing characteristics of residential households and their needs, the information has been specifically organized so that it is relevant to the specific concerns of renters and public housing residents.

decentralize conservation information through the development of this program will generate more economically beneficial patterns of energy use and improve the general understanding of specific methods of decreased energy consumption in our Nation. As the information in the four volumes of the program is utilized, we hope that the users will bear in mind the potential multiplier effect of dedicated implementation of the suggested conservation strategies in other sectors of our population. This is because residential energy efficiency is beneficial not only to individual consumers in terms of costs, but significant advantages accrue also to the utility companies; since effective energy conservation applications provide cost-effective alternatives to constructing structural equipment to meet the demand of their individual service areas. It is hoped, therefore, that relevant Federal, state and local government organizations; utility companies; and other private sector organizations; and community-based organizations will utilize this information and support its dissemination and application among their constituents, customers, and communities. In this way, this focused energy conservation program will make a significant contribution towards maintaining American's commitment to energy conservation.



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Raymond G. Massie  
Director  
Office of Minority Economic Impact

April, 1988

## FORWARD

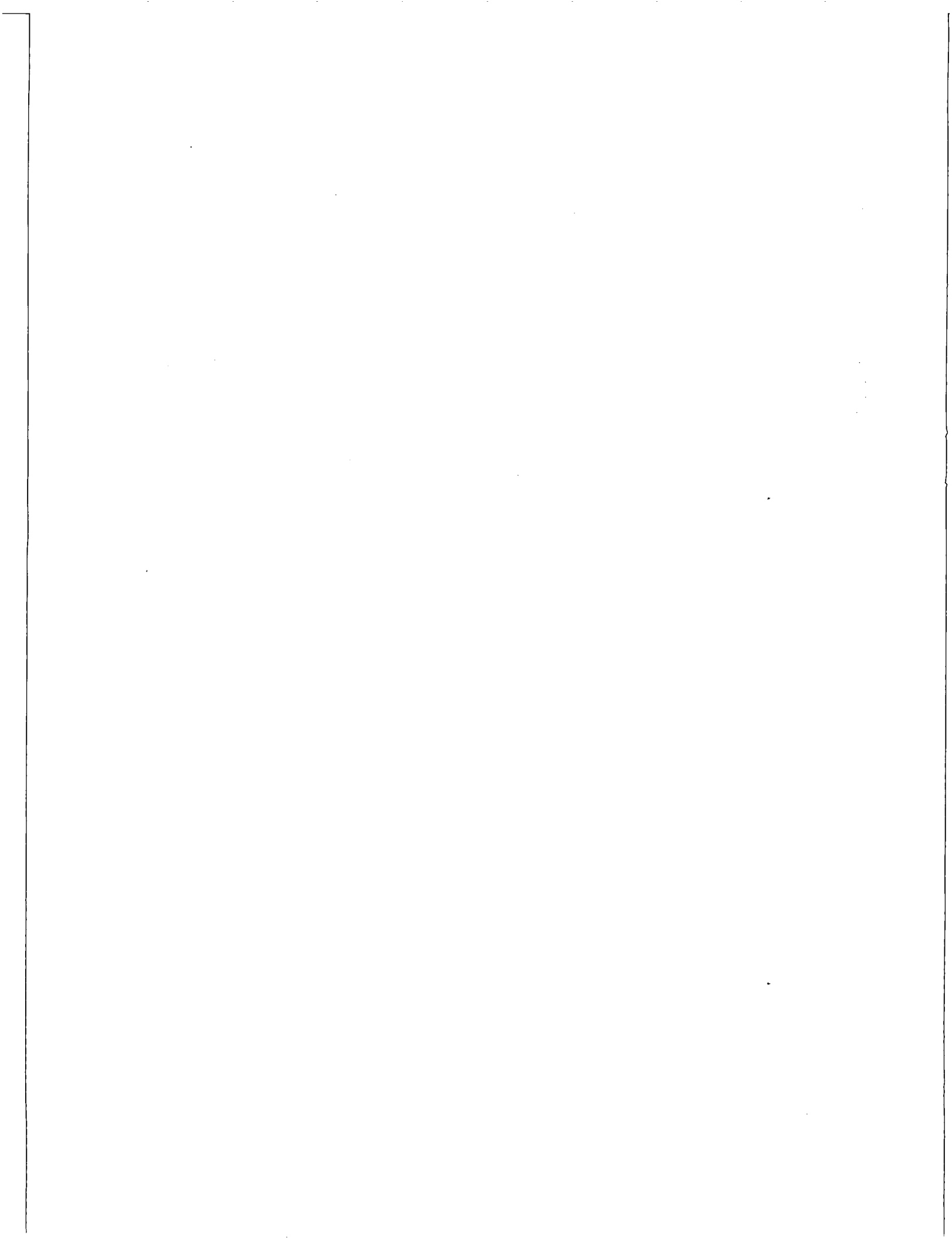
This final report on a project to design and develop an energy-related program for public housing residents represents an initiative of the Research and Education Division, Office of Minority Economic Impact, U.S. Department of Energy (DOE).

The Office of Minority Economic Impact (MI) was created by Congress in 1979, within the U.S. Department of Energy, to afford the Secretary advice on the effect of policies, regulations and other actions of DOE respecting minority participation in energy programs. The Director of MI is responsible for the conduct of ongoing research into the effects, including socio-economic and environmental, of national energy programs, policies, and regulations of the Department on minorities. Public housing in the United States is dominated by minorities; public housing is a large consumer of residential energy. Consequently, this project is a logical merging of these two factors and an attempt to somehow influence energy savings through improving public housing residents' energy-consumption practices.

The Citizens Housing and Planning Association (CHAPA) has compiled data on the typical public housing authority (PHA). In its last annual report (1985), it concluded that ". . . large public housing authorities provide shelter for a predominantly minority population and that the proportion of public housing authorities over 5,000 units are 92.8 percent minority." The waiting lists for that housing is approximately 7 percentage points below the proportion of whites who now live in public housing, which forbodes the continued growth of minorities.

Family composition and income for residents of public housing authorities over 5,000 units do not reflect a direction that would decrease the need for additional housing units. Eighty-five percent of the PHAs responding to the CHAPA survey reported that at least 50 percent of their family units are female headed. That same data showed that 35.5 percent of the household heads are employed. The median average income was \$7,908.00. Finally, 36 percent of all public housing families receive Aid to Families with Dependent Children (AFDC) program payments.

Consequently, the composite that is drawn of public housing authorities with 5,000 or more units resembles a probably unemployed female whose possible source of income is AFDC. The three PHAs involved in this project are typical of large public housing authorities.



## ACKNOWLEDGEMENT

In order for managers of a public housing authority to participate in a project of this kind they must be confident, caring, and continually problem-solving; since having an outside consultant use the housing site and its tenants was tantamount to opening a "Pandora's box" of complaints, gripes, and accusations. THE ASSIGNMENT GROUP (TAG) was fortunate in identifying three executives who possessed the unique qualities and qualifications that allowed the firm "into their homes." Linda A. Evans, Executive Director, Housing Authority of the City of New Haven (CT), George James, Executive Director, Cuyahoga Metropolitan Housing Authority (Cleveland, OH), and James E. Clay, Executive Director, San Francisco Housing Authority (CA), participated in this project with the belief that the results might improve the effective and efficient use of services by tenants and enhance their self-images through their participation. Without the support of these three unique PHA managers and their participating residents, this final report on the design and development of an energy-related program for public housing residents would not be possible. My sincere gratitude and appreciation is extended to each of them.

This two year project, like most action research efforts, had periods of dismay and euphoria. The leveling influence throughout the low and the high points was Georgia R. Johnson, Senior Economist, in the Research and Education Division, Office of Minority Economic Impact. As the Government Technical Representative, she monitored the efficaciousness of THE ASSIGNMENT GROUP's performance and provided encouragement and ideas when the "world would not march to our cadence." She performed superbly either way. Any short-comings of this project and report cannot be attributable to any lack of diligence by her.

Thank you, Georgia, I cherish the interaction.

Carol Flaherty-Zonis conducted the actual training for the public housing residents. Using the initial year's experience of Wellington L. Hundley and Dr. William G. Gaskins Jr., she built upon what they started and emerged with a product this firm believes to be efficient and effective. In the process of "testing" the product's viability, she learned much from the tenants and shared with them her sensitivity. That is good work when both the trainer and trainee walk away from an experience changed for the better by their interaction.

In addition to Ms. Flaherty-Zonis, the West Coast training was facilitated by Lola Paulson Bailey. Ms. Bailey had quite an impact on the residents. She, too, walked away from the experience with an enhanced respect and feeling of hope for the tenants.





## EXECUTIVE SUMMARY

This demonstration project was undertaken as a result of an unsolicited proposal submitted by THE ASSIGNMENT GROUP (TAG) to the Office of Minority Economic Impact, Department of Energy (DOE). The problem to which the proposal responded, was how to minimize the costs associated with public housing tenants in standard public housing as well as under homeownership transfers. A related problem was how to graduate the tenants to another level of responsibility and self-sufficiency through resident business developments and training in energy-related fields.

The size and gravity of the problem necessitated a purpose or aim that had nationwide application, yet lent itself to a microscopic look. Consequently, the goal that emanated was the design and development of an energy-related demonstration program that educates public housing residents, facilitates indigenous business development where appropriate, and trains residents to provide needed services.

The following objectives served as the basis for planning and action for this project:

1. To ascertain current annual costs for energy use in designated PHA units and compare to energy use costs in similar private units.
2. To determine over a 30-day period the extent to which energy-related decisions get exercised in daily routine and note the extent of the information base.
3. To design and develop, with respective resident populations, energy-related programs that employ energy decision data to reduce consumption, initiate needed services, and train residents as providers of needed services.
4. To disseminate findings within 90 days to other public housing authorities interested in improved energy efficiency -- with special emphasis on those authorities undergoing homeownership conversions.

A complete report on the activities of the first year can be found in the document, "Initial Phase Report On Project To Design and Develop An Energy-Related Program for Public Housing Residents," July, 1985, Office of Minority Economic Impact, DOE.

During the training, other needs became apparent as the residents voiced concerns about other tenants and the ability of all of them to effectively modify energy practices when they did not know how nor have access to information and guidance. In

addition, the tenant-participants in the training expressed a desire (and a willingness) to get more information and influence their neighbors regarding improved energy practices.

THE ASSIGNMENT GROUP determined that, in light of the ongoing project and its results, the tenants had identified a legitimate need that, if addressed, would probably expand the number of people directly benefitting from this demonstration and increase the number of options available to tenants for improving their energy practices.

#### GOAL AND OBJECTIVES

The goal remained the same. The key modification, however, occurred in how that goal was met, namely the objectives:

1. To conduct an Energy Conservation Practices Institute for public housing tenants who will train others in the practices that are most energy-conscious.
2. To compile a tenant-oriented energy practices curriculum and guide to serve as a tool for enhanced use of energy conservation opportunities.

#### II. APPROACH AND METHODOLOGY

The overall approach required two distinct phases: ECPI Development and Implementation and Curriculum and Guide Compilation.

##### Phase I - ECPI Development and Implementation

The design, development, and implementation of the Energy Conservation Practices Institute was geared toward the identification of interested and capable residents who could serve as trainers of other residents. The identification process began with those who participated in the training by TAG and expanded from there. Among the criteria used was commitment to devote the time to getting trained and actually training other residents.

The residents selected to be trained as tenant trainers played a role in defining the content of their training based on the appliances and other energy consumers present in their units. They were also exposed to an approved industry standard for training of trainers. In addition to their input, TAG further researched what basic information was needed to have versatility in energy conservation matters.

After the determination of training needs, the design and development of a training system that supported those needs commenced.

## Phase II - Curriculum and Guide Compilation

Compiling a curriculum and guide for tenant use is a primary step toward giving tenants a basis for continued energy conservation awareness and generating support from the public housing authorities for incentives for the residents. The curriculum and guide was to be a step-by-step process for the care and maintenance of standard appliances found in most units. The curriculum portion codifies important energy conservation measures and information; the guide portion explains the application of the relevant parts of that information.

As part of this overall approach, TAG suggested the inclusion of another public housing authority within the demonstration project. If another PHA, preferably from the West Coast, were included, then the training developed and curriculum and guide compiled would be more inclusive of the nation and thereby make any products more replicable nationwide. The San Francisco Housing Authority agreed to participate in the project.

The local utility for the New Haven (CT) site, United Illuminating, was approached about participating in the project. One of the two housing developments included in the training effort had a history of the highest energy consumption among UI's customers of similar size, density, etc.

The United Illuminating utility agreed to participate and assigned a staff person to serve as liaison with TAG.

### III. FINDINGS

#### A. Design, Development, and Implementation

The trainers learned from each training program. Materials and the training design were modified, based on suggestions from the trainees and from TAG's analysis of each program. The order of the learning activities was studied and the instructions for some were changed. As a result, both the trainers' training and the tenants' program are stronger and better designed to meet the needs of the participants and goals of the program.

While the three training programs for the tenant trainers went smoothly, difficulties emerged later in New Haven and Cleveland. The trainers encountered problems recruiting other tenants in New Haven and in Cleveland, and most of those who were recruited did not attend the program the evening it was scheduled.

### IV. CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations have to be viewed from the perspective of the two focal objectives undertaken:

To conduct an Energy Conservation Practices Institute for public housing tenants who will train others in the practices that are most energy-conscious.

To compile a tenant-oriented energy practices curriculum and guide to serve as a tool for enhanced use of energy conservation opportunities.

An analysis of the activities of the project demonstrate that the two objectives were essentially met, i.e., the Institute was conducted and a curriculum exists. Those are aspects of the project that were under the direct control of THE ASSIGNMENT GROUP. On the other hand, facilitating the training of tenants by other tenants did not take place as desired. Consequently, this section will focus on conclusions and recommendations that might make such an outcome a reality if this approach is replicated.

The number of telephone, mail, and personal contacts, although seemingly exhaustive, did not adequately respond to the tenants' need to have someone immediately available to provide support. Often encouragement and confidence boosting was needed to get the tenants to venture into their own communities. It was often mentioned that they felt "foolish" or "alienated" from their neighbors because of the message they were bringing. The discomfort they expressed was usually associated with the idea that the housing authority was not doing enough for them so why should they do anything to benefit the authority.

1. Recommendation: That each public housing location where this is replicated have a paid tenant-coordinator who is responsible for managing the garnering of resources needed, conducting follow up contacts with tenants, and serving as the liaison with the housing authority. Funding for the position should come from tenant management organizations in effect, local foundations, housing authorities, or other business and community entities that believe such a program benefits tenants.

The discomfort tenant trainers experienced when confronted with the need to recruit other tenants was also due to the newness of the responsibility. It was perhaps too much to expect most tenant trainers to adopt wholly the dual roles of trainer-recruiter without more specific guidelines.

2. Recommendation: That future programmatic efforts include a module on "recruiting your neighbors for training." Such a module should be structured to allow formal instruction and/or use as a reference tool.

It became quite evident that involvement by the public housing authority made a difference in outcome. In San Francisco, the executive director expressed support for the program and directed

staff to assist TAG's efforts. Few significant problems arose that could be attributable to PHA management. In New Haven, PHA involvement came after repeated requests and toward the end. In addition, the PHA was under organizational stress as the executive director had been terminated and new management in transition. When most of this training occurred, the PHA was without a director. Yet, in spite of these less than ideal conditions, the assistance provided contributed to the small accomplishments.

3. Recommendation: That public housing authorities expressing an interest in replication of this project demonstrate their commitment by designating a staff person with authority to work directly in the implementation of the program on site.

Under the most ideal conditions, tenant trainers attempting this program for the first time are going to experience nervousness, self-doubt, and apprehension. Such reactions are understandable, but by no means did they work to paralyze the tenant trainers' performance. In retrospect though, it raises the question of what the possibilities would be if they had one experience from which to work.

4. Recommendation: That a pilot training session be conducted, where feasible, prior to tenant trainers moving ahead to implement a fullfledged program.

Tenants generally need an incentive for wanting to conserve energy since, in many instances, their monthly rent does not segregate out the dollars expended for utility costs. Even in situations where tenants have individual meters and the rental agreements did not hold them accountable for utilities, it was difficult to get them excited about conservation as a civic responsibility.

5. Recommendation: That the primary target group for this training should be tenants who are directly responsible for paying their own utilities. Other tenants can also benefit, but it might require offering some type of cost-saving benefits or other incentive appropriate to the location.

The presence and active involvement of the local utility can be extremely valuable, especially if done in conjunction with a committed public housing authority. Together with the tenants, an effective triumvirate can be forged that responds to each key aspect of a triangle of effectiveness.

6. Recommendation: That at each location where replication is attempted, plans should incorporate the active participation of the local utility. The benefits could include added resources, expanded expertise, and collaborative problem solving.

Business development within the public housing community has successes. It can and has been done. However, the distinctive qualities of housing developments where business and enterprises exists are organization and strong leadership at the grass roots or indigenous population level. In addition, business development of energy-related items has to follow a history of success at energy conservation. In the locations where business development was desired, energy conservation success did not exist. In fact, all program resources were absorbed in the energy conservation effort.

7. Recommendation: That if business development is to be attempted, there should be sufficient program resources to ensure success at energy conservation, strong tenant organization, and strong tenant leadership.

These recommendations are being made for the expressed purpose of making replication of this project more successful. However, that purpose is tempered by the reality of limited public dollars of such an undertaking. Consequently, the recommendations were also formulated to guide practitioners who follow through the labyrinth of obstacles that make public housing residency frustrating to its tenants and often causes those who can influence change to hold back.

## I. INTRODUCTION

This demonstration project was undertaken as a result of an unsolicited proposal submitted by THE ASSIGNMENT GROUP (TAG) to the Office of Minority Economic Impact, Department of Energy (DOE). The problem to which the proposal responded, was how to minimize the costs associated with public housing tenants in standard public housing as well as under homeownership transfers. A related problem was how to graduate the tenants to another level of responsibility and self-sufficiency through resident business developments and training in energy-related fields.

### Background

The basis for determining the problems addressed rests in the dollar expenditure for public housing and the disproportionate percentage for heating costs.

The American public's energy consumption per capita has declined by 13 percent during the last decade. Public housing energy costs, however, continue to spiral and it has been conservatively estimated that 60 percent of public housing energy costs are due to waste or lack of effective conservation measures. When that estimate is associated with the fact of the existence of over one and a quarter million housing units in 2,800 communities across the country then the mammoth depth of the impact is evident. In FY 1984, Federal outlays for the public housing program approached \$4 billion with the lion's share going to sustain energy consumption.

Using Potomac Electric Power Company figures, a heating/cooling system type average savings on a unit less than 2,000 sq. ft. can be \$26 per year using just caulking/weatherstripping. That is an estimated \$30 million savings nationwide with just one simple measure.

Unfortunately, that savings is not realized as public housing authorities management emphasis, although desired, is not usually focused on energy cost savings as other competing needs receive higher priority. In fact, effective energy management is probably unachievable in public housing as it is currently programmed. Any significant reprogramming has to involve the tenant-residents who are overwhelmingly the very poor and uninformed. This project sought to intervene in the energy practices of these residents through the following goal and objectives for the initial year of the grant.

The size and gravity of the problem necessitated a purpose or aim that had nationwide application, yet lent itself to a microscopic look. Consequently, the goal that emanated was the design and development of an energy-related demonstration program that

educates public housing residents, facilitates indigenous business development where appropriate, and trains residents to provide needed services.

To meet the goal, it was necessary to focus on activities that lend themselves to typical public housing and PHA resident councils. This meant objectives that distinguished the specific strategies or major undertaking while also allowing the host organization(s) to witness concrete actions and benefits during the project phases. For that reason, the following objectives served as the basis for planning and action for this project:

1. To ascertain current annual costs for energy use in designated PHA units and compare to energy use costs in similar private units.
2. To determine over a 30-day period the extent to which energy-related decisions get exercised in daily routine and note the extent of the information base.
3. To design and develop, with respective resident populations, energy-related programs that employ energy decision data to reduce consumption, initiate needed services, and train residents as providers of needed services.
4. To disseminate findings within 90 days to other public housing authorities interested in improved energy efficiency -- with special emphasis on those authorities undergoing homeownership conversions.

The overall strategy to meet the goal first required finalizing arrangements with the selected PHAs, the Cuyahoga Metropolitan Housing Authority, Cleveland, OH, and the New Haven Housing Authority (CT). Included in the final arrangements were delineation of specific roles, identification of involved units, informational meetings with tenant councils, and scheduling for the final work plan. Completion of this activity began implementation of the specific objectives through a three-phase approach as described below.

#### **Phase I - Ascertainment of Costs and Decision Style**

During this phase efforts were undertaken to review PHA documents and data that identified energy use costs. Those costs were compared against similar costs for like-situated private housing units. Research of local utilities, private housing associations, and related energy-provider data also served as the base for comparison.

In order to ascertain costs for individual units within public housing projects, either individual billings have to be in effect and/or meters that record per household energy consumption were in use. The cost data made available reflected a disparate



percentage going toward energy consumption, but those costs were for total buildings and/or blocks of units--data that was not very useful. However, when compared to private housing of similar size there existed a disproportionate expenditure of energy dollars by public housing authorities.

A decision matrix instrument was structured based upon the type of energy sources available, established conservation methods, and the unit size and structure. The results were analyzed to determine decision style. All data suggested wasteful patterns of energy consumption to which training needed to respond. These practices also provide the best occasion to avail the tenants of energy conservation opportunities since those are behaviors directly under their control. There was an attempt made to correlate findings with demographic data for further tailoring of training. There were no significant correlations. Respondents to the first part of the data form were evenly divided between highrise buildings and lowrise and townhouses. The average household had 4.3 individuals with two New Haven families accounting for twenty-one individuals. Those households did not skew the data collection since energy practices were recorded by households and not individuals.

## Phase II - Design and Development of Program

During the second phase, the results from Phase I were shared with the tenant councils and their input solicited regarding corrective measures, identified needs to improve conservation, and the actual design and development of programs that responded to those identified needs. Once developed, selected tenants were trained in the whole process of on-site ascertainment through determining their improvement needs and how to secure them.

The design and development focused on approaches that would provide the tenants experience to analyze their behavior regarding use of energy conservation opportunities and give them more information from which to make decisions about improved energy practices. The format adopted provided the following:

- Quiz as a pre-test check of the participants' understanding of energy conservation.
- Case study of tenant energy conservation problems to establish a reality base from which learning could take place.
- Decision making process to familiarize the tenants with steps to follow in order to make sound decisions that support their own comfort and principles.
- Deviation model to review where tenants make mistakes when exercising energy practices and method of correcting deviancy.
- Energy improvements list of activities to serve as a guide in trying improved behavior.

- Quiz as a post-test measure to increased energy conservation knowledge.
- Evaluation of the day's proceedings to ascertain to what extent the process was beneficial.

The evaluation instrument administered to the tenant participants was designed to measure their reaction to (1) the effectiveness of training in accomplishing the stated objectives, (2) the planning and administration aspects of the program, and (3) an overall assessment of the program content, the quality of instruction and the relevance of the program. One hundred percent of the respondents rated the training as excellent and emphasized the amount of time was just right.

### **Phase III - Dissemination of Results**

The third phase required THE ASSIGNMENT GROUP to be responsible for disseminating the project's results to the two dominant PHA associations, the National Association of Housing Rehabilitation Officials and the Council of Large Public Housing Authorities. Although arrangements were made for dissemination, final distribution has been delayed until completion and acceptance by DOE of this report on the total two-year effort.

A complete report on the activities of the first year can be found in the document, "Initial Phase Report On Project To Design and Develop An Energy-Related Program for Public Housing Residents," July, 1985, Office of Minority Economic Impact, DOE.

### **FOLLOW-ON TO INITIAL PROJECT ACTIVITY**

The limited time span for this demonstration project necessitated concentrated front-end staff work and interaction with tenants. A benefit from that concentrated effort was the early identification of needed modification to the project scope and approach.

During the training, other needs became apparent as the residents voiced concerns about other tenants and the ability of all of them to effectively modify energy practices when they did not know how nor have access to information and guidance. In addition, the tenant-participants in the training expressed a desire (and a willingness) to get more information and influence their neighbors regarding improved energy practices.

THE ASSIGNMENT GROUP determined that, in light of the ongoing project and its results, the tenants had identified a legitimate need that, if addressed, would probably expand the number of people directly benefitting from this demonstration and increase the number of options available to tenants for improving their energy practices.

## GOAL AND OBJECTIVES

The goal for the follow-on activity remained the same: the design and development of an energy-related demonstration program that educates public housing residents, facilitates indigenous business development where appropriate, and trains residents to provide needed services. The key modification, however, occurred in how that goal was met, namely the objectives:

1. To conduct an Energy Conservation Practices Institute for public housing tenants who will train others in the practices that are most energy-conscious.
2. To compile a tenant-oriented energy practices curriculum and guide to serve as a tool for enhanced use of energy conservation opportunities.

There are two distinct advantages to these objectives. A core of trained tenants, who are indigenous to the public housing environment, are better able to serve as models and replicate the use of energy conservation opportunities that exists in most of the tenants' energy practices. Once this core of tenants is trained, there will be less need for an outside consultant and long-term corrective action will be more feasible. The curriculum guide also bolsters the potential for tenants to become more self-sufficient. The guide will be a practical, easy reference that can be used to assist in implementing energy conservation opportunities through measurement and cost determination methods for common appliances, heating, and air conditioning.

## II. APPROACH AND METHODOLOGY

The overall approach required two distinct phases: ECPI Development and Implementation and Curriculum and Guide Compilation.

### Phase I - ECPI Development and Implementation

The design, development, and implementation of the Energy Conservation Practices Institute was geared toward the identification of interested and capable residents who could serve as trainers of other residents. The identification process began with those who participated in the training by TAG and expanded from there. Among the criteria used was commitment to devote the time to getting trained and actually training other residents.

The residents selected to be trained as tenant trainers played a role in defining the content of their training based on the appliances and other energy consumers present in their units. They were also exposed to an approved industry standard for

training of trainers. In addition to their input, TAG further researched what basic information was needed to have versatility in energy conservation matters.

After the determination of training needs, the design and development of a training system that supported those needs commenced.

#### A. Participant Manual and Instructor Training Guide

THE ASSIGNMENT GROUP's approach to training is that it should be learner-centered and experiential. Since adults learn best by doing, in an environment that is comfortable and receptive to participant input, the training manuals and programs were structured to be largely participatory. The training packages were designed to guide and supplement the training and to serve as a resource for tenants at home.

The design was guided by the following assumptions and principles.

1. Adults learn best when they understand the overall plan of a training program.
2. People want to have control of their lives and the environment in which they live.
3. People make decisions which are best for them when they have the necessary supporting information.
4. Adults who participate in education and training programs should have opportunities to assess what they know at the start and what they learn as a result of the program.
5. Adults need time to apply skills they learn and information they gain.
6. Adults need reinforcement for what they know and the experiences they have had.
7. Participants in a training program should have the opportunity to provide feedback to the trainers, to indicate their perception of the worth of the program.
8. Adults want to be successful, especially when they risk trying something new.
9. Adults need to learn in the context of their own experiences and in a framework that makes sense to them.

The content of the "Participant Manual" and "Instructor Training Manual" was influenced by the assumptions and principles listed above, by principles of adult learning theory, and by what TAG believed was important for participants to know about energy conservation.

The "Instructor Training Manual", which served as a "map" for the TAG-conducted training programs, provided all the information about content and process the tenant trainers needed to lead the program. The step-by-step description of the training day was specific in its detail about the use of time for each learning activity and in its explanation of each activity.

Information about adult learning theory and making presentations was included to assist the tenant trainers understand the rationale behind the entire program and to introduce them to information which would assist them in their own presentations.

To help them be successful with their training, a detailed description of the format they would follow as they worked with other tenants was developed. To supplement this information, TAG included facts which could be used to guide their discussions, supply answers to the energy quiz, and provide a written tool they would use to plan for the training they would conduct. Also, the Participant Manual for the tenant training program was included to be used in preparation for the training they would conduct.

Decisions about the contents of the Participant Manual were guided by the same principles and assumptions. To provide an overview of the program, an agenda and introduction were included; the latter defined several key words related to energy conservation and stated the program objectives.

In order to involve participants quickly in the work and to assess their knowledge about energy matters, an energy quiz was included as a pre-test (and post-test) in the manual. To reinforce further what they knew at the start and to arouse their interest, a fact sheet with easy-to-grasp information about the use of energy in the home was provided.

A case study about a family's use of energy in their home was included for several reasons. It was a tool to provide participants an opportunity to demonstrate further what they knew about energy use. It was a vehicle to move the group into a discussion of a decision-making process. It was a tool to encourage them to begin to consider their family's use of energy.

The decision-making content flowed from the case study material. A step-by-step approach to making decisions was included, followed by a brief statement of obstacles which might inhibit

the process. This information was important to the remainder of the program and to the tenants' application of what they learned in the session to their home environment.

It was necessary to include definitions of key words and concepts in energy conservation to assure that participants understood the vocabulary of energy matters and the material in the Energy Conservation Matrix. The detailed matrix provided facts about energy conservation practices and measures that could be applied in the home. It was not only an integral component of the training program, but was a valuable resource for participants who could refer to it when they had energy related questions.

The Energy Questionnaire was included to provide TAG with demographic information about the participants' family composition, energy/utility components, and the physical structure of their home. This information could provide another perspective on tenants' energy use.

Finally, an evaluation form with open-ended and specific-response questions was included. This provided an assessment of the participants' perceptions of the program and its value to them.

Both the "Participant Manual" and the "Instructor Training Manual" were organized to take participants through a developmental learning process. That is, the foundation for learning was established at the start and other elements were added to it systematically, one learning activity and informational piece built on the one which preceded.

The two documents, "Energy Conservation Practices Participant Manual," and "Instructor Training Manual" are included as attachments A and B to this report.

#### B. Training of Tenant Trainers

Early into the design phase, a decision was made to use tenant teams as trainers. It was determined that a team approach would provide additional support on site and be a confidence booster. Also, the team approach allowed a more concentrated focus on training of trainers.

The training of the tenant trainers was designed to occur in one 6-1/2 hour-day. The program was comprehensive, in that it introduced the tenant trainers to the training process as well as to the content of energy conservation. A major component of the training design was the program they would conduct for other tenants.

The training day was to serve several purposes. It was to:

- \* Provide a model for their training program;
- \* Expand their knowledge of energy conservation;
- \* Get them involved in thinking about energy conservation;
- \* Provide opportunities for them to practice presentation skills;
- \* Prepare them to train other tenants in energy conservation.

The process of the day was designed to move from leader-focused to learner-centered activities. The structure allowed TAG trainers to set the tone and establish the framework, with a plan to move control of the day into the hands of the group. The plan was a reflection of the assumptions and principles on which the program was based and intended to encourage independence and confidence on the part of the participants.

The training program combined theory and practical application. Some aspects of the program began with an activity, which was followed by a discussion of the theory important to it. With other parts of the day, the theoretical discussion or presentation of information was first, followed by a look at ways they could be applied to the training/learning process. The principles of adult learning enumerated in the program guided the design of the training day.

Learning occurs on three levels--knowledge, skills and attitudes--and involves change in any or all of these areas. The training program addressed all levels by (1) introducing information important to the learners about energy conservation and the training of others, (2) helping them understand why the information was important to them as trainers and as public housing residents, and (3) providing information about and opportunities to apply what they learned during the training program and at home.

While there were a variety of methods which could have been used to transmit information, the most important in the development of trainers was to involve them as much as possible in the learning process.

The day began with group and trainer introductions. The tenant-trainers' expectations for the day and the program in general were discussed. Program objectives were reviewed and an overview of the day was presented. Beyond the task of introducing the material, this time was used to establish an informal and welcoming environment.

The proposed Training and Participant Manuals were reviewed as the group moved into the first learning activity. Each participant was given a blank sheet of paper and asked to construct an airplane with it. After a few minutes each person was asked to fly his/her plane. This created a stir in the group. The group selected the person whose plane flew the best. The trainer asked that person to instruct the group to make a plane like his/hers. The rules were that he/she could only use words and the participants had to wait until the explanation was completed before starting their plane. Participants were asked to construct and fly their planes. Finally, the same person explained again how to make a plane, this time showing the group at the same time as he/she described what to do. He/She offered assistance and answered questions. Most of the participants successfully accomplished the task on the last attempt.

The purpose of the activity was discussed. The idea was to introduce principles of adult learning and emphasize the importance of two-way communication. The manual pages "How Adults Learn" and "Key Principles of Training Adults" were reviewed. The information on the next pages ("Preparing for Your Presentation," "Assessing Your Presentation Style," "The Importance of Asking Questions," and "On the Day of Your Presentation") were also discussed and related specifically to the training they would conduct.

The "Participant Manual" and the "Instructor Manual" that accompanied it were reviewed page-by-page. This ensured the group understood each activity and the information in the document.

The next task moved the focus of the program from the trainer to the group. Participants were instructed to work as a group to plan their presentation of the tenant training program. They were told that each participant had to do some part of the training and they were to include all activities, though in an abbreviated form. They had two hours to plan for the presentation. They incorporated lunch in their planning time.

After lunch, participants conducted the tenant training program, using the "Instructor Manual" and "Participant Manual" to guide them. The group and TAG trainers critiqued the presentations, offering suggestions for improvement and emphasizing aspects which were handled well.

At the conclusion of the tenant training program participants were asked to look at the form, "Your Plan for Conducting the Residents' Program." They worked in pairs or triads, designated by the TAG trainer, to make decisions about and specific plans for their training. Responsibilities for tasks and a timeline were decided by each team. THE ASSIGNMENT GROUP used the information generated through these discussions to check that all tasks were assigned in the team and in an appropriate time frame.



The training was summarized, the participants were thanked for their interest and involvement, and they were asked to complete and submit the evaluation form.

Tenant-trainers were responsible for following through with the plan they developed during their training. The training team had to: decide on a date and location for the training; recruit tenants to participate in the training; request training materials from TAG, and resolve how the team would divide the preparation and training responsibilities.

The design of the program was included in the tenant-trainer's manual. The "Instructor Manual" provided explanations of how to conduct each part of the program. They were to follow these directions.

On-site monitoring was to be provided by TAG for the tenant programs. The purposes were to provide support for the tenant-trainers, observe the training process, and analyze the program content and design to decide if modifications were necessary.

## Phase II - Curriculum and Guide Compilation

Compiling a curriculum and guide for tenant use is a primary step toward giving tenants a basis for continued energy conservation awareness and generating support from the public housing authorities for incentives for the residents. The curriculum and guide was to be a step-by-step process for the care and maintenance of standard appliances found in most units. The curriculum portion codifies important energy conservation measures and information; the guide portion explains the application of the relevant parts of that information.

### A. Overall Approach

Major research was undertaken to locate those data that specifically address the conditions found in public housing. In addition, the needs identified during Phase I served as a basis for further selection. The compilation commenced with the development of a subject outline, subject-content outline, then a detailed outline. Once the detailed outline was complete, it was circulated to the tenants, PHAs, and local utilities for reaction and suggestions for modifications. These entities served as a "panel" of "experts" who played a direct role in its use. From this process emerged the final document.

As part of this overall approach, TAG suggested the inclusion of another public housing authority within the demonstration project. If another PHA, preferably from the West Coast, were included, then the training developed and curriculum and guide compiled would be more inclusive of the nation and thereby make any products more replicable nationwide.

## B. United Illuminating's Involvement

The local utility for the New Haven (CT) site, United Illuminating, was approached about participating in the project. One of the two housing developments included in the training effort had a history of the highest energy consumption among UI's customers of similar size, density, etc.

The United Illuminating utility agreed to participate and assigned a staff person to serve as liaison with TAG. Among the services provided were:

1. Training space and refreshments for the tenant training program;
2. Cash incentives (\$50.00) for tenants who participated in tenant-led training;
3. Staff and resources for research and data collection in the compilation of the energy pamphlet, "Conservation Curriculum," included as attachment C.

The involvement of UI was unique to the New Haven location. The company's involvement facilitated communication between the Housing Authority of the City of New Haven and UI officials who had been trying for some time to reach an accord regarding the high energy usage. From that developing relationship came a development-wide energy audit and individualized needs analysis for each unit in the effected housing project. This represented a substantial undertaking since fifty-one units were involved. In addition, UI agreed to provide resources toward ameliorating problems that were found to be common among the units, e.g., weatherization materials.

Another unique initiative resulting from the relationship with UI was contact with the executive level within the Department of Housing and Urban Development regarding the disincentive of HUD's current energy policy that penalizes PHAs after the first year's savings. During year one savings, HUD shares with the PHA any recognized savings on a 50-50 basis. After the first year, the PHA allocation is reduced by the amount saved.

## C. West Coast PHA Program Implementation

The West Coast City of San Francisco, CA, was added to the span of the tenant training program. Among the reasons for selecting San Francisco were: (1) its distinctive difference from the New Haven and Cleveland sites, i.e., size, density, numbers; (2) recently hired executive director at the PHA who was familiar with the program's aims; (3) geographic relationship to the Lawrence Berkeley Laboratory which was engaged in similar efforts that could possibly serve as a building block for further energy conservation activities.

Once the San Francisco Housing Authority agreed to become involved in the training project, the same implementation activities were employed that were used for the original locations.

### III. FINDINGS

#### A. Design, Development, and Implementation

The trainers learned from each training program. Materials and the training design were modified, based on suggestions from the trainees and from TAG's analysis of each program. The order of the learning activities was studied and the instructions for some were changed. As a result, both the trainers' training and the tenants' program are stronger and better designed to meet the needs of the participants and goals of the program.

The most significant changes made are described below:

- \* Added page references to the TAG "Instructor Training Manual", so documents mentioned in the Instructor's Guide could be located easily in the manual.
- \* Shortened the time spent reviewing the document at the start of the tenant-trainer program. The task required less time than was anticipated.
- \* Cut in half the time spent on adult learning theory. This was done by decreasing the number of times participants attempted to make the paper airplanes and by moving more quickly through the theoretical material on adult learning.
- \* Revised the TAG trainer instructions in that same activity, making the discussion of adult learning more related to the airplane construction.
- \* Changed the process of taking an in-depth look at the Participant Manual. New instructions indicate the process is to begin by asking trainees to take the energy quiz which involves them immediately. The group goes through the case study activity, so the trainers can model how that discussion is to be conducted. This section concludes with instructions for the trainer to conduct a brief review of the remainder of the document.
- \* Changed from 2 to 2 1/2 hours the time allocated for the tenant trainers to present the tenant program. This change was made to provide more time for trainees to practice their presentation skills.

\* Presented specific tasks which the tenant trainers need to complete before their training. This information supplements the form they use to plan for their training. The additional information should facilitate the planning discussion.

\* Modified the page, "The Importance of Asking Questions," by rewording the explanation of steps to take when asking a question to synthesize the information.

\* On the page, "On the Day of Your Program," changed the order in which the items were listed to make the order more logical in time sequence.

\* Added another Instructor's Guide, with directions for a two-hour tenant program. This Guide contains the same activities as the three-hour Guide, but less time is allocated to several activities (case study, decision making, energy conservation matrix, and review of the energy quiz). The additional version allows for greater flexibility in conducting the tenant programs.

\* Added page references throughout the "Instructor Manual" to facilitate page location in the instructions.

\* Included directions for the tenant trainer to use a sign-in sheet to get the participants' names and addresses, so that information could be gathered and retained for TAG records.

\* Moved the reading of the introduction from after participants take the energy quiz, to become part of the introduction to the program. The information contained in the introduction was better suited to the initial discussions of the program purpose.

\* Added instructions to clarify that participants should mark their responses to the energy quiz on the answer sheet, not on the quiz. There was some confusion about this in the first training program.

\* Modified the directions for the decision-making activity, in order to tie the discussion more to the case study and energy conservation.

\* Placed the "Energy Definitions" page earlier in the manual (before rather than after the matrix), because that information was necessary to understand some of the material in the matrix.

\* Modified the directions on how to use the matrix, by making the discussion less linked to the picture of the house interior and more directly tied to the information in the matrix.

\* Instructed the tenant trainer to make a statement providing a transition from the discussion of the matrix to the energy quiz, to make more obvious the conclusion of the program content.

\* Added a note to the trainer regarding what materials should be submitted to TAG after the training, to ensure TAG receives the necessary paperwork from the training.

\* Added a note to the cover of the Participant Manual regarding the use of the manual when more than one member of a family participates in the training, to provide information about how to handle that situation, since it occurred in one of the programs.

\* Added an agenda for both the two and three hour versions of the tenant training program, so the tenants will have a description of the day.

\* Placed the energy quiz before the energy questionnaire in the manual and in the training process, because the quiz is the conclusion of the training program and the questionnaire is used to gather information not directly related to content.

\* Added specific objectives for the program to the introduction, to make the purpose of the training program clearer.

\* Added a note at the bottom of the fact sheet, to explain how to translate the percentages of energy use into dollars, because that information might be more relevant to tenants than just percentage figures.

\* Changed the directions for the "Energy Conservation Matrix." With the change, participants focus their discussion on the information in the matrix, using a picture of a "cut away house" as a guide. In the draft the instructions seemed to indicate they should focus on solving the energy problems in the house. The revised directions should be much easier to follow and have greater applicability to the tenants' home situation.

\* Made several minor changes in the matrix and eliminated the column, "Benefits." This was done because most of the benefits are obvious. Those which are not can be raised in the group discussion.

\* Modified the "Energy Questionnaire--

- Asked for the date rather than the tenants' name, because the name is unnecessary.
- Added "2" to the question on the number of bedrooms in their unit, because some tenants indicated they had two bedroom units.
- Added "20 and older" to the question on ages of children at home, because some tenants noted they had children in that age group at home.

- Added another choice to the question on how they get utility bills, because all possibilities were not accounted for in the draft.
- Changed "townhome" to "unit," because "unit" is more generic.
- Added "steam-heated" to the question on how their unit is heated, because some tenants noted that described their unit.
- Numbered all the questions, to facilitate reading the document.

\* Added a space for participants to place their code number on the evaluation form, in case TAG wanted to see if there were a relationship between how successful participants were on the quiz and their response to the program.

#### **B. Site-Specific Findings**

While the three training programs for the tenant trainers went smoothly, difficulties emerged later in New Haven and Cleveland. The trainers encountered problems recruiting other tenants in New Haven and in Cleveland, and most of those who were recruited did not attend the program the evening it was scheduled.

There may be several explanations for the problems the tenant trainers faced.

\* They may not have made enough in-person contacts to get a commitment from tenants to attend.

\* They may have been reluctant to conduct the program and so may not have been aggressive enough in their recruiting.

\* They may have anticipated resistance from tenants and been uncomfortable in encouraging them to attend.

\* Some may not have had a strong commitment to carrying through their part of the recruiting and training.

\* They may have needed closer supervision from and contact with TAG instructors.

\* They may have needed more support in the recruiting process from the housing authority.

\* Some tenants may not see the importance of learning about energy conservation because their utility costs are included in their rent.

The tenant trainers in San Francisco did not encounter the same problems. The team had assistance from the housing authority, which made the recruiting process easier to manage. For a variety of reasons, some of which may relate to differences among the tenant trainers and the tenants, the team in San Francisco made the process work and conducted the tenant training on their first effort.

Several attempts were made to resolve the problems encountered in Cleveland and New Haven. In New Haven, TAG met with the housing authority and United Illuminating staff who were involved with the project, to develop a strategy to recruit tenants.

United Illuminating agreed to provide a financial incentive to tenants. The staff and TAG worked out the following plan. From July through January, participants' energy use would be monitored by United Illuminating. In July-August, September-October, November, December, and January, two units (one from each complex) would receive \$50 each for having saved the most in energy costs over the same period in the preceding year. UI offered to send a newsletter to all tenants in both complexes, which would announce and contain interviews with the winners, thereby reinforcing for all the idea of conserving energy.

The results of the meeting with the housing authority staff were a letter, written at the meeting, to be sent to all tenants in both complexes. The letter informed tenants of the training, and announced the financial benefit described above. The staff agreed to provide some other assistance to the tenant-trainers, if necessary.

Throughout the problem resolution phase, TAG was in contact with several of the tenant-trainers, to keep them apprised and to encourage them to sustain their enthusiasm for the project. The three agreed to recruit participants on their own and one requested a flyer be produced by the housing authority to be given to all tenants. The authority agreed.

In Cleveland, a cash incentive was likewise offered. However, unlike New Haven, the incentive awards would come from TAG rather than the local utility. In addition, several meetings and telephone discussions were held with the tenant trainers to provide guidance and offer encouragement.

Despite the efforts made in New Haven, only two tenants came for the training on June 13. The training was not conducted, to the disappointment of the tenant-trainers, UI, and TAG.

The results in Cleveland were just as disappointing. The reason for lack of performance, however, differed significantly from New Haven. The Cleveland tenant trainers were also board members of the tenant management corporation. During the same period designated for training, the board members were engaged in board

development activities designed to merge two tenant representative groups into one board. There was a great deal of animosity and resistance. As a result, energy needed to implement the TAG training was deflected to the unrelated internal conflicts existing at the demonstration site.

Among the results TAG anticipated when undertaking this project was the development of energy-related business spin-offs from the initial training. The idea was to heighten the tenants' perceptions regarding their needs, how those needs usually were met (or not), and use the developing skill and confidence levels to suggest they could do more for themselves. THE ASSIGNMENT GROUP was prepared to provide assistance in exploring business development activities such as product identification, market research, developing a business plan, selling to the PHA, and selling to other businesses. The firm believed that extraordinary opportunities were evident: from self-auditing energy kits to door draft-blocker crafts. Unfortunately, the demand to maintain the primary focus of the project alleviated the possibility for business development. The existing level of tenant readiness and needed PHA support just did not provide the conditions under which business development could be initiated.

#### IV. CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations have to be viewed from the perspective of the two focal objectives undertaken:

To conduct an Energy Conservation Practices Institute for public housing tenants who will train others in the practices that are most energy-conscious.

To compile a tenant-oriented energy practices curriculum and guide to serve as a tool for enhanced use of energy conservation opportunities.

An analysis of the activities of the project demonstrates that the two objectives were essentially met, i.e., the Institute was conducted and a curriculum exists. Those are aspects of the project that were under the direct control of THE ASSIGNMENT GROUP. On the other hand, facilitating the training of tenants by other tenants did not take place as desired. Consequently, this section will focus on conclusions and recommendations that might make such an outcome a reality if this approach is replicated.

The number of telephone, mail, and personal contacts, although seemingly exhaustive, did not adequately respond to the tenants' need to have someone immediately available to provide support. Often encouragement and confidence boosting was needed to get the tenants to venture into their own communities. It was often mentioned that they felt "foolish" or "alienated" from their



neighbors because of the message they were bringing. The discomfort they expressed was usually associated with the idea that the housing authority was not doing enough for them so why should they do anything to benefit the authority.

1. Recommendation: That each public housing location where this is replicated have a paid tenant-coordinator who is responsible for managing the garnering of resources needed, conducting follow up contacts with tenants, and serving as the liaison with the housing authority. Funding for the position should come from tenant management organizations in effect, local foundations, housing authorities, or other business and community entities that believe such a program benefits tenants.

The discomfort tenant trainers experienced when confronted with the need to recruit other tenants was also due to the newness of the responsibility. It was perhaps too much to expect most tenant trainers to adopt wholly the dual roles of trainer-recruiter without more specific guidelines.

2. Recommendation: That future programmatic efforts include a module on "recruiting your neighbors for training." Such a module should be structured to allow formal instruction and/or use as a reference tool.

It became quite evident that involvement by the public housing authority made a difference in outcome. In San Francisco, the executive director expressed support for the program and directed staff to assist TAG's efforts. Few significant problems arose that could be attributable to PHA management. In New Haven, PHA involvement came after repeated requests and toward the end. In addition, the PHA was under organizational stress as the executive director had been terminated and new management in transition. When most of this training occurred, the PHA was without a director. Yet, in spite of these less than ideal conditions the assistance provided contributed to the small accomplishments.

3. Recommendation: That public housing authorities expressing an interest in replication of this project demonstrate their commitment by designating a staff person with authority to work directly in the implementation of the program on site.

Under the most ideal conditions, tenant trainers attempting this program for the first time are going to experience nervousness, self-doubt, and apprehension. Such reactions are understandable, but by no means did they work to paralyze the tenant trainers' performance. In retrospect though, it raises the question of what the possibilities would be if they had one experience from which to work.

4. Recommendation: That a pilot training session be conducted, where feasible, prior to tenant trainers moving ahead to implement a fullfledged program.

Tenants generally need an incentive for wanting to conserve energy since, in many instances, their monthly rent does not segregate out the dollars expended for utility costs. Even in situations where tenants have individual meters and the rental agreements did not hold them accountable for utilities, it was difficult to get them excited about conservation as a civic responsibility.

5. Recommendation: That the primary target group for this training should be tenants who are directly responsible for paying their own utilities. Other tenants can also benefit, but it might require offering some type of cost-saving benefits or other incentive appropriate to the location.

The presence and active involvement of the local utility can be extremely valuable, especially if done in conjunction with a committed public housing authority. Together with the tenants, an effective triumvirate can be forged that responds to each key aspect of a triangle of effectiveness.

6. Recommendation: That at each location where replication is attempted, plans should incorporate the active participation of the local utility. The benefits could include added resources, expanded expertise, and collaborative problem solving.

Business development within the public housing community has successes. It can and has been done. However, the distinctive qualities of housing developments where business and enterprises exists are organization and strong leadership at the grass roots or indigenous population level. In addition, business development of energy-related items has to follow a history of success at energy conservation. In the locations where business development was desired, energy conservation success did not exist. In fact, all program resources were absorbed in the energy conservation effort.

7. Recommendation: That if business development is to be attempted, there should be sufficient program resources to ensure success at energy conservation, strong tenant organization, and strong tenant leadership.

These recommendations are being made for the expressed purpose of making replication of this project more successful. However, that purpose is tempered by the reality of limited public dollars of such an undertaking. Consequently, the recommendations were also formulated to guide practitioners who follow through the

labyrinth of obstacles that make public housing residency frustrating to its tenants and often causes those who can influence change to hold back.

**APPENDIX**

## EVALUATION OF THE TAG TRAINING PROGRAMS

The evaluations of the programs for the tenant trainer teams by TAG were very positive. Seventeen tenants participated in the sessions (six in San Francisco, six in Cleveland and five in New Haven).

Sixteen of the seventeen participants (94%) indicated they learned enough to train other tenants. One person (6%) from Cleveland noted s/he was not sure if s/he had learned enough to train others. All of the participants indicated it was helpful to practice conducting the program they would present to tenants.

The majority of the participants (94%) believed the subject level was appropriate, while one person (6%) from San Francisco noted it was too elementary.

The participants found the presentations effective. Fifteen (88%) noted the trainers communicated effectively, while one from Cleveland (6%) noted the communication was somewhat effective and another from Cleveland (6%) did not answer. Fourteen persons (82%) said that key points were well-emphasized; one from Cleveland (6%) said the emphasis was somewhat effective and two persons (12%) did not answer. Of the ten persons who noted whether the visual aids were effective, all said they were effective and all sixteen of the persons who responded to the question on handout materials said they were effective.

On the final quantitative item, which indicated overall evaluation of the program, twelve (71%) gave it an excellent rating; four (23%) (two from Cleveland and two from New Haven) said it was good; and one from Cleveland (6%) gave it a fair rating.

There were few suggestions for improving the training. One participant in the first program conducted noted the trainees should complete the pre- and post-tests which are part of the training program. THE ASSIGNMENT GROUP made that change in the other program for the tenant trainers. Another person wrote that TAG should include information about how to handle teenagers' use of energy, while another indicated TAG should have a better understanding of the "types of tenants TAG's up against."

Other comments indicated the training was very helpful; TAG should continue what it is doing; one person learned a great deal; and the trainers made the participants feel welcome and comfortable.

When asked what kind of assistance they would like when they conduct their own programs, the responses included: materials from TAG; an energy kit (New Haven); and support from the TAG trainers during their session.



TRAINING EVALUATION FORM

Speaker's Name \_\_\_\_\_ Date \_\_\_\_\_ City Cleveland

**A. Subject Content**                      YES                      NO                      NOT SURE

1. Did you learn enough to train other tenants?	5   83%	0	1   17%
2. Was it helpful to practice going through the tenants' program?	6   100%	0	0

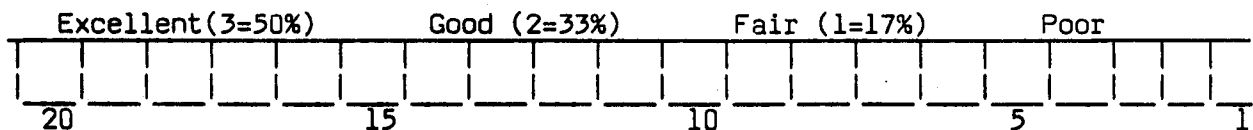
**B. Subject Level**                      TOO ELEMENTARY                      JUST RIGHT                      TOO ADVANCED

0	6   100%	0
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**C. PRESENTATION**                      EFFECTIVE                      SOMEWHAT EFFECTIVE                      NOT EFFECTIVE                      NO RESPONSE

1. Ability to Communicate	4   67%	1   17%	0	1   17%
2. Emphasis of Key Points	4   67%	1   17%	0	1   17%
3. Visual Aids (if any)	0	0	0	0
4. Handout Material (if used)	5   83%	0	0	1   17%

D. Please record your overall reactions to this program by placing an "X" in the appropriate box on the scale.



E. Please make any suggestions for improvement.

Trainees complete tests.

F. Other Comments

None

G. What kind of assistance would you like when you prepare to train tenants?

Materials; All I can get; Support from Allison or Carol during session.

TRAINING EVALUATION FORM

Speaker's Name \_\_\_\_\_ Date \_\_\_\_\_ City New Haven

A. Subject Content                      YES                      NO                      NOT SURE

- |   |          |   |   |
|---|----------|---|---|
| 1. Did you learn enough to train other tenants?                   | 5   100% | 0 | 0 |
| 2. Was it helpful to practice going through the tenants' program? | 5   100% | 0 | 0 |

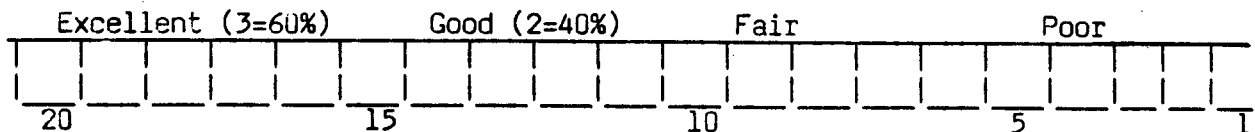
B. Subject Level                      TOO ELEMENTARY                      JUST RIGHT                      TOO ADVANCED

- |   |          |   |
|---|----------|---|
| 0 | 5   100% | 0 |
|---|----------|---|

C. PRESENTATION                      EFFECTIVE                      SOMEWHAT EFFECTIVE                      NOT EFFECTIVE

- |                               |          |   |   |
|-------------------------------|----------|---|---|
| 1. Ability to Communicate     | 5   100% | 0 | 0 |
| 2. Emphasis of Key Points     | 5   100% | 0 | 0 |
| 3. Visual Aids (if any)       | 5   100% | 0 | 0 |
| 4. Handout Material (if used) | 5   100% | 0 | 0 |

D. Please record your overall reactions to this program by placing an "X" in the appropriate box on the scale.



E. Please make any suggestions for improvement.

Better understanding of tenants we're up against; Include information on conserving when teens are in house.

F. Other Comments

Training was very helpful; I have learned alot so the training was okay; Trainers made us feel welcome and comfortable.

G. What kind of assistance would you like when you prepare to train tenants?

Moral support; I would like some type of energy kit; Just behind the scenes support.



TRAINING EVALUATION FORM

Speaker's Name \_\_\_\_\_ Date \_\_\_\_\_ City San Francisco

A. Subject Content                      YES                      NO                      NOT SURE

1. Did you learn enough to train other tenants?    | 6 | 100%    | 0 |    | 0 |

2. Was it helpful to practice going through the tenants' program?    | 6 | 100%    | 0 |    | 0 |

B. Subject Level                      TOO ELEMENTARY                      JUST RIGHT                      TOO ADVANCED

   | 1 | 17%                      | 5 | 83%                      | 0 |

C. PRESENTATION                      EFFECTIVE                      SOMEWHAT EFFECTIVE                      NOT EFFECTIVE

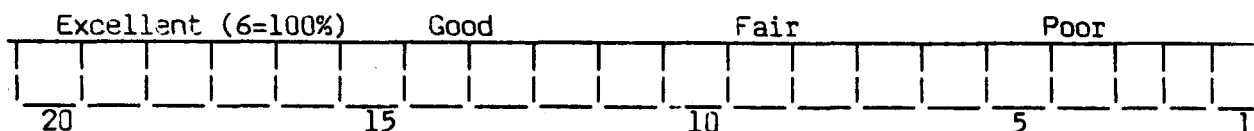
1. Ability to Communicate                      | 6 | 100%                      | 0 |                      | 0 |

2. Emphasis of Key Points                      | 5 | 83%                      | 0 |                      | 1 | 17%

3. Visual Aids (if any)                      | 5 | 83%                      | 0 |                      | 1 | 17%

4. Handout Material (if used)                      | 6 | 100%                      |   |                      |   |

D. Please record your overall reactions to this program by placing an "X" in the appropriate box on the scale.



E. Please make any suggestions for improvement.

Continue what you are doing.

F. Other Comments

None

G. What kind of assistance would you like when you prepare to train tenants?

No responses.