BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Residential Energy Conservation Outreach Activities--A New Federal Approach Needed

The Department of Energy's outreach activities are intended to encourage residential consumers to voluntarily implement energy conservation measures. These activities can contribute to greater energy conservation if the Department changes the emphasis of its overall effort to one which focuses on encouraging consumers to obtain on-site energy audits.

The Department needs to give greater recognition to the role of the Residential Conservation Service, assure that the Energy Extension Service--a major outreach program--is carried out as intended by the Congress, and improve overall outreach program management.

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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To the President of the Senate and the
Speaker of the House of Representatives

This report presents our evaluation of the Department of Energy's residential energy conservation outreach activities. Specifically, it includes an examination of: (1) the contribution that outreach can make in achieving energy conservation; (2) the effectiveness of alternative outreach techniques; and (3) the Department's current program direction and management. The report is intended to assist the Congress in its oversight functions and in establishing budgetary priorities for residential outreach programs.

We requested Department comments on the matters discussed in this report. The Department did not provide any comments.

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretary of Energy; and the chairmen of energy-related congressional committees.

Elmer B. Staats
Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

RESIDENTIAL ENERGY CONSERVATION OUTREACH ACTIVITIES--A NEW FEDERAL APPROACH NEEDED

D I G E S T

The Department of Energy (DOE) believes that 50 percent of the energy consumed in the residential sector could be cost effectively saved. DOE programs to achieve these potential savings by focusing on "outreach," the process of encouraging consumers through information to voluntarily implement energy conservation measures.

Consumers need to be aware of their energy conservation opportunities before they can act. If consumers do not have comprehensive information, and are not effectively provided such information, the extent to which they can or will realize available energy conservation opportunities will be limited. (See pp. 5 and 6.)

Combining individualized information with personalized delivery of that information, as is done in comprehensive on-site energy audits, has been shown to result in the greatest amount of voluntary energy conservation by each individual. While conducting outreach in this manner should not be viewed as a panacea for achieving all available conservation opportunities, it can make a fundamental contribution in any approach to achieve greater residential energy conservation. (See pp. 5 to 12.)

POOR MANAGEMENT OF OUTREACH ACTIVITIES

DOE does not have an effective outreach strategy and does not generally evaluate its outreach activities to determine their impact on consumer conservation. In addition, DOE cannot demonstrate how its outreach

complements the outreach programs being provided by others.

Major DOE outreach efforts include elements of State Energy Conservation Programs, the Energy Extension Service Program, the Low Cost/No Cost Energy Conservation Program, and the Residential Conservation Service Program. These efforts, however, have not been integrated into a cohesive program strategy. Instead, they appear to have been developed and implemented, or funded through State grant programs, without regard to how each relates to the others or contributes to meeting overall energy conservation objectives. For example, DOE headquarters' residential outreach activities have not been fully coordinated, and its regional offices do not assure that outreach activities being funded through State grant programs are contributing to increased residential energy conservation. (See pp. 13 to 16.)

Despite the critical importance of program evaluation, DOE has devoted inadequate resources to evaluation. In limited cases where evaluations had been performed, either the procedures were questionable or the results were not applied. For example, the results of the Energy Extension Service pilot program evaluation had not been fully applied to other outreach programs. In addition, the evaluation of DOE's Low Cost/No Cost program was performed using questionable procedures. (See pp. 16 to 19.)

While many organizations other than DOE are providing residential outreach, it is unclear how DOE's outreach activities complement these activities. For example, other Federal agencies and utility companies have provided residential consumers with primarily general, standardized energy conservation information. DOE officials, particularly at the regional level, generally were not aware of these efforts. Most of the DOE-

funded outreach programs provide similar information and thus, appear to add little to the efforts of others. (See pp. 20 to 23.)

LITTLE CONTRIBUTION FROM THE ENERGY EXTENSION SERVICE

The Congress expected the Energy Extension Service to play a major role in Federal outreach. The Service was established to solve problems of poor coordination and inadequate funding of governmental outreach programs and to improve consumers' capabilities to make and implement informed energy decisions. However, the Service's organizational location within DOE is not consistent with its intended role. It is not effectively coordinating government outreach activities and is carrying out programs similar to ones previously funded through State Energy Conservation Program grants. (See pp. 23 to 26.)

LIMITED RECOGNITION OF RESIDENTIAL CONSERVATION SERVICE

DOE is not giving sufficient attention to the Residential Conservation Service program, which will provide a means for consumers to obtain comprehensive on-site energy audits--the most effective form of residential energy conservation outreach. DOE has no plans to encourage consumer participation in this program or to actively encourage consumers to obtain an on-site energy audit through other means. (See pp. 26 to 28.)

CONCLUSIONS

DOE can contribute to greater residential energy conservation through outreach. However, this can only be realized if DOE changes the emphasis of its overall outreach effort to one which complements the activities of other organizations by focusing on comprehensive on-site energy audits and encouraging consumers to obtain them.

Carrying out an outreach strategy within this conceptual framework will require that DOE give priority to programs which

--promote participation in the Residential Conservation Service program,

--encourage and assist individuals not covered by the Residential Conservation Service program to obtain comprehensive on-site audits through other means, and

--assist individuals to implement measures recommended by on-site audits.

The Energy Extension Service should assure that outreach program funds at the State level are directed toward these ends.

RECOMMENDATIONS

The Secretary of Energy should develop and implement a residential energy conservation outreach strategy centered on encouraging residential consumers to obtain on-site energy audits.

The Secretary should elevate the organizational status of the Energy Extension Service program, giving consideration to the organizational status provided the Service in its authorizing legislation.

AGENCY COMMENTS

We requested DOE comments on the matters discussed in this report. The Department did not provide any comments.

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ABBREVIATIONS

CPP	Comprehensive Program and Plan
DOE	Department of Energy
ECAP	Massachusetts Energy Conservation Analysis Program
ECPA	Energy Conservation and Production Act
EES	Energy Extension Service
EPCA	Energy Policy and Conservation Act
ERDA	Energy Research and Development Administration
FODP	Fuel Oil Conservation Marketing Demonstration Program

GAO	General Accounting Office
HUD	Department of Housing and Urban Development
NIBS	National Institute of Building Sciences
RCS	Residential Conservation Service
SECP	State Energy Conservation Program

CHAPTER 1

INTRODUCTION

Substantial energy savings can be achieved in the residential sector. According to the Department of Energy (DOE) and the Office of Technology Assessment, about 50 percent of the energy consumed in this sector could be cost effectively saved. This potential exists despite substantially increased energy prices over the past several years. Such savings would be accomplished through upgrading residential structures' thermal integrity, installing energy-saving devices, and altering consumers' traditional energy-use patterns.

DOE's residential energy conservation programs are directed at achieving these potential energy savings for both new and existing homes. For new buildings, DOE's major efforts have evolved from legislative authority under the Energy Policy and Conservation Act (EPCA) of December 22, 1975 (P.L. 94-163) and the Energy Conservation and Production Act (ECPA) of August 14, 1976 (P.L. 94-385). Specifically, EPCA requires that each State, in order to be eligible for Federal assistance, develop and implement mandatory thermal efficiency standards and insulation requirements. ECPA requires DOE to develop and promulgate energy conservation building performance standards. We have considered these programs in earlier work. 1/

For retrofitting existing residential buildings to improve their energy efficiency, current programs provide tax credits for consumers who install certain conservation measures and weatherization grants for low-income individuals. In addition, other programs provide various types of information, using a number of delivery techniques such as pamphlets, mass media, and personal delivery, to encourage homeowners to voluntarily achieve residential conservation. This latter activity is referred to as "outreach" and, according to DOE, is the focus of its efforts directed at the residential sector. This report discusses the results of our

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1/"Uncertainties About the Effectiveness of Federal Programs to Make New Buildings More Energy Efficient" (EMD-80-32, Jan. 28, 1980), and "Improved Data and Procedures Needed For Development and Implementation of Building Energy Performance Standards" (EMD-81-2, Dec. 23, 1980).

evaluation of DOE-supported outreach to encourage voluntary energy conservation in the residential sector.

DOE appropriations for energy conservation programs and activities totaled about $538 million in fiscal year 1978, about $671 million in fiscal year 1979, and an estimated $815 million for fiscal year 1980. Over $862 million has been appropriated for fiscal year 1981. The residential energy conservation outreach portion of the budget cannot be specifically identified because outreach activities are often components of broader programs.

During the past few years, DOE has implemented numerous outreach programs to achieve greater levels of energy conservation. These programs have attempted in various ways to create problem awareness, change traditional attitudes and motivations, identify alternative conservation options, and encourage consumer action. These attempts have experimented with: alternative funding mechanisms (centrally through nationally directed programs and decentrally through funding State, local, and regional government and private sector efforts); alternative project designs (demonstration, pilot, and national programs); and alternative delivery mechanisms.

PRIOR GAO REPORTS

In the past, we have reported on various aspects of DOE's energy conservation programs and activities. A fundamental problem identified in a 1978 report to the Congress 1/ was that the Federal Government lacked an overall energy conservation plan. In a 1980 report to the Secretary of Energy, 2/ we pointed out that this problem continued to exist. In another report, 3/ we stated that DOE needed a logical, systematic approach for considering the wide range of alternatives for achieving greater levels of energy conservation and for determining the contribution these alternatives could make to overall energy goals.

1/"The Federal Government Should Establish and Meet Energy Conservation Goals" (EMD-78-38, June 30, 1978).

2/"Energy Conservation: An Expanding Program Needing More Direction" (EMD-80-82, July 24, 1980).

3/"A Framework for Developing a National Energy Conservation Program" (EMD-79-76, July 31, 1979).

DOE continues to give high priority to energy conservation and is placing increased emphasis on outreach as a means of achieving available cost-effective energy savings. Thus, we focused our work on determining the contribution of outreach in achieving greater residential energy conservation and whether DOE's current emphasis and direction will significantly contribute to this potential.

OBJECTIVES, SCOPE, AND METHODOLOGY

The overall objective of our work was to determine the appropriate role for DOE in providing energy conservation outreach to the residential sector. 1/ This objective required addressing

- --how outreach can best motivate residential energy conservation action, including the types of information provided and the specific methods of providing that information which are likely to result in the greatest amount of individual energy savings;
- --what outreach techniques are used and emphasized by DOE, how well these programs are managed, and the relationship of DOE programs to non-DOE outreach activities; and
- --how effective DOE outreach efforts are in view of non-DOE outreach activities as well as optimal methods of providing outreach.

To meet our objective, we (1) interviewed individuals in both the private and public sector responsible for developing, planning, and implementing residential outreach programs; (2) examined program documents from previous, on-going, and planned DOE and non-DOE outreach activities; (3) reviewed completed DOE and private evaluations from past outreach activities; and (4) analyzed DOE and private studies which evaluated techniques for motivating consumers to pursue conservation actions.

1/The residential sector excludes residential buildings containing five or more individual units. This definition is used by DOE's Energy Information Administration.

To determine what constitutes effective outreach activities for the residential sector, we originally expected to rely significantly on quantitative results from previous outreach activities. Limited statistical data appropriate for evaluating consumer response to outreach activities restricted our ability to draw conclusions based primarily on quantitative analyses. However, the consistency of information obtained from qualitative analyses done by others in conjunction with the limited available data, in our judgment, provided a sufficient basis upon which to make this determination with a high degree of confidence. These information sources and their contribution to our analysis are identified throughout chapters 2 and 3. Our evaluation, though applicable to the residential sector in general, did not address specific concerns of certain groups within the residential sector such as low-income persons.

We evaluated residential energy conservation outreach programs funded by DOE regional offices in Boston, Kansas City, and San Francisco as well as major activities being administered by DOE headquarters in Washington, D.C. Outreach programs being administered by DOE regional offices included elements of the base and supplemental State Energy Conservation Program and the Energy Extension Service Program. 1/ Outreach programs carried out by DOE headquarters included the Low Cost/No Cost Demonstration Program, the Fuel Oil Conservation Marketing Demonstration Program, and the forthcoming Residential Energy Conservation Service. 2/ Our review of DOE regionally administered programs included a detailed evaluation of activities being carried out in six States (Massachusetts, Connecticut, Kansas, Missouri, California and Nevada). We also considered in our analysis, outreach activities being conducted by other Federal agencies, State and local governments, and private organizations in these six States.

1/The legislative authority for these programs is respectively: EPCA; ECPA; and the National Energy Extension Service Act, June 23, 1977 (P.L. 95-39).

2/The Residential Conservation Service, authorized by the National Energy Conservation Policy Act of Nov. 9, 1978 (P.L. 95-619), is expected to be fully implemented by Mar. 1981.

CHAPTER 2

RESIDENTIAL ENERGY CONSERVATION

OUTREACH: A PERSPECTIVE

Consumers' awareness of available energy conservation opportunities is important in their decision to act, but methods of providing energy conservation information vary in their effectiveness to motivate such actions. Comprehensive site-specific information best meets consumer information needs, and when provided in a personalized manner, has been shown to result in the most energy savings per individual. In defining its role in outreach, the Federal Government should effectively address the information needs of consumers in light of available resources and non-Federal outreach efforts. While outreach can make a timely contribution to achieving greater energy conservation, more evaluation will be needed to determine the extent an effective outreach strategy can close the gap between potential and realized energy conservation opportunities.

OUTREACH: ITS CONTRIBUTION IN ACHIEVING RESIDENTIAL ENERGY CONSERVATION

Outreach has a fundamental contribution to make in the Federal Government's approach to achieving residential energy conservation. That contribution is to assure that consumers have the knowledge that will enable them to implement appropriate energy conservation measures.

Opportunities for residential energy conservation are evidenced by the gap between current levels of energy consumption and identified energy conservation potential. Achieving this potential will require action by millions of consumers. Actions taken by these consumers will be based on the information each has concerning available energy conservation opportunities.

Residential energy conservation outreach can differ depending on the kind of information provided and the way it is provided. Information can range from general to very specific descriptions of energy conservation opportunities, and can focus on a single conservation measure or a wide range of measures. Information delivery can be accomplished through such means as printed material, mass media, or face-to-face discussions.

The design of outreach programs and activities should be based on consumers' roles as decisionmakers and, to the extent possible, focus on meeting each individual's information needs with respect to energy conservation opportunities. In our view, if consumers do not have and are not provided comprehensive information, their knowledge of energy conservation opportunities will be incomplete, and thus, the extent to which they can realize their opportunities will be limited.

We recognize that energy prices are an important element in a consumer's decision to take energy conservation action. Numerous research studies and public opinion surveys have found that price and supply availability considerations, rather than exhortation, primarily motivate consumers to undertake energy conservation actions. However, a consumer's level of awareness of available energy conservation opportunities is also a key element because it reflects the kinds and extent of energy conservation actions that can be taken. In addition, the manner in which consumers obtain this information may serve as the catalyst for implementing such actions.

THE EFFECT OF OUTREACH ON CONSUMER ACTION

Outreach's effect on consumer action depends on the information provided and the way it is delivered to the consumer. DOE found in its pilot Energy Extension Service (EES) program that as (1) the information provided on energy conservation options becomes more comprehensive and more tailored to specific individuals and (2) the delivery of that information becomes more personalized (approaches face-to-face delivery), energy savings increase. Other literature on the energy savings impacts of outreach indicates that the use of mass media as a method of delivering information has limited effectiveness in encouraging energy conservation action and demonstrates that on-site energy audits result in greater energy savings per individual than audits which do not include on-site visits.

DOE pilot EES

In June 1977, the Congress authorized DOE to initiate and evaluate a pilot EES program prior to congressional approval of a nationwide program. EES was designed to provide small-scale energy consumers with face-to-face technical assistance and information on energy matters and thus fill a

void which had been identified in existing energy programs. DOE selected 10 States to participate in the pilot program.

Because of the experimental nature and potential importance of this program, special attention was placed on program evaluation efforts. Moreover, because the pilot program included a wide variety of outreach projects in a number of geographic areas, its evaluation provided an important perspective on the relative merit of numerous outreach techniques.

The pilot program evaluation showed that three outreach program-design features were critical to the success of residential sector programs. 1/ These were

--method of contact (providing extensive personalized interaction),

--content of recommendation (providing specialized, technically oriented information not readily available from other sources), and

--method of recommendation (providing individualized recommendations tailored to a consumer's specific needs).

Other analyses of outreach

Positive support for the findings contained in the pilot EES evaluation has been demonstrated in published literature and other available outreach evaluations. More specifically, these sources indicate that the use of mass media to deliver information has serious limitations in encouraging significant consumer energy conservation actions, and that personalized delivery of site-specific information tends to result in the greatest energy savings on an individual basis.

1/These features reflected the first year's experience and were based on both statistical techniques and qualitative analyses. According to DOE, a second evaluation (released in April 1980) could not statistically confirm these features; but based on qualitative analysis, DOE still considered them valid.

Mass media

The mass media have been used by the private and public sectors as both a means to promote or make consumers aware of available conservation information and services and to directly encourage consumers to implement general conservation practices or measures. Though mass media is extensively and successfully used by the private sector to inform consumers about products and services and influence behavior, mass media's effectiveness in motivating consumers to pursue conservation actions is much more limited. Research studies 1/ have found little evidence that mass media can change attitudes toward the energy situation or, even if changed, will lead to any influence on actual energy conservation behavior.

While other characteristics (such as the message's sponsor, marketing quality, and whether paid or public service messages are used) may have a strong influence on the effectiveness of mass media as a delivery mechanism for energy conservation information, the limitations of this approach should be recognized. The essence of such inherent limitations was succinctly stated in a Massachusetts Institute of Technology workshop report 2/ on mass media and consumer energy use, based on research sponsored by the Federal Trade Commission:

1/These studies include: Marvin E. Olsen, "Public Acceptance of Energy Conservation," Energy Policy in the United States: Social and Behavorial Dimensions, ed. Seymour Warkov (New York: Praeger Publishers, 1978), pp. 91 to 109; William H. Cunningham and Sally Cook Lopreato, Energy Use and Conservation Incentives: A Study of the Southwestern United States (New York: Praeger Publishers, 1977); and David B. Montgomery and Dorothy Leonard-Barton, "Toward Strategies for Marketing Home Energy Conservation," Conference on Technology For Energy Conservation, Washington, D.C., June 8, 1977, pp. 135 to 142.

2/Wm. Michael Denny, George A. Heaton, Jr., and Judith I. Katz, The Impact of Advertising, Marketing and Other Market Information on Consumer Energy Use: A Workshop Report (Cambridge, Massachusetts: Massachusetts Institute of Technology, 1978) p. 26. The views taken in this report do not necessarily reflect the views of the Federal Trade Commission.

"* * * A media advertising effort may be a cost-efficient means of reaching large audiences, but it is an inherently shallow communications mechanism. Where subtlety, complexity, and individualization of messages are required, other methods must be employed."

Energy audits

Energy audits 1/ have been available, from public and private organizations, to assist consumers in identifying conservation opportunities available to them. Only the personalized site-specific audit (Class A), however, includes all the key elements of an effective outreach program and has resulted in more energy savings than other types of audits.

While limited attention has been focused on quantitatively assessing actual energy savings according to the various audit techniques, one study did perform such an analysis. 2/ A detailed evaluation was conducted comparing energy savings resulting from the Massachusetts Energy Conservation Analysis Program (ECAP), offering comprehensive Class A audits; an Arizona utility Class A audit, which focused on a limited number of energy conservation opportunities; and the Massachusetts Project Conserve, a Class B energy audit. The results of this evaluation showed that

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1/Residential energy audits are commonly referred to as Class A, B, or C audits. Class A audits, conducted by a trained expert, provide personalized household-specific information on a wide range of conservation opportunities. Class B audits require an individual homeowner to supply data about specific characteristics in his home. These data are then processed, often by computer programs, and the results are mailed to the consumer. Class C audits are manuals or workbooks containing instructions for the consumer to perform, analyze, and implement the self-audit.

2/Massachusetts Energy Office, "Energy Conservation Analysis Program: Final Evaluation Report," prepared for the Massachusetts State Employment and Training Council, Nov. 1978.

--the ECAP energy audit identified substantially more energy conservation opportunities than either of the other audits;

--the ECAP energy audit resulted in almost four times as much energy saved as either of the other two audits, based on actual implementation of measures; and

--the ECAP saved the largest amount of energy as a percentage of identified potential.

The ECAP analysis concluded that the personalized feature of Class A audits was the instrumental factor in motivating residents to take more conservation actions. It is also important to point out that the results indicated that the more energy conservation options consumers were made aware of, the greater the response in terms of actions taken. This result shows the importance of providing consumers comprehensive information.

In addition to the ECAP analysis, a DOE analysis of Residential Conservation Service (RCS) 1/ program elements identified two findings which also support Class A audit features. First, DOE found evidence that overall, 75 percent of households which obtain Class A audits would be expected to purchase all needed measures with a payback of 6 years or less. Second, in assessing the benefits of alternative delivery methods of providing audit results, DOE found that, on average, personally delivering rather than simply mailing such results would more than double the number of measures implemented.

A review of utility company residential energy audit programs prepared for DOE, 2/ as well as other available

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1/U.S. Department of Energy, "Residential Conservation Service Program: Regulatory Analysis," Oct. 1979.

2/Booze-Allen-Hamilton, Inc., "Electric and Gas Utility Marketing of Residential Energy Conservation Case Studies," prepared for U.S. Department of Energy, May 1980.

studies, 1/ also tend to qualitatively confirm the importance of personal interaction. In addition to personal interaction, other reasons specifically cited by some utilities for preferring Class A over Class B audits included trained auditors providing expert guidance and a greater level of quality control. These utilities also pointed out that when residents were required to supply information (Class B audits), this information was often inadequate or inaccurate.

Few evaluations address the impact Class B and C audits have on consumer implementation of energy conservation measures. Assessments of Class B and C audit programs we identified were generally limited to determining the extent consumers participated. However, a more intensive evaluation of a Class B audit program, 2/ sponsored in part by DOE, found that of individuals receiving a Class B audit, only 4 percent claimed it influenced their decision to undertake conservation actions. The evaluation also found that it was unclear whether the actions taken by consumers and credited to the audit would have been taken even without such participation.

LIMITATIONS OF OUTREACH: POLICY IMPLICATIONS

Residential outreach programs should not be viewed as a panacea for achieving all available conservation opportunities because they rely on voluntary consumer response. The Federal Government has a role to play in assuring that outreach contributes to achieving energy conservation. Appropriately evaluating outreach efforts can provide a basis for improving their effectiveness in achieving energy conservation and determining the extent of additional action which may be needed to close the gap between realized and potential energy conservation opportunities.

1/These studies include: Ibid.; Massachusetts Energy Office, loc. cit.; and Technology and Economics, Inc., "Survey and Analysis of Residential Audit Activities in the U.S.," prepared for the Office of Technology Assessment, May 1, 1978.

2/Oak Ridge National Laboratory, "Evaluation of a Computerized Home Energy Audit Program in Minnesota," June 1980.

Just as conservation can contribute to resolving the Nation's energy problems, effective outreach can contribute to achieving available residential energy conservation opportunities. As previously discussed, studies have shown that outreach can prompt consumers to take some actions. However, since an individual's decision to act is based on a number of factors, achievement of all energy conservation potential as a result of an effective outreach effort cannot be expected.

In developing and implementing an outreach strategy, a fundamental tradeoff which needs to be addressed is the cost of pursuing a particular strategy versus the effectiveness of that strategy in meeting consumer information needs. In general, as an outreach strategy changes from providing general energy conservation information through mass media or printed material to one which provides comprehensive site-specific information through personalized delivery, its cost per individual reached increases. In addition, as previously discussed, such a change in strategy also increases the energy saved per individual reached. Thus, an outreach strategy which can be expected to achieve greater energy savings is also more costly.

From the Federal Government's perspective, its role in outreach must, in our view, first recognize the knowledge consumers need in order to make informed energy conservation decisions and the extent that need is being met through outreach provided from non-Federal sources. It must then design and implement a strategy, within its available resources, which focuses on meeting those needs in a way that can be expected to result in the greatest amount of energy savings.

Program evaluation should be an important and integral element of any Federal outreach strategy. It is necessary to carefully analyze outreach programs to determine how much energy is being saved, identify appropriate areas for program improvement, and given such improvements, indicate the energy savings which can reasonably be expected from an effective outreach program. Such an evaluation could also provide a basis for determining additional Federal action, beyond outreach, needed to ultimately close the gap between energy savings achieved and energy conservation opportunities still available.

CHAPTER 3

PROBLEMS IN DIRECTING AND MANAGING RESIDENTIAL OUTREACH

DOE has not developed and implemented a comprehensive outreach strategy to meet the needs of the residential energy consumer. Specifically, DOE has not effectively managed its on-going outreach activities and has not given adequate consideration to the role of EES and RCS in its overall residential outreach strategy. While DOE has recognized many of these shortcomings, it has done little to improve the situation. We believe a continuation of DOE's current outreach strategy may impede future progress in closing the gap between potential and realized energy conservation opportunities.

POOR MANAGEMENT OF OUTREACH ACTIVITIES

DOE has not effectively managed its residential outreach programs. Specifically, DOE has not developed an integrated outreach program strategy, has failed to evaluate on-going activities or fully consider the findings of the few evaluations made, and has only limited knowledge of non-DOE sponsored programs. We are concerned that these problems have contributed to a limited response by consumers to take cost-effective conservation actions. While DOE has recognized some of these problems, little action has been taken to improve program performance in these areas.

Major outreach programs being carried out or proposed by DOE headquarters included the Low Cost/No Cost Energy Conservation Program, the Fuel Oil Conservation Marketing Demonstration Program (FODP), a proposed national energy conservation campaign, and RCS.

The Low Cost/No Cost program encouraged consumers in 6 New England States to implement 11 inexpensive conservation actions which would, according to DOE, result in saving as much as 25 percent on home fuel bills. FODP encouraged residential homeowners in selected States to adopt four retrofit measures for their oil heating systems, which could result in energy savings of between 10 and 24 percent each. The national energy conservation campaign (an early 1980 $50 million DOE proposal) was, among other things, to expand the Low Cost/

No Cost program to nine additional States and promote, through a paid advertising effort, general energy conservation awareness. RCS, to be fully implemented by March 1981, requires most utilities to offer their residential customers a comprehensive on-site energy audit and also encourage, as part of the audit service, those low- or no-cost energy conservation options which can be undertaken.

DOE regionally administered outreach programs include EES and elements of the base and supplemental State Energy Conservation Program (SECP). EES was designed to provide small-scale energy consumers, including the residential sector, with face-to-face technical assistance and information on energy matters. SECP promotes energy conservation at the State and local level by providing grants to States. Residential outreach activities receive financial support under this program.

Lack of integrated program strategy

DOE outreach efforts have not been integrated into a cohesive program strategy. Instead, residential outreach projects appear to be developed and implemented or funded through State grant programs without regard to how each relates to the others or contributes to meeting overall energy conservation objectives. This problem remains even though DOE has recognized its existence.

The focal point for planning and coordinating energy outreach efforts is DOE's Assistant Secretary for Conservation and Solar Energy. Outreach activities are carried out under the Assistant Secretary by the Office of Commercialization and the Office of Building and Community Systems. DOE's Regional Offices administer DOE funding for outreach efforts in their approval of SECP and EES grants and report to the Office of State and Local Programs under the Assistant Secretary. In addition, DOE's Office of Public Affairs performs outreach functions.

Major DOE headquarters activities providing residential outreach have not been fully coordinated within DOE. In discussions with DOE program managers to determine the relationship of various outreach programs and the extent of coordination between programs, we were told that

--FODP and the Low Cost/No Cost programs were not coordinated despite overlaps in target audience;

timing, recommended measures and methods for encouraging program participation;

--EES program officials were not consulted on the Low Cost/No Cost program and, although consulted on the proposed national energy conservation campaign, believed they were not influential in applying the experiences of the EES pilot program to the campaign; and

--an official with significant responsibility for the proposed national energy conservation campaign was not aware of the function of EES and had limited knowledge of another outreach activity which could have contributed to the development of the campaign program.

We found a similar absence of integrated program strategy in DOE's Regional Offices. According to one regional office, both SECP and EES plans are not reviewed for program content. For example, DOE headquarters prepared very specific procedures for approving State EES plans. Each step in the procedure is keyed to the final program rules published by the Department. This procedure emphasized primarily budgetary and administrative practices with virtually no mechanism to assure that outreach programs being funded through SECP and EES are contributing to increased residential energy conservation.

While DOE had established or was represented in a number of coordinating committees or groups which addressed residential outreach activities, outreach program managers had a general lack of understanding about the roles and impacts of such groups. Among coordinating groups we identified were the: White House Task Force on Energy Conservation Outreach, EES Interagency Coordinating Group, EES Intra-DOE Coordinating Group, and Conservation and Solar Energy Information Steering Committee. From discussions with various DOE officials, we could not clearly determine the roles of all of these groups; who the "official" representatives to the groups were; or how the groups assured that DOE residential outreach was a coordinated, integrated approach to achieving greater residential energy conservation.

Among the groups identified, the Conservation and Solar Energy Information Steering Committee appeared to provide a potentially effective framework for assuring an integrated

residential outreach strategy for programs carried out under DOE's Assistant Secretary for Conservation and Solar Energy. The Committee, officially established on June 4, 1980, was to (1) ensure that information activities were effectively managed and that program resources were appropriately used and (2) serve as the focal point for the development and articulation of policy related to information gathering, packaging, and dissemination activities conducted on behalf of DOE's Assistant Secretary for Conservation and Solar Energy. However, we are concerned that the Committee will not be in a position to have an impact on the total Federal outreach effort. Furthermore, this Committee appears to overlap the congressionally mandated outreach coordination functions of EES as discussed on pages 25 and 26.

DOE, in its last two annual reports to the Congress on Federal outreach activities, 1/ addressed the need for better coordination. The most recent report, dated March 1980, concluded that Federal energy outreach activities had not been viewed as part of a comprehensive and integrated program. We believe that, with respect to Federal residential outreach, this problem continues to exist.

Problems in outreach evaluation

Despite the critical importance of evaluation in terms of learning what comprises effective outreach strategies and mechanisms and developing criteria for future outreach program funding, DOE has continued to devote inadequate resources to this area. In the limited cases where evaluations have been performed, results have apparently not been applied or the evaluations were performed in a questionable manner.

The majority of DOE-funded outreach programs have been carried out through SECP. However, we found only a limited number of evaluations conducted in this program area. No evaluation plan was even considered for many SECP projects covered in our review. In other SECP projects, evaluations were very limited, and little useful information was obtained from them. We identified the lack of SECP activity evaluations

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1/U.S. Department of Energy, "Comprehensive Program and Plan for Federal Energy Education, Extension and Information Activities", Jan. 1979 and Mar. 1980.

in previous reports. 1/ In addition, DOE's recent annual report on Federal outreach activities concluded that there had not been sufficient emphasis on program evaluation.

In May 1980, Price Waterhouse Company, under contract to DOE, completed a guide for State and local DOE grant recipients to assist them in evaluating energy conservation programs. The guide was designed to make planning and managing evaluations easier and was to be distributed to interested grantees. At the time of our review, it was too soon to determine how many grantees would request and apply the guide in their program evaluation efforts. Thus, it remains questionable how much impact the guide will have on energy conservation program evaluations.

DOE conducted evaluations of two programs we reviewed, the pilot EES program and the Low Cost/No Cost program. The results from the pilot EES evaluation have not been applied to other outreach activities sponsored by DOE. We have serious questions concerning the evaluation procedures used in the Low Cost/No Cost evaluation. These concerns are discussed below.

Pilot EES evaluation

In chapter 2, we discussed the pilot EES evaluation results as they pertained to residential outreach. The evaluation pointed out that providing consumers with technically oriented, site-specific information through personal interaction was critical to the success of residential outreach programs. DOE, however, does not appear to be applying this finding to other residential outreach programs.

DOE's Low Cost/No Cost program and its proposal to undertake a national energy conservation campaign reflect, in our view, an overall DOE outreach program strategy focused on providing general, standarized energy conservation information to large segments of the residential sector. While a few State projects offered on-site energy audits, the focus on general information was apparent in most outreach activities being funded by DOE through State grant programs.

1/"Evaluation of Four Energy Conservation Programs--Fiscal Year 1977" (EMD-78-81, Nov. 21, 1978) and "Delays and Uncertain Energy Savings in Programs to Promote State Energy Conservation" (EMD-80-97, Sept. 2, 1980).

With respect to DOE-funded State outreach activities, we found that States were operating programs such as energy fairs, workshops, and energy hotlines. The results of the EES pilot evaluation showed that these types of services had significantly less influence on consumers' decisions to undertake energy conservation action than more personalized outreach activities.

Low Cost/No Cost program evaluation

DOE evaluated the Low Cost/No Cost program's impact on participant behavior and the contribution to energy savings made by specific energy conservation measures recommended in the program. The evaluation findings indicated that the program resulted in annual savings of $69 million (2.6 million barrels of oil equivalent, of which 1.6 million was a direct reduction in oil use), or $26 in fuel savings for every Federal dollar spent by DOE. DOE presented these results before congressional committees as partial justification for an expansion of the program as well as undertaking its proposed national energy conservation campaign. But based on our analysis of the Low Cost/No Cost evaluation, we have serious questions concerning DOE's evaluation procedures and the use of program results to justify either program expansion or the proposed national campaign. Some illustrative examples of our concerns are discussed below.

First, the evaluation procedures DOE used did not include necessary statistical weighting procedures. For example, only single family dwellings acknowledging receipt of the brochure were allowed to participate in the post program survey. The results, however, were projected to the entire target population, nearly 50 percent of which consisted of multi-family dwellings. This procedure was used without evidence that all households actually received the material or that multi-family dwellings responded to applicable program measures similarly to single family dwellings. While we could not determine if the use of an evaluation procedure which considered these points would have significantly altered the evaluation results, we believe DOE's reported results are questionable.

Secondly, the sample group had over 30 percent higher fuel costs that the control group. DOE, however, did not consider this difference to be a significant variable and made no adjustments in the evaluation results. Because fuel prices have been shown to be an important motivator

for consumers to take energy conservation actions, we believe that such a difference in fuel costs could have significantly altered the results.

Another example of questionable evaluation procedures was the assumed energy savings assigned to particular conservation measures. Based on data provided by DOE and the DOE contractor performing the evaluation, we determined that between 57 percent and 92 percent of the energy savings from single family dwellings (depending on which DOE support document was used) were attributed to oil furnace efficiency tuneups. Specifically, DOE claimed annual oil savings per residence of 157 gallons based only on a positive response to the survey question "* * * have you done any work, or had any work done, on your furnace to improve its efficiency?" Since this survey question can include actions ranging from a simple filter change to a complete furnace reservicing, it is unclear whether claimed savings were actually realized.

DOE used the results of its Low Cost/No Cost evaluation as a partial justification in its request for funds to expand the program to nine additional States. Even if the program evaluation reasonably reflected actual program results, it is highly questionable whether such results would be duplicated in the proposed program expansion since no other area of the country has as high a concentration of oil-heated homes as the New England area.

Despite rejection of specific funding for an expanded program, 1/ DOE has decided to provide several States with funds from existing budget authorities to develop their own Low Cost/No Cost programs. Preliminary discussions were also initiated within DOE to explore the possible use of revenues from the windfall profits tax to fund a number of projects, including expansion of similar Low Cost/No Cost programs.

1/This program was deleted in the Interior and Related Agencies Appropriation Bill for fiscal year 1981 as reported by the full House and Senate Appropriation Committees on July 2 and Sept. 23, 1980, respectively.

Limited consideration of non-DOE outreach and consumer conservation activity

In addition to DOE, many other organizations are providing outreach directed at the residential sector. These organizations include other Federal agencies, community organizations and public utilities. Furthermore, many residential consumers have undertaken some energy conservation measures. How DOE outreach activities complement non-DOE outreach efforts is unclear. In addition, it appears that many consumers are aware of and have undertaken some of the energy conservation measures being emphasized through both DOE and non-DOE outreach efforts.

Non-DOE outreach

In States included in our review, residential outreach was being supported or provided by the Department of Agriculture's Cooperative Extension Service, the Department of Housing and Urban Development (HUD), the Federal ACTION agency, some community-based organizations, and many electric and gas utilities. Also, the National Institute of Building Sciences (NIBS) 1/ initiated a program in late 1979 with a goal of providing American households with a checklist of home energy conservation measures. These organizations have provided consumers information similar to that provided through DOE outreach programs.

In all DOE regions covered in our review, we found that utility companies had carried out major outreach activities. Types of outreach being provided included on-site energy audits, energy conservation literature (pamphlets or brochures) describing energy conservation measures which could be taken, promotional activities through television and newspapers and information and referral services.

We also found that other Federal agencies were supporting local outreach efforts, in some cases in conjunction with DOE. The Department of Agriculture's Cooperative Extension Service provided workshops, exhibits, and in some cases,

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1/NIBS was created by the Housing and Community Development Act of 1974 to establish a more orderly housing and building construction regulatory system.

energy audits to residential consumers through its county-based offices or land-grant universities. Both HUD and ACTION were funding community-based outreach programs. These programs typically involved community leaders and organizations in a number of specific outreach activities to encourage greater residential energy conservation. For example, in the city of Wichita, Kansas, HUD supported a program to encourage area homeowners to upgrade attic insulation. The program included pamphlet mailings, no-interest loans, and program notices mailed with utility bills. In Fitchburg, Massachusetts, Federal agencies including HUD, ACTION, and DOE supported the community in developing and carrying out a program to encourage consumers to undertake low-cost and no-cost energy conservation actions. The program included workshops, media promotion, free weatherization kits, and assistance to homeowners to install conservation measures.

In October 1979, NIBS initiated a national program to build consumer awareness of simple home energy conservation measures. The program was to inform American households, by the end of 1980, of 10 simple steps to achieve home energy conservation. The "checklist" distributed in this program included, among other measures, tips on weatherstripping/caulking, thermostat settings, reducing hot water use, insulation, and storm windows. The checklist brochure, according to NIBS, received wide distribution through news media, Government agencies, trade associations, labor unions, consumer groups, and industry. The checklist was very similar to the brochure distributed by DOE in its Low Cost/No Cost program.

Although consumers were being provided energy conservation information from various non-DOE sources, DOE regional officials responsible for approving Federal funding for outreach activities under SECP and EES were generally not aware of programs being funded by other Federal agencies or other organizations. Furthermore, it was the general view of regional officials that their only role was to assure that State programs being funded met administrative program requirements. Concerning the overall DOE outreach program effort, DOE could not demonstrate how its various outreach activities contributed to improved consumer knowledge of their energy conservation options. In our view, most of DOE's programs and activities appeared to add little to consumers' knowledge beyond outreach efforts being conducted by non-DOE organizations.

Consumer conservation activity

A number of public opinion surveys have been conducted over the last 2 years to determine consumer awareness of energy conservation opportunities and the extent to which consumers have undertaken energy conservation actions. The results of these surveys indicate that overall, consumers have a high level of awareness and have already undertaken some of the energy conservation measures being emphasized through outreach efforts.

Our review of public opinion surveys indicated that consumers are optimistic about their ability to conserve energy. For example, one survey 1/ showed that 64 percent of consumers polled believed they could save more than 5 percent on their energy bills. In addition, a survey conducted in 1978 2/ showed that 81 percent of consumers surveyed believed it was important to conserve energy to improve the quality of life. Thus, it would appear that consumers are willing to conserve and believe their efforts would have some impact.

Consumer surveys 3/ have also indicated that more people are undertaking some energy conservation measures. According to these surveys four out of five consumers have done something to improve the energy efficiency of their homes. Weatherstripping, insulation, storm windows, changed thermostat

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1/Cambridge Reports, Inc., "American Attitudes Toward Energy Conservation," prepared for Alliance to Save Energy, July-Aug. 1979.

2/Lou Harris, "Quality of Life Has Improved," The Harris Survey, July 3, 1978.

3/NBC News, "March National Poll," Poll Results, Mar. 21, 1979; George Gallup, "Public Changing Views on Seriousness of Energy Situation," The Gallup Poll, Sept. 2, 1979; Mineral Insulation Manufacturers Association, "Energy Saving Homes, Both New and Old, Worth More, Say Opinion Researchers," Insulation Reporter, Mar. 1980; Opinion Research Corp., "Rising Fuel Costs Heighten Omaha Homeowners' Concern for Energy-Efficient Housing: Dow Study," America's Homeowners Speak Out, prepared for The Dow Chemical Co., fall 1979; and Roger Seasonwein Associates, Inc., "The Conservation Decision: American Attitudes About Energy-Saving Programs," prepared for Union Carbide Corp., Nov. 1979.

settings and furnace improvements have been identified as conservation measures implemented. However, over half of those in one poll said their homes could be made more efficient.

DOE appears to be emphasing general information such as low-cost and no-cost measures in its outreach efforts. Given the level of consumer awareness of these energy conservation options and the status of consumer energy conservation activity as reflected in public surveys, we believe that DOE's continuing emphasis on promoting general awareness and low-cost energy conservation options may impede the ultimate achievement of all of the energy conservation opportunities available in the residential sector. Our concern is that individuals who are encouraged to undertake the low-cost energy conservation measures may have a decreased incentive to further investigate other, more expensive measures, believing they have done all that is reasonable.

Another contributing factor to our concern that individuals may be reluctant to pursue additional conservation measures is confusion over whose advice to follow. In a review of utility conservation programs prepared for DOE, 1/ two utility companies cited public confusion resulting from an overload of information offered by many different sources as an explanation for consumer reluctance to participate in their audit programs.

LITTLE CONTRIBUTION FROM EES

EES was established by the National Energy Extension Service Act to accelerate the Nation's rate of conserving energy by increasing public awareness of conservation opportunities and enhancing individuals' capabilities to undertake energy conservation measures. The Congress envisioned that EES would play a major role in Federal residential outreach. However, DOE has provided limited organizational status for EES and has failed to capture the essence of EES's purpose as intended by the Congress.

In developing the EES legislation, the Congress concluded that consumers must be given the individual capability to make and implement informed energy decisions. Providing that

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1/Booze-Allen-Hamilton, Inc., loc. cit.

capability without charge or precondition was thought to be achievable only by the Federal Government in an active national outreach effort. At the time of the legislation, existing governmental programs at all levels were not considered to constitute such a national effort because they lacked coordination, were impersonal, and had inadequate funding levels. It was envisioned that EES would solve these problems.

EES was initially implemented on a pilot basis in 10 States to determine the workability of the program concept and, if successful, prepare for the program's expansion nationwide. As discussed earlier, an extensive evaluation of the program was an integral part of the pilot effort. Following completion of the pilot program, the Congress approved funding the program nationwide for fiscal year 1980.

While the Congress envisioned EES to play a key role in Federal outreach efforts, EES is falling short of its intended purpose, at least with respect to its residential outreach functions. Our review of DOE's program management and State EES plans showed that

--the current location of EES within DOE is not equivalent to the organizational status originally required within the Energy Research and Development Administration (ERDA) 1/ by the National Energy Extension Service Act;

--many State-proposed EES residential outreach activities are similar to those carried out under SECP; and

--the coordination function, an important purpose of EES, is receiving limited attention.

EES authorizing legislation required ERDA to establish an EES office with direct responsibility to the Administrator of ERDA and set the EES Director's compensation at Executive Schedule Level IV. We believe this degree of independence and visibility demonstrated the importance and expectation intended by the Congress in establishing EES. The Department of Energy Organization Act, while transferring ERDA's functions to DOE, authorized the Secretary of Energy in Section

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1/In 1977 the functions of ERDA were transferred to DOE by the Department of Energy Organization Act (P.L. 95-91).

643, to reorganize units of the Energy Department. Our review showed that the EES office was located under the Deputy Assistant Secretary for State and Local Programs, resulting in the Director of EES being several management levels beneath the Secretary. The Director's compensation at the GS-15 rate was below the Executive Schedule Level IV originally established by the Congress.

The congressionally created National Energy Extension Service Advisory Board concluded in a March 1979 report 1/ that the organizational location of the Director, in part, was "* * * leading to EES' loss of identity and, eventually, its purpose as a very different people oriented program." Since that report, DOE merged the EES program into the Office of Energy Management and Extension. The Director of this Office is now responsible for both EES and SECP programs and is being compensated at the GS-15 level. We believe this organizational status for EES further dilutes its role and visibility.

Concerning EES program activities, many EES projects approved for funding by DOE regions simply continue activities or services previously funded under SECP or duplicate those being carried out in the private sector. In two States, EES grants were made to local organizations to perform some of the same outreach activities being funded through SECP and also being performed by public utilities. In other States, EES projects appear to be offering the same or similar services as those provided by SECP and DOE headquarters outreach programs.

One key EES objective was to coordinate outreach programs at the Federal level. In addition, the EES Director was to ensure that the program was implemented in a manner which minimized conflict with existing services in the private sector. DOE was required by the National Energy Extension Service Act to prepare an annual Comprehensive Program and Plan (CPP) for the President and the Congress which, among other things, would serve as a mechanism for Federal coordination and management of EES activities with activities of other Federal agencies.

1/U.S. Department of Energy, "Observations and Recommendations on the Future of the Energy Extension Service Program," First Report by the National Energy Extension Service Advisory Board, Mar. 1979.

While DOE has prepared three CPP reports, we are concerned that EES has not been given a primary role in coordinating Federal outreach. As discussed earlier, the Assistant Secretary for Conservation and Solar Energy has established the Conservation and Solar Energy Steering Committee. This Committee's functions, in our view, could more appropriately be performed by EES and would be consistent with the role intended for EES by the Congress. Furthermore, as previously discussed (see pp. 15 and 16), DOE outreach programs are generally not well coordinated. Moreover, although DOE program regulations required that State EES programs coordinate with ongoing conservation efforts within the State, several of the plans we reviewed did not address this element in a comprehensive fashion. For example, in some cases the plans' coordination was simply a listing of other major outreach programs, and even these listings were not complete. However, such plans were approved for funding by DOE regions. In our view, State EES plans should clearly show how proposed projects complement or supplement already existing efforts as well as demonstrate a need for such projects before DOE approves these plans for funding.

LIMITED RECOGNITION OF RCS PROGRAM POTENTIAL

The RCS program has potentially significant benefits as an outreach program because its central feature requires most utilities to offer comprehensive on-site energy audits to residential consumers. However, the program's overall impact on residential energy conservation could be limited because of expected low consumer participation. We are concerned that DOE is not giving sufficient attention to the role the RCS program could play in its outreach strategy.

The National Energy Conservation Policy Act required DOE to establish the RCS program to facilitate and encourage the installation of energy conservation measures in existing residences. The program requires most gas and electric utilities to offer on-site energy audits to residential customers. DOE estimates that by 1985 nearly 95 percent of the one- to four-unit residential dwellings in the country will be offered RCS audits. 1/ While covered utilities are required to implement RCS by March 1981, a number of utilities are expected to have implemented the program prior to that time.

1/The Energy Security Act (P.L. 96-294) expanded eligible residential units to include individually heated or cooled buildings with more than four dwelling units after January 1, 1982, as well as centrally heated or cooled multifamily buildings.

RCS contains a number of key features which highlight the program's potential as an effective outreach effort. In addition to providing a comprehensive on-site personalized audit upon request, other advantages of the RCS include

--providing quality assurances such as auditor training requirements, material and service warranties, and post-installation inspections;

--arranging installation and financing of recommended measures if desired;

--providing information on Federal tax benefits and the weatherization assistance program;

--maintaining detailed records including individual pre- and post-audit consumption data; and

--allowing States the flexibility to account for regional and local differences in implementing the program.

Despite the program's potential benefits, its effectiveness will depend on the extent individuals choose to participate. DOE believes that the direct customer audit charge, determined by each State utility commission within the limits set by the Energy Security Act, 1/ will be the critical factor affecting program participation. For example, DOE estimated that the maximum likely response rate over the projected 5-year life of the program would be 35 percent of eligible residential customers, assuming the audits were provided at no direct cost, 7.5 percent if the audit charge was $15, and close to zero if more than $30 per audit was charged. Based on preliminary information from States which intended to provide audits at no charge and States which intend to impose audit charges (assuming they charge the $15 maximum fee), we estimate a likely annual participation rate of only 3 to 4 percent.

1/The Energy Security Act limits direct customer costs for RCS services to a maximum of $15 per audit.

We agree that audit costs affect program participation levels. However, a review of existing utility audit programs prepared for DOE 1/ demonstrated that aggressive marketing techniques can also have a significant influence on a homeowner's decision to participate in such a program. Although DOE has attempted to obtain State cooperation in limiting direct customer audit charges, DOE had no plans to provide promotional support for RCS beyond establishing minimum utility requirements for announcing the program. A DOE official asserted that even if the Congress had approved DOE's $50 million request for its proposed energy conservation campaign, promotion of the RCS program would not have been included, since the demand for audits may increase beyond utilities' ability to be responsive. While these concerns were also expressed in comments on DOE's proposed RCS program regulations, DOE revised its regulations to mitigate such potential difficulties.

DOE efforts to give recognition in its outreach programs to the potential of RCS as an effective outreach activity have been limited. The only instance we found that RCS was explicitly recognized in other DOE outreach activities was in guidelines provided to DOE regional offices on the relationship of the EES and RCS programs. Even in this case, the guidelines only indicated that certain EES activities could supplement or complement RCS activities. The guidelines did not, however, actively support such activities.

We are also concerned that many existing DOE-sponsored programs may serve to reduce homeowner willingness to obtain on-site energy audits or participate in RCS. We previously stated that DOE's emphasis on providing general awareness or limited energy conservation information in its outreach programs may decrease homeowners' incentives to implement energy conservation measures beyond those encouraged in these programs. Thus, a continuation of this approach to residential outreach, in our view, is likely to prolong the achievement of the substantial residential energy conservation opportunities currently available.

1/Booze-Allen-Hamilton, Inc., loc. cit.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The achievement of substantial energy conservation in the residential sector will require that millions of consumers implement a wide range of energy conservation measures. Before consumers can act, however, they need to be aware of those energy conservation measures applicable to their specific residences. The Federal Government, and more specifically DOE, has an appropriate role in assuring that consumers are provided the information they need in a timely manner.

DOE is carrying out, and is funding through State grant programs, a number of outreach efforts which are intended to encourage greater voluntary residential energy conservation by informing consumers of available energy conservation opportunities. However, in our view, the impact of these efforts in achieving such conservation is questionable because DOE

- --has emphasized programs which do not effectively provide consumers the information they need to implement energy conservation measures available to them,
- --has not effectively managed its outreach programs,
- --has given EES a limited role in outreach, and
- --has not given adequate emphasis to the RCS program's potential contribution in outreach.

DOE needs to change the overall thrust of its outreach efforts from one which focuses on providing limited energy conservation information to as many consumers as possible to one which is centered around encouraging residential consumers to obtain on-site energy audits.

DOE has not demonstrated a leadership role in the residential outreach area. Specifically, DOE has not shown how its programs enhance residential consumers' capabilities to voluntarily achieve energy conservation opportunities available to them. Moreover, DOE has not developed an integrated outreach program strategy, has generally failed to evaluate ongoing programs or use the results of the few evaluations performed, and has not demonstrated how its outreach complements outreach being carried out by others.

In our view, EES could contribute more to DOE's residential outreach effort. The program, as conceived, is a potentially valuable mechanism for effectively coordinating Federal and non-Federal outreach and assuring that residential consumers are provided the capability to make and implement informed energy decisions. However, DOE has not given EES an organizational status of similar importance to that legislatively required when it was created in ERDA. In addition, DOE appears to be giving limited attention to whether EES's coordinating function and outreach activities are meeting congressional expectations.

As its central feature, the RCS program requires that residential consumers are offered comprehensive on-site energy audits. While such energy audits have been shown to be the most effective form of outreach, DOE has not given sufficient attention to comprehensive on-site energy audits or the potential contribution the RCS program could make in its outreach efforts.

In our view, DOE can make a significant contribution to achieving greater levels of voluntary residential energy conservation through outreach. However, this contribution can only be realized if DOE changes the emphasis of its overall outreach effort to one which complements outreach activities of others by focusing on comprehensive on-site energy audits and encouraging consumers to obtain such audits. RCS should be the key program in this strategy.

Since the ultimate impact of the RCS program is contingent upon the level of consumer participation, carrying out an outreach effort within the conceptual framework described above will require that DOE give priority for its limited funds to outreach programs which

--promote participation in the RCS program,

--encourage and assist individuals not covered by the RCS program to obtain comprehensive on-site audits through other means, and

--assist individuals in implementing recommended measures from on-site audits.

EES should be the vehicle at the State level to assure that DOE outreach program funds are directed to these ends.

A Federal outreach effort designed and carried out in this manner will contribute to more efficient and effective use of DOE resources and better assure that consumers have the information needed to evaluate their energy conservation options. In our view, this approach to residential outreach will result in the most energy conservation that can reasonably be expected through voluntary means. Carefully evaluating the results of this strategy will provide a basis to determine the type and magnitude of programs needed beyond outreach to achieve available energy conservation potential. Finally, to the extent that means other than outreach are needed to achieve energy conservation opportunities, we believe a comprehensive, on-site audit is fundamental to any residential energy conservation strategy.

RECOMMENDATIONS

We recommend that the Secretary of Energy develop and implement an integrated residential energy conservation outreach strategy which has as its centerpiece encouraging residential consumers to obtain on-site energy audits.

In carrying out our recommended strategy, DOE should give priority, through its outreach programs and activities, to encouraging consumers to participate in RCS and, for those not covered by the RCS program, to obtain an on-site audit through other means. Furthermore, DOE regional representatives will need to review residential outreach activities being proposed under SECP and EES grants to assure that outreach programs and activities receiving Federal financial assistance are consistent with the newly established focus of DOE's residential outreach. This will also require that DOE assure that EES is carried out as envisioned by the Congress. DOE should evaluate, on a regular basis, the results of this strategy to determine the need, if any, for additional programs or authority to achieve energy conservation opportunities in the residential sector.

We also recommend that the Secretary elevate the organizational status of the EES program. In carrying out this recommendation, the Secretary should consider the organizational status provided EES in its original legislation.

AGENCY COMMENTS

We requested DOE comments on the matters discussed in this report. The Department did not provide any comments.

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