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EVALUATION AND RECOMMENDATIONS FOR THE
DEPARTMENT OF ENERGY-FARMERS HOME ADMINISTRATION
SMALL-TOWN ENERGY-PLANNING GRANT PROGRAM

by

T. Cannon and N. Kron Jr.

Energy and Environmental Systems Division

October 1980

work sponsored by

U.S. DEPARTMENT OF ENERGY
Assistant Secretary for Conservation and Solar Energy
Office of Buildings and Community Systems

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EVALUATION AND RECOMMENDATIONS FOR THE
DEPARTMENT OF ENERGY-FARMERS HOME ADMINISTRATION
SMALL TOWN ENERGY PLANNING GRANT PROGRAM

by

T. Cannon and N. Kron, Jr.

ABSTRACT

The U.S. Department of Energy (DOE), by agreement with the U.S. Department of Agriculture (USDA), funded several small-town energy planning projects, through the Farmer's Home Administration (FmHA) Area Development Assistance Planning Grant Program. DOE intended that this program should: (1) encourage community energy planning and the development of Integrated Community Energy Systems (ICES) and (2) provide a testing ground for the technologies and planning methods developed by its Buildings and Community Systems Division. FmHA intended that the joint program should further the development of rural areas and make DOE expertise available to grant recipients doing energy planning. All grantees under this joint program endeavored to define their local energy problems and to find local solutions. However, the resulting energy cost savings were not always impressive, and generally they were not very well documented. Lack of implementation power, lack of focus, and inability to generate local financial support for projects and further planning were the main reasons for this performance. The lack of sufficient documentation could be the result of DOE's failure to require a standardized and systematic accounting of grantees' accomplishments. The recommended changes in the scope-of-work requirements suggested in this report would cause grantees to focus their energy-planning activities so as to increase local financial support. The appendixes give a standardized format by which grantees would account for the energy savings and production made possible by their planning efforts.

1 INTRODUCTION

1.1 BACKGROUND

From October, 1978, through June, 1980, the U.S. Department of Energy (DOE) and the U.S. Department of Agriculture (USDA) jointly administered a grant program designed to encourage energy planning in rural areas. This program, commonly known as the Small Town Energy Planning (STEP) Program, was funded by the transfer of DOE funds to the USDA Farmer's Home Administration (FmHA) Area Development Assistance (Flll) Program, and by FmHA funding of several additional energy planning projects. Nine rural planning agencies were funded in the first two years of this program.

The purpose of this report is to evaluate the products of the first round of planning grants and to recommend changes in the program that will increase the effectiveness of future grants. The evaluation consists of three major parts. First, the activities of grantees are evaluated for intermediate and final products. "Intermediate products" are defined as the accomplishments of Scope-of-Work (S.O.W.) tasks and the plans and reports produced by grantees. A listing of S.O.W. task accomplishments and an inventory and evaluation of documents produced is contained in Appendix A, which also contains an inventory of final products, i.e., actions that could lead to actual energy conservation and production.

Next, the activities of grantees are evaluated for transferable products. "Transferable products" are techniques suggested or used by grantees, either as part of the energy planning process, or as a means to conserve or produce energy. These techniques are listed in Appendix B, along with comments as to whether, and how successfully, they were used. Also included in Appendix B is a list of problems encountered by grantees and suggestions for future grantees to handle these problems, should they recur.

The third part of this evaluation (Sec. 5) examines problems with the existing arrangement and administration of the program. Several recommendations are included in this section; specific changes in the interagency agreement and specific requirements for future grantees are included in Appendix C.

1.2 AUDIENCE

This evaluation is intended for use by those in the DOE Buildings and Community Systems Division and FmHA's Area Development Assistance Administration who authorized and administered the joint program. It is also intended to be used by those at Argonne National Laboratory's (ANL) Energy and Environmental Systems Division who provided technical assistance to the grantees under the direction of DOE. It is recommended that this report also be sent to future grantees to help them avoid repeating the mistakes of others, and to allow them to select successful ideas and materials from past grantees.

2 PROGRAM ARRANGEMENTS AND ADMINISTRATION

2.1 AUTHORIZATION

The STEP-Fl11 program was authorized by an interagency agreement between the DOE Buildings and Community Systems Division (Community Systems), and the USDA Farmers Home Administration (Appendix D). The interagency agreement outlines the program's objectives and organizational arrangements, the most important features of which are described below.

2.2 OBJECTIVES

2.2.1 General Objectives

The underlying goals of the interagency agreement are to accomplish DOE and FmHA objectives through a single program and to allow the two agencies to share expertise. DOE's basic objective for the program is to reduce energy consumption and increase energy production by funding communities to do comprehensive energy planning. The DOE program is a research program in that information gained from these first grantees is to be transferred to others attempting their own, nonfederally funded, energy planning programs. FmHA's basic objective for the Fl11 program is to promote rural development through comprehensive planning. These objectives are related in three ways: first, a more reliable and less expensive energy supply can help attract investment capital; second, business activity associated with energy conservation projects and development of alternative energy sources can create jobs and income directly; and third, energy cost savings raise the standard of living of residents and usually mean that less money flows out of the region to pay for energy.

2.2.2 Specific Objectives

DOE embarked on the program specifically because it felt that small towns would provide a good testing ground for approaches to community energy planning and community energy systems. The results obtained could then be used on a wider scale and could be applied to larger urban areas. Small towns would provide a less risky, quicker, and more cost-effective way of testing technologies and planning methodologies. Moreover, small towns would represent a sizeable market in themselves and would be expected to produce some innovative ideas that could be applied to community energy planning and community energy systems.

To test technologies and planning methodologies, grantees were sent DOE community systems literature; however, because this literature is generally geared to larger urban areas, STEP grantees were not required to use it. Interview comments on the usefulness of the literature sent and the planning approaches suggested by DOE are contained in Appendix E.

Specific objectives of the FmHA Flll program are to:

- (1) support planning activities that assist low-income, unemployed, and minority persons, and
- (2) support planning activities that allow opportunities for citizen participation.

Planning done under Flll grants is to be coordinated with existing federal, state, and local planning activities.¹

2.2.3 Conflicts Between DOE and FmHA Objectives

Although both DOE and FmHA allow only planning activities to be funded under the program, several conflicts still exist between the objectives of the two agencies. First, there is a disagreement as to the emphasis placed on planning directed at low-income persons. FmHA requires that grantees' planning efforts address the needs of low-income people [Ref. 1, 1948, 32(e)]. However, because DOE has a separate (and much larger) program to aid low-income people, i.e., DOE Weatherization Assistance Program, it would prefer that the projects funded under the FmHA program not concentrate very heavily on aid to low-income groups. Instead, these projects are intended to concentrate on either improving energy supply on the local level or conserving energy where the potential energy savings are the greatest. These objectives usually conflict with an energy strategy that emphasizes weatherization of low-income residences, mainly because low-income homes consume less energy per unit than commercial and industrial buildings or higher-income residences.

A second conflict concerns the comprehensiveness of the energy planning. FmHA grants can be used to accomplish energy planning that is limited in scope, e.g., limited to municipal or residential energy use. However, because DOE's Buildings and Community Systems Division encourages a more comprehensive approach to energy supply and demand problems, it would prefer that the DOE-FmHA program not concentrate solely on one particular sector. FmHA also allows grantees to do energy planning that is not allowed under DOE community systems programs, e.g., "lifeline" energy planning and emergency energy planning. DOE addresses these problems in separate programs.

The third area of conflict is the use of grant money to obtain other grants. FmHA rules do not prohibit grantees from using funds for this purpose, and it has been FmHA's policy to require grantees to assess the need for further FmHA funds. However, DOE money is not to be used for obtaining other grants.

All three of these conflicts are addressed in Sec. 5.2, "Recommendations," and in Appendix C, "Proposed Interagency Agreement Changes." Basically, it is recommended that DOE make certain concessions to FmHA objectives. The recommendations and the interagency agreement would make these concessions, but at the same time should allow greater accomplishment of DOE objectives.

2.3 ADMINISTRATION

Administration of the program follows FmHA Area Development Assistance Planning Grants Rules and Regulations (Ref. 1, entire Subpart A), as modified by the interagency agreement. Under the agreement, DOE transferred \$150,000 to USDA to fund about six grantees at approximately \$25,000 each. Grantees, in keeping with FmHA regulations, provided 25% matching funds.

FmHA was to publicize the availability of DOE money and to select grantees on a competitive basis, according to FmHA regulations and the additional selection criteria given in Appendix D. The interagency agreement specified that FmHA was to:

- (1) develop selection criteria, and
- (2) select grantees in consultation with DOE.

FmHA was given final authority over these matters. By verbal agreement, FmHA was to fund several community energy planning projects. However, only three such projects were funded, and one of these was concerned totally with low-income housing weatherization.

The interagency agreement also specified that FmHA was to monitor progress on Scope-of-Work tasks, and this monitoring was done largely through the quarterly reports required by FmHA (Ref. 1, 1948.45). Actual monitoring of progress, as well as technical assistance to grantees, was done mainly by Argonne National Laboratory under contract with DOE. Figure 2.1 clarifies the role played by Argonne in the program. Tasks agreed to in the original S.O.W. were allowed to be altered, scaled down, or eliminated after the grant period began, on approval by FmHA [Ref. 1, Exhibit A, Part B-17(a)]. Three of the five DOE-funded STEP communities requested and obtained changes in their S.O.W. tasks (see Appendix A for description of changes). Usually, these changes were allowed by FmHA without consulting DOE or ANL.

FmHA does not have any device for compelling performance of S.O.W. tasks because this is a grant program, and no contract is involved. Consequently, even though FmHA can terminate grants in part or in total for unsatisfactory performance [Ref. 1, Exhibit A, Part B-17(a)], it has no way of legally compelling performance. Grants can be terminated in part or in total by mutual consent between FmHA and grantees [Ref. 1, Exhibit A, Part B-17(a)]; one grantee (Brookfield, Vt.) chose to halt funding temporarily after five months.

USDA accepted the interagency agreement on August 29, 1978, and the agreement was to extend through September 30, 1979. The first grantee under this round was notified of its grant award in June, 1980. Grant periods were to extend for one year, as specified in FmHA regulations. Grant amounts were approximately the same for all grantees, so these factors could have had little to do with differences in performance. The only exception was Brookfield, Vt., which will complete its project with only \$15,000 of DOE money and with a greatly extended grant period. A complete listing of DOE-funded grantees, grant amounts, and grant periods is given in Table 2.1. Figure 2.2 shows the locations of the grantees.

Fig. 2.1 STEP Organizational Arrangements

Table 2.1 Grantees, Grants, and Grant Periods

Grantee	Funding ^a				Grant Period	
	DOE	Applicant	Other	Total	From	To
Southeast Georgia Area Planning and Development Commission	\$23,500	-	-	-	10/01/78	09/30/79
Hampshire County, Massachusetts, Planning Department	\$23,500	-	-	-	10/01/78	09/30/79
South Western Oklahoma Development Authority	\$25,000	\$8,334	\$0	\$33,334	03/01/79	02/20/80 (extended to 03/31/80)
Kankakee-Iroquois Regional Planning Commission, Indiana	\$21,000	\$7,000	\$0	\$28,000	04/01/79	03/31/80
Town of Brookfield, Vermont	\$15,000	-	-	-		FmHA for extension)
Lake Agassiz Regional Council, North Dakota	\$19,085	\$6,320	\$0	\$25,405	Notified of grant approval in 06/80	

^aSome data on grant amounts are not contained in the documents received at Argonne National Laboratory. These are designated by a hyphen (-) in the table.

Fig. 2.2 DOE's Small Town Energy Planning (STEP) Program-Grantee Locations (April, 1980)

3 INTERMEDIATE AND FINAL PRODUCTS

Performance by grantees was evaluated in terms of scope-of-work tasks, documents produced, and actual or probable energy savings.

A history of S.O.W. tasks and accomplishments of these tasks is given in Appendix A, Table A.1, which summarizes each S.O.W. and includes changes in the S.O.W., accomplishments to date, and expected future activity. Accomplishments under the STEP grant often are difficult to discern because grantees usually were working on other energy-related projects, or they were working with other agencies doing energy-related projects.

Tables A.7 to A.12 in Appendix A inventory documents that have been received by Argonne National Laboratory, as well as those promised or expected. Copies of some quarterly reports may have been sent to FmHA but not to Argonne. The documents listed here are evaluated briefly as to their usefulness to DOE and to future grantees; to increase the value of this inventory, documents produced by FmHA-funded grantees also are included.

Tables A.13 to A.18 in Appendix A list only grantee actions that have produced, or are likely to produce, energy cost savings. Any information as to the amounts saved, or likely to be saved, and the costs involved in producing these savings also has been summarized. However, such information is scant and often unreliable. Ideally, this quantification would include the amount of time and money grantees spent developing each project or program, because this would give an indication of the resources needed to initiate a particular kind of project or program. However, because grantees were not required to make these kinds of estimates, none were made.

4 TRANSFERABLE PRODUCTS: IDEAS AND OPTIONS SUGGESTED BY STEP COMMUNITIES, PROBLEMS ENCOUNTERED, AND POSSIBLE SOLUTIONS

Section B.1 of Appendix B lists: (1) ideas generated by STEP grantees concerning the energy planning process and specific options and (2) brief comments as to whether the particular idea or option was actually used and, if so, how successfully. Section B.2 of Appendix B lists problems encountered by STEP communities and suggestions as to how DOE and future grantees could handle these problems.

To maximize the value of the STEP-Flll program, the ideas, options, and problems of both DOE- and FmHA-funded grantees are listed. Each idea, option, and problem is classified according to the facet of the energy-planning process it involves. Future STEP grantees should review the ideas, options, and problems listed in Appendix B, and DOE should consider these lists in formulating community energy planning methodologies and programs.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

Based on the data presented in Appendixes A and B, ongoing program contacts, and the interviews with project personnel (Appendix E), various conclusions concerning advantages and problems are warranted. These are summarized below.

5.1.1 Advantages of Existing Structure and Administration

(1) FmHA is familiar with rural problems, has a good working relationship with rural local governments, and has offices in rural areas.

(2) FmHA allows changes in scopes of work. Flexibility is both good and bad; but it is better to allow grantees a way out when faced with too many tasks or tasks that obviously will not produce results. However, the inter-agency agreement should specify that DOE must approve all scope-of-work changes.

(3) FmHA is willing to fund implementation, and if grantees are steered toward obtaining community systems-type projects funded by FmHA, then private investors and local governments may be more willing to invest their own money for such projects.

(4) FmHA grant application and administration is simple, and there were no complaints from grantees. This is probably unusual for a federal program.

(5) The 10,000 population limit ensures that rural areas are not neglected. There were no complaints by grantees about this limitation.

(6) Allowing grantees to design their own planning approaches is good, but DOE should provide certain guidelines to focus grantees' activities. Furthermore, DOE should require grantees to quantify actual and projected energy cost savings as much as possible [Ref. 1, Exhibit A, Part B-17(b)]. The biggest advantage of STEP is that it allows relatively inexpensive testing of different approaches to community energy planning; however, for this kind of testing to be done well, a more detailed and standardized quantification of results is needed.

5.1.2 Problems Concerning Existing Structure and Administration

(1) Most grantees are Regional Planning Commissions (RPCs), and even the one municipality (Brookfield, Vt.) actually is a rural township. As with most RPCs, these agencies lack the lawmaking, taxing, and bonding power necessary to implement a plan. Even municipal and county planning agencies lack these powers, but they are more closely connected with government bodies that do have these powers.

Because RPCs are relatively powerless, one of their primary functions has to be to obtain funding from the state and federal governments. This funding is necessary to ensure their own continuance and continued support from local governments. Energy planning by these RPCs appears to consist primarily of applying for and receiving various grants and doing whatever the current grant allows. Grantees try to maintain some continuity among grants -- work done under STEP grants was sometimes done with specific future grants in mind, and almost all grantees are trying to use work done under STEP to obtain further outside grants. These activities are to be expected because FmHA specifically allows them as fundable Flll actions.

(2) Implementation of plans (and thus, actual energy savings/production) so far has depended almost entirely on whether another federal grant is secured. The most common sources of funds for developing alternative energy sources are DOE (especially Appropriate Technology Division), Economic Development Administration, and FmHA. The most common sources for low-income housing weatherization funds are HUD, DOE, Community Services Administration, and FmHA. Moreover, several grantees have applied for HUD's Innovative Community Energy Conservation grants to do further planning and implementation.

The fragmented and uncertain funding of implementation (largely caused by reliance on further grants) makes implementation unpredictable, regardless of how comprehensive the plan may be. STEP has increased the technical ability of grantees for energy planning, but it has not increased local capacity or willingness to finance implementation or further planning. Comprehensive implementation depends on local willingness to advance the funds for energy projects and planning.

(3) The regional nature of grantees makes comprehensive planning even less likely. Where a grantee's activities are geographically dispersed, it is unlikely that planning or implementation will be comprehensive or integrated.

(4) All STEP grantees made a sincere effort to: (1) involve all sectors of the population in the planning process and (2) generate awareness of conservation and alternative sources. Generally, STEP was very successful in this respect, for there seems to have been no problem in generating concern among local governments and residents.

However, concern and good will are not enough. Concern does not create capital investments or even ensure continued energy planning. Continued and tangible accomplishments appear to require opportunities for advancing economic and political self-interest. STEP could have been better structured if, before the program was started, the sponsors had asked how the grant recipients, local governments, local residents, and local investors are motivated any differently from the way people are motivated in the private sector. An examination of STEP grantees shows that the grant recipients, as any corporation, try to obtain the most money with the least outlay of their own resources. Applying for grants simply is the least risky, least expensive, and most "profitable" way of allowing an agency to continue and expand.

Evidence that grantees are motivated in much the same way as the private sector is seen in that they try to capitalize on their efforts under each grant. Thus, rather than considering a particular task as expended time and money that will never be seen again, they make some attempt to capitalize

on what they have already accomplished. This capitalization can take the form either of using work under previous grants to obtain further grants, or of trying to use work done under grants to obtain continued support from local or state governments or from the private sector. The inability of grantees to capitalize more effectively on their efforts, especially in securing local financial support for implementation, is the fundamental problem of STEP. The recommendations that follow and the proposed changes in the interagency agreement (Appendix C) are attempts to solve this problem.

5.2 RECOMMENDATIONS

5.2.1 Summary

The observations made above suggest that two basic principles should be incorporated into the STEP program. First, DOE should direct grantees toward the type of energy planning where more effective capitalization is possible, whether this capitalization is direct, i.e., economic, or indirect, i.e., political. Second, more planning efforts should be directed at creating data that could be used in the private sector where direct capitalization is always possible. The nine specific recommendations given in the next section would help to:

- (1) incorporate these two principles into the program, and
- (2) provide the reasoning behind the interagency agreement changes proposed in Appendix C.

5.2.2 Specific Recommendations

(1) Give supplemental second year grants based on performance, and require tasks that would encourage local financial support. Because it is difficult to conceive how a planning agency could capitalize directly on the energy cost savings created by its energy-planning efforts, DOE is left with two options that could be used in combination:

- (a) DOE could award supplemental, second-year grants, based on energy cost savings created (and on those the grantee can justifiably project) in the first grant period; funding for the second year should be less than it was for the first year to encourage grantees to seek local funding.
- (b) DOE could require grantees to accomplish tasks in the first year to encourage local governments to fund projects and to fund further planning. This option is elaborated further in Recommendation (3) below.

(2) Require grantees to complete a standardized evaluation of their activities. To have a basis for awarding supplemental grants, DOE would have to require a more exact and standardized accounting of the energy cost savings grantees have produced and could justifiably project. DOE could provide grantees with an accounting format and tell them that they will be funded for

a second year based on the figures they submit and DOE's confidence in these figures. This requirement is explained in greater detail in Appendix C, which also contains a possible accounting format.

A more exact and standardized accounting format also would be advantageous in that, if nothing is done after the grant period has expired, DOE could still show how much energy is saved and how much could be saved, and thereby justify the program. Such an accounting system could also require grantees to estimate the time and money devoted to each task.

(3) Require grantees to concentrate on one or two initial projects. If DOE expects local governments to fund energy planning after the grant period has expired, planning agencies will have to demonstrate that they have accomplished something tangible and significant, and that they have data to verify that further projects are politically and economically profitable. More importantly, planning agencies must demonstrate to the public that their local government is concerned about the energy crisis and is competent to find solutions. If the voters can be convinced that their elected officials are concerned and are able to work out solutions, then their officials will be more likely to fund both further planning and tangible projects.

If planning agencies are to impress the public and local officials, they will have to concentrate on a few well-defined projects. An ideal project would be highly visible, have little risk, be inexpensive, and produce quick results. Because it is unlikely that any one project could fit all of these criteria, two or three projects should be selected. At least one such project could emphasize high visibility, but still have fairly low risk and low capital requirements. A small-scale project that would utilize renewable energy resources could fit this description because alternative energy projects seem to stimulate interest and receive favorable media coverage. The grantee could do preliminary assessments of several possible projects and then select one or two for which a detailed analysis could be prepared by the end of the grant period. These data should be reliable and detailed enough so that local governments and the local financial community would consider investing in the projects.

The second type of project could be a conservation program, because conservation has very low risk and can even produce results by the end of the grant period. The typically low visibility of conservation programs could be compensated for by quantifying and publicizing the results. Quantification would require a survey of residents or retailers of conservation equipment; moreover, these kinds of data could help build the credibility, not only of the local planning agency and local officials, but also of the FmHA and Community Systems.

(4) Require Grantees to develop comprehensive energy plans after initial projects are under way. While the planning agency is working on these initial projects, it should also be developing a long-range, comprehensive plan. This could include a comprehensive energy audit and a thorough investigation of options, and it should include opportunities for citizen participation. However, the format for this planning process should be structured by the grantees. Any long-range planning by the grantees in the first year should not infringe on the primary task of generating financial support for projects and further planning. Experience has shown that comprehensive

planning does not generate this kind of support; in fact, officials and voters generally are skeptical of grandiose plans. If nothing but large-scale, long-range plans are produced by the end of the grant period, continued energy planning and implementation probably will have to rely on further outside grants.

(5) Allow grantees to use outside funds for implementation. The limited availability of investment capital in rural areas should be recognized. Rural governments, banks, and businesses simply do not have very much money to fund projects or planning. Moreover, municipalities are limited by the states as to the amount of bonding and borrowing they may do. This reinforces the argument for starting with small projects and developing reliable data for these projects before going on to large-scale programs. Lack of local resources is another good reason to allow grantees to apply for federal money to be used for initial projects. If federal money can be used in initial projects, and these projects can be shown to be profitable, then local government and investors might be inspired to fund similar projects.

(6) Increase accountability where grantee is working through the private sector. Reliable financial data have to be developed if grantees are going to assist the private sector in setting up energy-related enterprises. No banks or entrepreneurs will finance a project unless they can see reliable financial projections. If grantees choose to work through the private sector, they should be required to: (a) present these data to DOE; (b) record the interest that has been expressed; (c) document private efforts that have actually been started, and (d) record the success of these enterprises. Such record-keeping would greatly increase the applicability of the program on a wider scale and would allow all agencies involved to take credit for what they have accomplished.

(7) Encourage community development corporations to submit proposals. One way of encouraging private investment not yet explored by DOE is funding community development corporations (CDCs) to research energy-related businesses. Community Systems money could be used for market research, which then could be used by CDCs to establish energy-related enterprises. CDCs generally have the business acumen necessary for a successful enterprise or project. However, if DOE expects to receive proposals from CDCs, it will have to advertise the availability of grants.

(8) Encourage energy consumer organizations to submit proposals. Other types of organizations that the STEP program should encourage are energy consumer organizations. These citizens' organizations exist in many states and regions to monitor utility company rates. Presently, many of these consumer organizations are preparing for hearings required by the Public Utilities Regulatory Policies Act (PURPA). Hearings are required before the Federal Energy Regulatory Commission and state regulatory agencies can establish regulations concerning peak-load management, cogeneration, and conservation incentives. Some of these hearings have already been held; some have not, but periodic review and public hearings are required for all of these regulations. Community Systems should consider funding some of these consumer organizations to prepare studies that could be presented at these hearings. Some benefits would be an increase in technical data, increased awareness of community system types of options, and a potentially more favorable regulatory environment. However, funding energy consumer groups could

displease utility companies. Nevertheless, Community Systems should consider whether the long-run success of peak-leveling and cogeneration would be better served by funding consumer groups. Here again, if DOE does want to solicit proposals from these organizations, it will have to advertise to attract their attention.

(9) Encourage grantees to develop energy ordinances. One technique that does not require a capital investment strategy to encourage energy savings is an energy ordinance. Except for the Sacramento Regional Area Planning Commission, none of the grantees considered developing energy ordinances in its planning jurisdiction. To encourage grantees to develop energy ordinances, DOE should allow them to develop an ordinance in lieu of a conservation program or alternative energy sources.

5.2.3 Synopsis

DOE's approach to small town energy planning should place less emphasis on the comprehensiveness and consistency of plans and more emphasis on developing lines of motivation. The present community energy planning ideal is that planners, local officials, and citizens work together to perform a comprehensive, logical, and sequential analysis of local energy problems and their options for improving the situation. The problem with this approach is that it relies almost entirely on good will and does not necessarily generate interest or credibility.

In the next round of STEP grants, Community Systems should emphasize a planning strategy that starts out small, produces quick results, and builds to comprehensive planning and large-scale projects. Planning agencies could thus learn how to complete the cycle of planning and implementation on a small scale before assuming larger tasks.

Appendix C contains tasks that DOE should require of all grantees to initiate this cycle. The present level of funding, plus a certain amount set aside for second-year grants, should be enough to test the workability of this approach. Ultimately, DOE should be able to provide an approach that any community could use successfully without requiring any outside grants.

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APPENDIX A
INTERMEDIATE AND FINAL PRODUCTS

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Table A.1 Scope-of-Work Accomplishments: Southeast Georgia
Area Planning and Development Commission

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>Task</u>	<u>Task</u>	<u>Task</u>	<u>Task</u>
(1) Hire two energy conservation specialists.	No changes in S.O.W.	(1) Used two existing staff members with energy conservation experience. One terminated at beginning of the project because of insufficient funding.	(1) Current energy planner will continue energy planning, but can only spend part of time on energy. Will hold more seminars, including those directed at local governments. No plans for non-low-income housing because power company has a weatherization program for this purpose.
(2) Select two public housing complexes based on heating/cooling type. Establish citizens' councils in complexes.		(2) Surveyed housing authorities in four towns. Selected two complexes in town of Alma. Created citizens' councils in complexes.	
(3) Examine existing plans and data.		(3) Examined all plans. Adapted existing forms and methodologies for municipal buildings to public housing.	(7) Housing authorities applying for HUD money and further weatherization depends on availability of these funds.
(4) Survey selected complexes as to energy-related characteristics. Determine rehabilitation needs and residents' attitudes.		(4) Surveyed characteristics of selected complexes. Consulted directors and citizens' councils about tenant attitudes.	(8) DOE-CETA weatherization program may contribute money to G.R.F.A. program.
(5) Develop energy audit form for public housing. Conduct unit-by-unit energy audit and onsite survey of the selected complexes.		(5) Used adapted forms. Conducted unit-by-unit audit of complexes (132 units) for electricity and gas consumption for past three years. Conducted onsite survey of complexes for energy waste.	<p><u>Note:</u> Grantee is trying to get gasohol plant built (not connected with this grant). FmHA is financing planning, and DOE and the Economic Development Administration (EDA) are partly financing construction.</p>
(6) Develop draft manual for audits and surveys, checklist of conservation practices, and list of common problems and solutions. With citizens' councils, revise manual and checklist. Test in third housing complex, and evaluate for energy savings. Identify sources of rehabilitation funds.		(6) Developed audit and survey manual and forms. Reviewed manual and lists with citizens' councils. Tested manual and checklist in third complex. Distributed manual and checklist to other housing authorities in region. Some weatherization done in original two complexes, but no data available. Evaluations have started, but no data are available yet.	
(7) Develop energy conservation & plan for public housing and			
(8) assisted housing in region, including outreach plan for assisted housing. Submit plan to local governments for adoption.			

Table A.1 (Cont'd)

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>Task</u>	<u>Task</u>	<u>Task</u>	<u>Task</u>
		(7) <u>Published Energy Conservation Plan for Public Housing in the Southeast Georgia Area.</u> Contains: (a) inventory of public housing in region, including heating/cooling type and type of water heating; (b) energy problems in public housing; (c) outreach plan for assisted housing; (d) list of energy problems and weatherization needs for each housing authority, including funding needs; (e) recommendations for future public housing; and (f) design of energy accounting system for public housing authorities, including forms. Held seminar for conservation in public and assisted housing. Grantee established energy conservation program in each housing authority in region and trained directors.	
		(8) Outreach program for assisted housing is discussed in <u>Plan</u> . Georgia Residential Finance Authority (G.R.F.A.) is handling this program and is receiving limited funds from state. No data on progress.	

Table A.2 Scope-of-Work Accomplishments: Hampshire County,
Massachusetts, Planning Commission

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
Task	Task	Task	Task
(1) Hire energy coordinator, full time, for one year.	(2) Because of poor attendance at action committee meetings, communication was shifted to town energy coordinators.	(1) Hired energy coordinator.	(1) Original energy coordinator & left. County planner has finished final draft and has presented first draft to towns, but will not do any more work on Hilltowns. Town energy coordinators will have to carry out plan.
(2) Form action committee of residents and energy suppliers, and a technical advisory group. Prepare detailed work plan.	(3) Now includes scenarios formerly in Task 5.	(2) Good representation on action committee, but poor attendance. Seven of nine towns have energy coordinators, but they still had problems with attendance.	(2) One town interested in weatherizing municipal buildings, and another is still interested in hydropower. Status of other projects unknown.
(3) Perform energy supply and consumption audit for the nine hilltowns, based on DOE's CCEMP methodology. ²	(4) Eliminated, with approval of DOE and FmHA. New Task 4 is renewable resources inventory, formerly part of Task 5.	(3) Completed audit, based on CCEMP methodology: (a) total consumption for six sectors; (b) consumption of each fuel type in each sector; (c) energy intensity as a function of activity, age of structure, and economic rank; (d) end-use fuel consumption for each sector. Data developed expressed on household basis and projected into near future. Created two scenarios based on continuation of present trends and conservation and use of renewables.	(5) Future energy planning depends on: (a) initiative and funding by towns, and (b) whether county gets planning grant from state. Future projects depend on: (a) funding by towns, and (b) funding of rural transportation service by state. Appears unlikely that towns will fund further planning or projects.
(4) Determine possible energy conservation measures for assisted housing.	(5) New Task 5 is undertaking of 11 tangible projects (described in next column).	(4) Completed renewable resources inventory and distributed findings to towns. Did study on feasibility of fuel wood co-op.	
(5) Develop and evaluate alternative energy scenarios. Evaluations are to include feasibility of alternative sources and impact assessments.		(5) Tangible projects: (a) performed municipal energy audits in all nine towns; (b) held weatherization workshops on two homes; (c) held cordwood co-op day; co-op established, but not enough money to buy saws; (d) appointed legislative watchdog;	
(6) Create action plan and mechanism for documenting energy sources and costs of implementation. Assess financial feasibility of energy-related businesses. Ask towns to adopt a plan and to hire an energy manager to implement it.			

Table A.2 (Cont'd)

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>Task</u>	<u>Task</u>	<u>Task</u>	<u>Task</u>
		<p>(5) Tangible projects: (Cont'd)</p> <p>(e) helped two local groups and</p> <p>(f) one municipality research</p> <p>(g) hydro sites;</p> <p>(h) started carpool -- no data on success;</p> <p>(i) investigated alcohol production from waste wood; no data available;</p> <p>(j) constructed solar window thermosiphoning panel; and</p> <p>(k) made plans for waste heat reclamation workshop for dairy farms.</p> <p>(6) Produced <u>Hilltown Energy Plan</u> (draft). Plan includes:</p> <p>(a) current consumption;</p> <p>(b) two scenarios, including energy consumption under each, an inventory of renewables, costs of developing renewables (wood-fired plants, hydro, wind) and a conservation program;</p> <p>(c) general policy and goals for each sector and energy source, and implementation suggestions; goals and implementation suggestions are mainly policy guidelines, but contain a few tangible projects.</p>	

Table A.3 Scope-of-Work Accomplishments: South Western
Oklahoma Development Authority

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
Task	Task	Task	Task
(1) Hire energy specialist, full time, for one year.	(3) With consent of FmHA, reduced number of towns to two, and added cost/benefit analysis for weatherization in three school districts (nine buildings), to apply for DOE grant.	(1) New energy specialist could not be found, so energy specialist for previous EDA grant remained.	(1) Have hired a new energy specialist paid for by HUD grant. Energy specialist under STEP grant retained as volunteer consultant.
(2) Appoint energy advisory committee	(5) Changed to developing energy conservation strategy for low-income homes.	(2) Advisory committee had good representation and attendance from entire region, and from both energy suppliers and consumers.	(3) Two school districts (six school buildings) will do weatherization this fall.
(3) Select at least four towns for which comprehensive energy plans will be developed.	(11) Changed to developing energy plan for one small town. Eliminated development of model energy planning process (without DOE approval) for very small towns because of inadequacy of cost-accounting system in the town chosen.	(3) Under original Task 3, total energy consumption audit for city of 16,000 was updated, and municipal energy costs for city of 2,800 were compiled. Second set of data were used by this city and several others to adjust utility rates. However, no plans or implementation strategies were developed. Under new Task 3, cost/benefit studies for weatherization in three school districts were done. Used studies to obtain \$57,000 grant (50% matching) from DOE, and will do weatherization in two of these school districts in Fall, 1980	(5) Local community action program will continue to do low-income weatherization, but program is hindered by funding and manpower constraints.
(4) Examine existing plans and data.	(12) Development of comprehensive & energy conservation plans and	(4) Reviewed energy audits completed for 14 towns and four school districts under previous EDA grant.	(3) Will do energy plans for a few towns under grant they obtained from HUD.
(5) Conduct housing survey in each selected town to determine possible conservation measures, demand for weatherization funds, and public attitudes.	(13) implementation strategies limited to two towns (see Task 3 above), and incorporated into Task 3. New Task 12 is providing information and guidance for gasohol production.	(5) Completed survey of 15 low-income homes in Hobart, Okla., and calculated potential savings and payback period for weatherization, showing that weatherization costs less in long term than fuel subsidies. Results were used by local community action program in its low-income weatherization program. No data on how many homes were weatherized. Held energy conservation forum for low-income people.	(7) One city applied to DOE for grant to do feasibility study on low-head hydro. S.W.O.D.A. helped write grant.
(6) Coordinate program with energy suppliers and university extension service.			S.W.O.D.A. applied to DOE appropriate technology for \$40,000 grant to construct heat exchange system in laundromats.
(7) Audit municipal energy costs in one town; conduct field survey, and publish findings and recommendations.			(12) FmHA "definitely interested" in financing local gasohol projects.
(8) Maintain library shelf on energy.			(13) Received EDA-DOE grant for tying energy planning to economic development activities. Project in early organizational phase.
(10) Develop model energy education program for high schools.			
(11) Work with a sample of very small towns to develop a model energy planning process for towns of this size.			
(12) Develop energy conservation plans for each of the towns in Task 4, and submit plans for adoption.			
(13) Develop implementation strategy to be incorporated into the above-mentioned plans.			

Table A.3 (Cont'd)

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>Task</u>	<u>Task</u>	<u>Task</u>	<u>Task</u>
		(6) Good cooperation from energy suppliers and university in setting up high school energy education program and the three forums.	
		(7) Updated data for town of 16,000 (repeat of Task 3).	
		(8) Obtained \$10,400 grant from state to buy books on energy conservation and resources for the local library. Also, held conservation and alternative sources forum (35 attended).	
		(9) No separate report for Task 7 -- all reporting is in <u>Final Report</u> . Data from the town audit update are not included in <u>Final Report</u> .	
		(10) Did energy mini-curriculum at one high school, including demonstration audit, take-home audits, classes, and energy projects and fair.	
		(11) Determined out how to get municipal energy cost data out of poor record-keeping system in one very small town. However, no plan implementation strategy, or generalized model was produced because of the problems with obtaining energy cost data.	
		(12) Helped local jobber get gasoline for three outlets. Good sales, although sales have declined. Currently have problems with supply and with demand-induced increases in the price supplier charges. Held gasoline forum (paid for by EDA grant). Distributed information on incentives and regulations. 150-160 attended. Flooded with requests for information as gasoline.	

Table A.4 Scope-of-Work Accomplishments: Kankakee-Iroquois
Regional Planning Commission, Indiana

Original S.O.W. (summary)	Charges in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
Task	In Quarterly Reports:	Task	Task
(1) Hire energy conservation specialist, full-time, for one year.	- S.O.W. Tasks 3-8 are "Elements" 1-6	(1) Hired energy conservation specialist and one research assistant. Energy specialist left during grant period, so work was completed by agency director.	(10) Working with Purdue U. to promote gasohol production, but no firm action yet.
(2) Form citizens energy advisory committee (open membership) to develop and recommend regional energy goals and policies.	- S.O.W. Task 2 is "Element 8". - S.O.W. Tasks 9 and 10 are same.	(2) Extensive publicity to get advisory committee members. Good attendance and good representation by suppliers of energy and energy-related equipment. Committee listed 14 goals and 40 recommendations (mainly policy statements) that are included in the <u>Regional Energy Report/Strategy</u> .	(12) Do not have money for implementation beyond education and promotion. Implementation beyond this level depends on whether HUD Innovative Community Energy Conservation Grant is received.
(3) Inventory utility energy supply, storage, and transmission in region. Also, estimate maximum capacity of utilities.	- S.O.W. Tasks 11 and 12 are not mentioned in <u>Reports</u> , although the <u>Comprehensive Regional Energy Report/Strategy</u> incorporates both of these tasks.	(3) Obtained maps and data for utility supply, storage, and transmission systems. Few utilities willing to provide data on maximum capacity.	Element 7 Working with state to promote state's energy audit program.
(4) Collect natural gas and electrical consumption data back to 1970, break down by sector for each county, and identify largest users. Compute per-household and per-capita consumption.	- New "Element 7" is an "Energy Awareness Program" consisting of: (a) identifying energy speakers in the region; (b) obtaining brochures for distribution; (c) compiling bibliography, and (d) & (e) writing newspaper articles.	(4) One electric utility refused to give consumption data. Five others provided data. Natural gas company did not have computer time to produce data. Problem with doing sector breakdown because no standard categories, but breakdowns were made. Only three utility companies gave largest accounts. Computed per-household and per-capita consumption with what data they had.	
(5) Survey LP and fuel oil dealers; compute consumption in each sector; identify largest users.	- New "Element 11" is a study of "Energy-related constraints to regional economic growth."	(5) Conducted survey but received poor response (six out of 64 responded). Conducted follow-up visits and calls but did not receive enough data. Dealers say market fluctuations and sales outside region make maximum capacity and sales in region difficult to estimate. No dealers willing to disclose largest customers.	
(6) Project energy demand for each sector to year 2000.			
(7) Calculate (from census data) household use of each fuel type for heating, water heating, and cooking.			
(8) Calculate (from census data) ownership of major appliances and automobiles.			
(9) Review state and national energy policies. Advisory committee to make recommendation based on study findings.			

Table A.4 (Cont'd)

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>Task</u>	In <u>Quarterly Reports</u> :	<u>Task</u>	<u>Task</u>
(10) Assess alternative sources including: (a) cogeneration at Shaffer Power Plant; (b) solar space heating, grain drying, and water heating; (c) wood energy; (d) biomass energy; and (e) wind power.		(6) Projections made for electrical consumption. No data for natural gas.	
(11) Develop energy conservation plan for region and submit to local governments for adoption.		(7) Made calculations, using census & data.	
(12) Develop implementation strategy for plan, including actions local governments can take.		(8)	
		(9) Reviewed state and national policies, and advisory committee goals and recommendations contained in <u>Report/Strategy</u> .	
		(10) Cogeneration determined by power company engineer to be "neither" practical or cost effective. ³ Constructed one-page qualitative evaluation of alternative sources and compiled bibliography on alternatives. Several persons and a grain company expressed interest in alcohol production, but no action to date.	
		(11) <u>Comprehensive Regional Energy Report/Strategy</u> published, incorporating all Tasks above. Regional Planning Committee (includes local government officials) approved plan. Plan has been submitted to local governments, but none has acted on it so far.	
		(12) <u>Report/Strategy</u> includes implementation strategy consisting entirely of general policy statements.	
		Elements in <u>Quarterly Reports</u> not in Original S.O.W.:	
		Element 7	
		"Energy Awareness Program"	
		- compiled list of 12 Energy experts in region;	
		- collected and made available to public 20 brochures and handbooks on energy conservation and alternative sources;	

Table A.4 (Cont'd)

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>Task</u>	<u>In Quarterly Reports:</u>	<u>Task</u>	<u>Task</u>
		Element 7 (Cont'd) "Energy Awareness Program" - compiled five-page bibliography on same; - compiled bibliography and information packet for each sector; - held four workshops for different sectors; - wrote at least six newspaper articles and did two radio interviews.	
		Element 11 - discussed energy constraints to economic growth at advisory committee meeting, but not much interest expressed, and nothing written.	

Table A.5 Scope-of-Work Accomplishments: Town of Brookfield, Vermont

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>First Quarter</u>	<u>First Quarter</u>	<u>First Quarter</u>	<u>Fourth Quarter</u>
<u>Task</u>		<u>Task</u>	<u>Task</u>
(1) Hire town energy coordinator, full time, for one year.	Present status of some S.O.W. Tasks uncertain. All progress on Tasks halted when original energy coordinator left and town halted further funding. A civil engineer, an instructor at Vermont Technical College, is now working part time on the project and grantee has received a time extension, but whether a new S.O.W. has been formally negotiated with FmHA is unknown. Next two columns indicate which of the original tasks is still being pursued.	(1) Personnel problems discussed in column to left.	(1) Project to end in December & 1980, and a report will be produced. However, the project director expects to continue his work on his own until March.
(2) Select areas of planning activity; hold public meetings; develop planning teams; develop preliminary goals; and develop data collection methodologies.		(2) New energy coordinator has & definite projects planned and in	
(3) Create "citizen special interest committees" and other participation opportunities. Work with other federal, state, and local agencies (agencies listed in S.O.W.)		(3) progress, but is working mostly by himself.	
<u>Second Quarter</u>		<u>Second Quarter</u>	
<u>Task</u>		<u>Task</u>	
(1) Distribute questionnaire on residents' energy needs and desires.		(1) No questionnaire is being pursued.	
(2) Develop inventory of renewable & sources and plan for developing		(2) Wood: Talked with state energy & office on how to improve local wood marketing.	
(3) wood, solar, wind, and hydro power.		Solar: Has evaluated homes of interested homeowners for solar potential, and do seminars on solar and other renewables, and on conservation.	
(4) Audit municipal buildings and residences for conservation potential.		Wind: Working with wind and power company to evaluate wind power potential at a public school.	
(5) Examine methods for encouraging conservation in transportation.		Hydro: Performing stream flow analysis and do cost/benefit analysis for selected sites	
		(4) Contracted with Vermont firm to do weatherization plan. Started energy supply audit -- obtained complete access to utility oil, gas, and electricity data. Audited and weatherized public buildings.	
		(5) No work on transportation.	

Table A.5 (Cont'd)

Original S.O.W. (summary)	Changes in S.O.W.	Accomplishments of S.O.W. Tasks to Date	Expected Future Activity
<u>Third Quarter</u>		<u>Third Quarter</u>	
<u>Task</u>		<u>Task</u>	
(1) Complete analysis of data.		(1) Some analysis of utility data being done.	
(2) Present findings or draft plan & to officials and public.		(2) Giving information to town & officials and residents.	
(4)		(4)	
(3) Identify potential funding sources and organizational arrangements for implementing plan.		(3) FmHA interested in funding projects. Giving information to town and residents on how they can invest their own money. Interested local banks in making loans for projects.	
<u>Fourth Quarter</u>		<u>Fourth Quarter</u>	
<u>Task</u>		<u>Task</u>	
(1) Develop final plan, submit implementation strategy to town officials, and obtain commitment of town resources necessary for implementation.		(1) See Future Activity.	
(2) Include in final report for FmHA resolutions from own officials and listing of officials and organizations responsible for implementing each element of plan.		(2)	

Table A.6 Scope-of-Work Accomplishments: Lake Agassiz
Regional Council, North Dakota

"Plan of Action" Contained in DOE- Approved Grant Application (12-20-79)	Changes in Plan of Action	Accomplishments of Plan of Action Elements to Date	Expected Future Activity
<u>Element</u>		<u>Element</u>	<u>Element</u>
I Perform energy audit for region using three methodologies (listed in grantee's plan of action). Audit will include fuel use for six sectors.		I Audit in process as planned; good utility company cooperation.	III Complete planning to program and go on to VIII implementation.
II Assess potential for renewable energy sources, including solar, wind, and agricultural waste.		II Setting up ananometer with city cost sharing.	
III Project energy use for each sector to year, 2000.		VIII Several energy projects are underway designed to save energy and stimulate community interest, including developing energy conserving development regulations and analysis of a selected set of options.	
IV Present audit data and projections to local governments. Use data and projections to formulate (with input from public and local governments) a regional energy policy.			
V Project energy savings that would result from energy projects and policies. Calculate pay-back period for those requiring capital investments.			
VI Identify state and federal funding sources for conservation and renewable energy programs.			
VII Project consumption to year, 2000 with conservation/renewables factored in. Projections will serve as guide for actions by local governments.			

Table A.7 DOE-Funded Reports:^a Southeast Georgia Area
Planning and Development Commission

Quarterly Reports	Final Reports (Includes 4th Qtr.)	Energy Plans	Other Reports or Documents	Comments
Produced to Date:	4th: 9/79-- Contains	<u>Energy Conservation</u>	<u>Energy Audit and Survey</u>	Reports show that S.O.W. was a fairly
1st: 1/79	"Energy Savings Checklist	<u>Plan for Public and</u>	<u>Manual for Public Housing</u>	workable process for creating a regional
2nd: 4/79	for Public Housing" and	<u>Assisted Housing in</u>	<u>Authority Personnel</u>	energy conservation program for low-in-
3rd: 7/79	"Problems and Solutions" in	<u>the Southeast Georgia</u>	(1979, 13 pp. + 23 pp. of	come housing. S.O.W. summarizes what
	Appendixes	<u>Area, (1979, 34 pp. +</u>	forms)	happened.
		<u>8 pp. of forms)</u>		
				Plan contains: (a) inventory of public housing and energy-related characteristics for region; (b) energy problems in public housing; (c) outreach plan for assisted housing; (d) list of energy problems, weatherization needs, and funding needs of each housing authority; (e) recommenda- tions for future public housing; and (f) design of energy accounting system for public housing, including forms.
				Manual is a simple but accurate methodology. Works well for those who have used it in Southeast Georgia. Both <u>Plan</u> and <u>Manual</u> worth looking at by anyone doing public housing weatherization. S.O.W. also worth reviewing.

Promised or Expected: No more.

^aContains only those received by ANL.

Table A.8 DOE-Funded Reports:^a Hampshire County,
Massachusetts Planning Department

Quarterly Reports	Final Reports (Includes 4th Qtr.) ^a	Energy Plans	Other Reports or Documents	Comments
Produced to Date: 1st: 2nd: 3rd: 1/18/80	4th: 8/10/80	<u>The Hilltown Energy Plan</u>	Brief summary of energy supply and consumption. Brief report on proposed fuel wood cooperative including cash flow pro- jections.	The one <u>Quarterly Report</u> , under Task 5, con- tains 11 tangible projects that future grantees should consider (see Table A.2.) The <u>Plan</u> is an effort to present in-depth analysis of current supply and consumption and the options that the hilltowns have. Grantee used a variation of DOE's CCEMP methodology (Hittman) to do a comprehensive audit of supply and consumption, an inven- tory of renewable sources, and to construct two scenarios based on this data. Scenario was based on use of conservation/renewables estimates energy that could be produced by hydro, wind, and wood, and energy that could be saved through conservation. Many of the calculations in the <u>Hilltown Plan</u> are not reliable. Report on proposed fuel wood co-op worth reading by anyone considering such a project; however, the cash-flow projections are done incorrectly.
	Promised or Expected: No further reporting promised or expected.			

^aContains only those received by ANL.

Table A.9 DOE-Funded Reports:^a South Western Oklahoma Development Authority

Quarterly Reports	Final Reports (Includes 4th Qtr.)	Energy Plans	Other Reports or Documents	Comments
Produced to Date:	4th: 4/30/80; Includes appendices on energy forums, low-income weatherization study, high school curriculum, gasohol information, and public school weatheri- zation study.		See <u>Final Report</u> , and comments to right.	<u>Final Report</u> is only report that needs to be read. Comparison of <u>Final Report</u> with original S.O.W. shows how S.O.W. Tasks become altered and pared down, mainly so that energy planner could meet immediate needs for his expertise. Most useful part of <u>Final Report</u> is the appendix. Appendix A contains programs and materials lists for the three forums. Appendix B contains the survey method and cost/benefit data for low- income weatherization. Appendix C outlines the high school curriculum. Appendix D & E contain the bibliography and fact sheets on alcohol production (regulations and incentives) which were distributed at the gasohol forum. Appendix F contains cost/ benefit data on public school weatherization.
1st: 7/20/79				
2nd:				
3rd: 1/15/80				
Promised or Expected:				Grantee promised to "assist in the develop- ment of comprehensive energy plans for (two) selected cities or rural towns" (Task 3). Energy consumption data was compiled for two cities but no plans were developed. Grantee said that plans would be de- veloped under forthcoming HUD grant.
See "Comments" to right.				Grantee promised to work with a sample of very small towns to create a model energy planning process for very small towns (Task 11). Municipal energy cost data was compiled for one such town but according to grantee, "the cost accounting system in a town this size did not lend itself to generalization so this task was terminated."

^aContains only those received by ANL.

Table A.10 DOE-Funded Reports:^a Kankakee-Iroquois Regional Planning Commission, Indiana;
Town of Brookfield, Vermont, and Lake Agassiz Regional Council, North Dakota

Quarterly Reports	Final Reports (Includes 4th Qtr.)	Energy Plans	Other Reports or Documents	Comments
Kankakee-Iroquois Regional Planning Commission				
Produced to date: 1st: 6/30/79 2nd: 3rd: 12/31/80		Comprehensive Regional Energy Strategy (1980, 87 pp.	Programs for energy symposium series -- four symposiums covering four different sectors	Report/Strategy contains summary of all products promised in S.O.W. Sec. II ("Process") of Report/Strategy (pp. 7-76) is a good outline of the background data needed for a regional energy plan. "Problems Encountered" (pp. 16-17) should definitely be read. "Goals" and "Implementations Strategy" (Sec. III & IV) contain only broad policy statements, although a qualitative evaluation table for alternative sources is included. Infeasibility of Cogeneration at Shafter Power Plant mentioned on p. 75, but no data presented.
	Promised or Expected: No further plans or reports promised or expected.			Quarterly Reports can be skipped if "Problems Encountered" in Report/Strategy is read.
Town of Brookfield, Vermont				
Produced to Date: Nothing yet. Project came to halt after five months when energy coordinator left, it has been resumed on a part-time basis.				
Promised or Expected: Quarterly and final reports will be produced, but grantee has asked FmHA for an extension. Reports should detail progress on audit and weatherization plan, and hydro, solar, and wind energy studies.				
Lake Agassiz Regional Council, North Dakota				
Produced to Date: Nothing yet. Grantee was notified of grant approval in 6/80; it is still too early in the project for reporting.				
Promised or Expected: Quarterly and final reports required by FmHA. A published report containing energy audit findings and projections of energy use to year 2000 with and without conservation/renewables is also expected.				

^aContains only those received by ANL.

Table A.11 FmHA-Funded Reports, Plans, and Other Documents^a Produced by
Northeast Georgia Area Planning and Development Commission

Quarterly Reports	Final Reports (Includes 4th Qtr.)	Energy Plans	Other Reports or Documents	Comments
FmHA-funded grantees were requested to, but not required to send reports to DOE or Argonne			<u>Potential Alternative Energy Sources in Northeast Georgia</u> , (1980, 19 pp + 1 page bibliography)	<u>Potential Alternative Energy Sources</u> is a preliminary assessment of energy production from wood, solar, wind, hydro, and biofuel sources. Conservation is also covered briefly. Report is useful to anyone else in the Southeast who is assessing alterna- tive sources. The section on fuel wood is particularly useful. Report is only an assessment of the availability of these resources, and contains virtually nothing on implementation. <u>Weatherization Needs</u> includes a discussion of problems encountered in doing the door- to-door survey, and may be useful to anyone doing low-income-housing weatherization.

^aContains only those received by ANL.

Table A.12 FmHA-Funded Reports, Plans, and Other Documents^a Produced by
Kisatchie-Delta Regional Planning and Development Commission,
Louisiana, and Sacramento Regional Area Planning Commission

Quarterly Reports	Final Reports (Includes 4th Qtr.)	Energy Plans	Other Reports or Documents	Comments
Kisatchie-Delta Regional Planning and Development District, Louisiana				
		<u>The Rural Poor: A Regional Study of Housing and Home Energy</u> (1978, 60 pp. + 25 pp. of survey forms)		<u>Study</u> and survey forms worth reviewing by anyone setting up a low-income weatheriza- tion program. Sections on multiple-regres- sion analysis of factors associated with thermal inefficiency, and section on "Alternatives" may be particularly useful. Multiple-regression analysis can be used in almost any kind of study, so planners setting up other kinds of conservation programs may find this study useful.
Sacramento Regional Area Planning Commission				
		<u>Rural Development Strategy</u> (October 1979, 98 pp.)		The <u>Strategy</u> only tangentially deals with energy, being primarily concerned with rural growth issues.

^aContains only those received by ANL.

Table A.13 Final Products -- Grantee Actions that Could Lead to Energy Savings;
Southeast Georgia Area Planning and Development Commission

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
Weatherization of 132 public housing units in Alma (original two complexes).	Weatherization begun, but no data on costs to date or projected, or energy savings to date or projected. Evaluation of effectiveness has begun, but no data has been produced yet.		
Weatherization of public housing in Folkston (test complex).	Weatherization will be done, but has not started yet. No cost or energy savings projections available.		
Weatherization in other public housing authorities in region.	Conservation programs started in all housing authorities, but no weatherization has been done, and there are no cost or energy savings projections available.		
Weatherization of assisted housing by Georgia Residential Finance Authority.	Weatherization started, but no data are available on actual or projected costs and energy savings.		
Conservation education for low-income residents. Includes seminar and distribution of energy savings checklist and other information.	Checklist and other information distributed to residents of Alma and Folkston complexes, and to other public housing authorities in region and Georgia Residential Finance Authority. No figures on numbers distributed or costs of printing and distribution. No estimate of resources spent on education efforts or estimate of impact.		

Table A.14 Final Products -- Grantee Actions that Could Lead to Energy Savings:
Hampshire County, Massachusetts Planning Department

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
Weatherization workshops of two assisted homes.	No known cost/benefit data. No data on impact.	Solar wall heating, use of woodstoves, and creation of heating zones in Chesterfield town garage	Heating oil consumption cut from 4,000 gal. for winter season to 30 gal. (as of writing of Plan in February, 1980). ⁴ No data on capital costs involved or cost of fuel wood for stoves. No data on whether other towns or individuals have adopted any of these measures.
Carpool	No data on success.		
Weatherization of municipal buildings	Energy audits done for municipal buildings in all nine hilltowns. One town is interested in weatherizing its public buildings, but no action to date. No known data on projected cost or energy savings for this town or for any of the other towns.	Research and establishment of cordwood co-op.	Held co-op day, where volunteers cut ten cords. Financial calculations for co-op were as follows: startup capital = \$66,500 (\$40,000 grant, \$25,000 loan, \$500 membership fees); startup expenses = \$44,100; first-year operating expenses = \$47,900; first-year gross income = \$34,750 (sale of 500 cords); second-year operating expenses = \$128,900; second-year gross income = \$140,500 (sale of 2,000 cords + \$1,500 worth of new membership fees). ⁵ Fuel wood contains 1.7×10^7 - 2.9×10^7 Btu/cord. Co-op started, but having trouble finding money to buy saws. No data on actual costs, income or energy savings.
		Design and construction of solar window thermosiphoning panel.	No cost/benefit data available, or data on how widely the design is being used.
		Technical assistance for development of hydro power at three sites:	
		Haydenville Brassworks Dam (private groups)	Cost would be \$84,800 to \$160,000 (dam only). Power production would be 10^6 kW and energy production would be 376 MWh/yr.

Table A.14 (Cont'd)

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
		Littleville Lake Dam (Town of Huntington)	Cost would be \$920,000 to \$1.72 million (dam alone). Power production would be 106 kW and energy production would be 376 MWh/yr. ⁶
		3rd site unknown (private group)	
		No known construction at these three sites, or data beyond that presented in draft Plan. Town of Huntington is still definitely interested, al- though its ability to secure financing is unknown.	

Table A.15 Final Products -- Grantee Actions that Could Lead to Energy Savings:
South Western Oklahoma Development Authority

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
Weatherization in two school districts (six school buildings)	<p>Cost/benefit analysis done for weatherization in three school districts. Will spend \$114,000 (50% from DOE) in Fall, 1980 to do weatherization in two of these districts. Summary of data presented below, but which two school districts will do weatherization, and how much, is unknown.</p> <p>Summary of School Weatherization Data:</p> <p>Custer School District: Cost = \$47,660; Annual savings = \$8,783; Payback period (straight line) = 4.5 yr; Annual energy savings = $3,630 \times 10^6$ Btu.⁷</p> <p>Washita Heights School District: Cost = \$39,800; Annual savings = \$7,203; Payback period = 5.5 yrs; Annual energy savings = $2,266.4 \times 10^6$ Btu.⁷</p> <p>Weatherford School District: Cost = \$48,118; Annual savings = \$9,612; Payback period = 5.0 yr; annual energy savings = $3,093 \times 10^6$ Btu.⁷</p>	Gasohol education and promotion, including seminar (paid for by EDA), information distribution, and marketing assistance.	<p>No known data on resources used for gasohol education and promotion. Good turnout at forum (150-160), and S.W.O.D.A. flooded with requests for information. No increase in gasohol production in region (because of "marginal economics"). Helped one local jobber obtain gasohol for three outlets. Initial sales were high but have declined and leveled off. More detailed data not available.</p>
Conservation education and promotion, including two seminars, library materials, and high school mini-curriculum.	No estimate of resources put into energy conservation education and promotion, except for \$10,400 grant obtained from state to buy library energy materials. No estimate of impact.		
Utility rate adjustments in Sayre, Oklahoma and other towns resulting from municipal energy audits.	No estimate of resources used in audit. No data on utility rate adjustments or estimates of energy savings that will result from rate adjustments.		

Table A.15 (Cont'd)

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
Weatherization of low-income homes by local community action program (S.W.O.D.A. provided cost/benefit data).	The South Western Oklahoma Development Association study in Hobart, Okla., concluded that, on the average 50,800 ft ³ of natural gas (52,331 x 10 ³ Btu) could be saved (62.7% reduction) for each home weatherized. This translates into a \$127 annual savings. Annual potential savings for all 102 low-income homes in Hobart would be 5,337 x 10 ⁶ Btu, ⁷ or an annual savings of \$12,945. Weatherization costs estimated to be between \$20 and \$400, depending on condition. ⁸ So even for worst cases, payback period would be 2.3 yr (400 ÷ 172). No data on how many homes weatherized, or actual costs and energy savings. A long waiting list exists because of shortage of CETA-paid workers. Cost/benefit analysis showed weatherization to be less costly than fuel subsidies, but no supporting data are available.		

Table A.16 Final Products -- Grantee Actions that Could Lead to Energy Savings:
Kankakee-Iroquois Regional Planning Commission, Indiana

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
Education and promotion of conservation (residential, commercial-industrial, public and institutional, and agricultural sectors), including seminars, information distribution, and promotion of state energy audit program	No data available on resources spent on conservation education and promotion. No estimate of impact has been done.	Gasohol and biomass energy education and promotion.	No data available on resources spent on gasohol and biomass education and promotion. Some interest generated (including that from a grain company), but no action to date.
		Education and promotion of other renewables, especially solar technologies, for agriculture.	No known data on resources spent. No known impact or estimate of impact.

Table A.17 Final Products -- Grantee Actions that Could Lead to Energy Savings: Town of Brookfield, Vermont

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
Weatherization of three public buildings.	No cost/benefit projections available, audit was done. No data available on actual costs or energy savings.	Low-lead hydro power.	Stream-flow analysis of potential sites currently under way. Cost/benefit analysis will be done for best sites.
Weatherization Plan.	Have contracted to have plan done.	Wind power at public school.	Have installed anemometer at site, but no cost/benefit analysis yet.
Education and promotion of conservation, including planned seminars.	No data on resources that will be used for conservation education and promotion are available.	Wind power at other sites.	Will use data developed at nearby technical college, but nothing planned yet.
		Improved fuel wood marketing.	Work underway with state energy office on this project, but details are unknown.
		Evaluation of residences for solar potential.	Underway.
		Education and promotion of renewables; seminars planned.	Underway.

Table A.18 Final Products -- Grantee Actions that Could Lead to Energy Savings: Lake Agassiz Regional Council, North Dakota

Conservation		Alternative Sources	
Action	Quantification of Action, Including Energy Savings	Action	Quantification of Action, Including Energy Savings
Recommend to local governments the actions they can take to encourage conservation, including building code changes, vanpooling, and weatherization of public buildings.	Grantee will provide cost/benefit and payback information to local governments for programs and projects involving capital expenditures. Projects will be ranked according to the capital investments they require and their cost/benefit ratios.	Assess solar energy potential in region, and make recommendations to local governments, including solar access ordinances and use of solar energy in government buildings and services.	See first comment in column for quantification of conservation actions.
Assistance to agencies in regions doing low-income weatherization	Will work with two local organizations to assess needs and develop plans, but no format available yet for quantification of costs and energy savings.	Assess wind energy potential in region, including recommendations to local governments concerning the use of wind power in government buildings and services.	
Examine potential for energy conservation in agriculture.		Assess availability of agricultural waste products for use in biomass conversion.	Unclear as to how this data would be used once it is compiled. Data will be developed with help of N. Dakota State University College of Agricultural Engineering.

APPENDIX B
TRANSFERABLE PRODUCTS

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B.1 IDEAS CONCERNING THE ENERGY PLANNING PROCESS AND SPECIFIC OPTIONS

B.1.1 Involvement and Cooperation

<u>Ideas or Options</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission</u>	
-Have power company personnel train housing authority directors and help with audits and surveys.	-Georgia Power is helping local governments and other authorities throughout the entire state. State law requires cooperation and assistance from power company.
-Have housing authority directors, maintenance personnel, and city building inspector participate in on-site surveys.	
-Use expertise of citizens advisory committee to do weatherization.	
-Have energy planning personnel in region meet periodically to exchange ideas.	-Georgia is doing this on the State level.
<u>Hampshire County Planning Department</u>	
-Have town energy coordinator for each town in region.	
-Have town energy coordinators act as regional advisory committee.	-This was grantee's response to poor attendance of citizens action committee meetings (due to "lack of confidence, travel distance, and other chores"). Had same problem with energy coordinators -- only two out of seven attended first meeting. One possible solution is to send letter of support from town officials before doing planning.
-Appoint legislative watchdog to monitor laws, incentives, and to do lobbying.	
<u>Kankakee-Iroquois Regional Planning Commission</u>	
-Send personal invitations to join advisory committee to those who show interest in agency's energy planning activities.	

<u>Ideas or Options</u>	<u>Comments</u>
-Send personal invitations to persons and organizations who would have particular interest or expertise. Get business people who make or sell energy-related equipment involved.	
<u>Brookfield, Vt.</u>	
-Survey residents to determine energy needs and desires.	-Not actually done yet.
<u>Northeast Georgia Area Planning and Development Commission</u>	
-Have each county or municipality in region create an energy committee, and also form a regional energy committee.	-One such committee is working with a local manufacturer to start a vanpool.

B.1.2 Sources of Expertise and Information

<u>Ideas or Options</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission</u>	
-Used weatherization information packets from TVA and CSA.	
<u>South Western Oklahoma Development Authority</u>	
-Energy specialist produced a guide to energy-related EDA projects.	-Will be available soon from President's Clearinghouse on Community Energy Efficiency.
<u>Kankakee-Iroquois Regional Planning Commission</u>	
-Draw up list of energy speakers in region.	-List is in <u>Regional Energy Report/Strategy</u> . ⁹
<u>Brookfield, Vt.</u>	
-Have engineer do planning.	
-See if nearby colleges have done useful studies.	-Grantee may use wind power study done at nearby college.

<u>Ideas or Options</u>	<u>Comments</u>
<u>Lake Agassiz Regional Council</u>	
-Contact U.S.D.A. Agricultural Extension Service (for energy use data in agriculture and biomass conversion).	-Because the grantee was notified of its grant approval in June, 1980, it is too soon for grantee to have produced results yet.
-Contact farm co-ops to get fuel-use data.	
-Use state transportation office data to calculate transportation energy use.	
-Make use of existing energy studies when possible, such as National Weather Service Data.	
-Use existing energy studies when possible, such as: <u>County Energy Plan Guidebook</u> (Institute for Ecological Studies, 1979), <u>Final Report of the Northeast Energy Congress</u> (Northeast Energy Congress, 1979), and <u>Comprehensive Community Planning</u> , (DOE, 1979).	
<u>Northeast Georgia Area Planning and Development Commission</u>	
-Local Community Action Agency workers may be good sources of information on low-income housing weatherization needs.	

B.1.3 Energy Audits and Other Data Collection Efforts

<u>Ideas or Options</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission</u>	
-Send notices to public housing tenants before doing on-site survey, to protect their privacy.	

Ideas or OptionsCommentsSouth Western Oklahoma Development Authority (SWODA)

- Help small municipalities straighten out record-keeping so that energy costs of municipal services can be calculated.
- Hittman and Sizemore methodologies are too complicated for use by officials or employees in small towns. SWODA had to do energy planning for these towns.

- This task may have to be completed before any small town energy plans are created.

Kankakee-Iroquois Regional Planning Commission

- If utility companies and other energy suppliers refuse or fail to supply data, contact state commerce commission, utility commission, industry association, or consumer groups to get data or to put pressure on the utility companies.

- Utility companies will soon be required to divulge certain information under the Public Utilities Regulatory Policies Act of 1978 (PURPA).¹⁰ Future grantees should determine whether PURPA applies in cases where utility companies will not cooperate. Grantee should also reassess whether the information sought is really needed at the time.

- Use census data to get information on heating fuels, heating & cooking equipment, appliance & auto ownership.

- Census data may be out of date.

Northeast Georgia Area Planning, and Development Commission

- Have CETA-paid students do survey work.
- Develop interior housing characteristics survey to supplement exterior characteristics survey.

Sacramento Regional Area Planning Commission

- Develop supporting data that small towns may need for energy ordinances.

- How much data is needed will depend largely on local or state court rulings concerning zoning, subdivision regulations, and building codes. The amount of local opposition to the ordinances (especially from land development interests) may also determine the amount of data required.

B.1.4 Generating and Assessing Alternative Plans

<u>Ideas or Options</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission</u>	
-Develop audit methodology for 1 municipality and test it before going to wider applications.	
<u>Hampshire Co. Planning Department</u>	
-Examine <u>barriers</u> to alternative sources and conservation.	-Barriers examined in <u>Hilltown Energy Plan</u> .
-Develop scenarios, with and without conservation/renewables.	-Scenarios will also be developed by the Lake Agassiz R.C., This approach is suggested in the <u>County Energy Plan Guidebook</u> . ¹¹
<u>South Western Oklahoma Development Authority</u>	
-Do cost/benefit studies for weatherization (schools, municipal buildings, low-income housing, etc.) that can be used by other government units or agencies.	-Contained in <u>South Western Oklahoma Development Authority Final Report</u> .
-Use university computer to calculate weatherization needs and costs.	-Results contained in <u>South Western Oklahoma Development Authority Final Report</u> .
<u>Kankakee-Iroquois Regional Planning Commission (K-IRPC)</u>	
-Make up assessment table for alternative sources.	-Contained in K-IRPC <u>Regional Energy Report/Strategy</u> . ¹²
-Review national and state programs in the energy plan.	
-Have a "Problems Encountered" section in plan	-This would help both DOE and future grantees immensely.
<u>Lake Agassiz Regional Council</u>	
-Do financial analysis for all projects involving capital expenditures.	-Should be <u>required</u> of all grantees.

<u>Ideas or Options</u>	<u>Comments</u>
<u>Northeast Georgia Area Planning and Development Commission</u>	
-Investigate impact of increased wood burning on air pollution.	-Nothing done yet. This type of analyses, while desirable, is probably beyond the technical capability of many planning agencies.

Sacramento Regional Area Planning Commission

-For each sector, present: (a) findings and assumptions; (b) objectives; (c) policies; (d) implementation options for each policy and; (e) preliminary impact assessment of each option.	-If this is provided in tabular or summary form, it can be a simple, quick format for reviewing options.
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Kisatchie-Delta Regional Planning and Development Commission

-Use multiple-regression analysis to determine variables that contribute most to building energy inefficiency.	-DOE Project Retro-Tech methodology was used. ¹³
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B.1.5 Options for Conservation and Alternative Sources

<u>Ideas or Options</u>	<u>Comments</u>
<u>Hampshire Co. Planning Department</u>	
-Start fuel wood co-ops.	-Wood co-op started, but little money is available to buy equipment.
-Use waste wood from sawmills for fuel and alcohol production.	-Nothing actually done; the ANL study on Soldier's Grove, Wisconsin shows what can be accomplished in this area. ¹⁴
-Establish municipal utilities to produce power from local resources.	

South Western Oklahoma Development Authority

-Use other agricultural waste for fuel or for alcohol production.	-Some alcohol plants exist in South Western Oklahoma, but none started as a result of this grant.
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<u>Ideas or Options</u>	<u>Comments</u>
-Solar greenhouses are economical in communities with many houses of standard design (e.g., near military bases).	-SWODA has a design, and a prototype has been completed.
<u>Kankakee-Iroquois Regional Planning Commission</u>	
-Investigate cogeneration possibilities at power plants in region.	-Apparently not feasible at power plant investigated by grantee (Ref. 9, p. 75) no data available.
-Solar energy for grain drying and animal shelters.	-Nothing actually done yet.

Northeast Georgia Area Planning and Development Commission

-Wood pyrolysis or fermentation to produce energy for institutional buildings.	-Nothing done yet.
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B.1.6 Strategies for Encouraging Conservation and Alternative Sources

<u>Ideas or Options</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission</u>	
-List funding sources for weatherization and send list to residents. Also, send energy saving practices checklist to residents.	
-Train housing authority personnel in region, and set up conservation programs in housing authorities.	
-Distribute an energy audit and survey manual to housing authorities in region.	-Grantee produced and distributed audit and survey manual.
<u>Hampshire Co. Planning Department</u>	
-Help local co-ops, bussiness, and municipalities assess alternatives and help them get financing.	

Ideas or OptionsComments

-Do demonstration projects and workshops for conservation & renewables.

-List of demonstration projects and workshops is in grantee's quarterly reports.

South Western Oklahoma Development Authority

-Help improve marketing of renewables (wood, gasohol, etc.)

-A good collection of materials on the subject is in grantee's final report.

-Distribute information on incentives and laws concerning renewables and conservation. Hold seminars and have representatives from government programs explain the incentives they offer.

-Grantee said that people are impressed when representatives from government agencies give them honest information on the incentives their agencies can offer.

-Have high school students go through demonstration audit and do home audits.

-Extended outline of high school education program is in grantee's final report.

-Create energy section in local library.

-Have advisory committee members disseminate information and offer technical assistance.

Kankakee-Iroquois Regional Planning Commission

-Show local government and businessmen how energy cost and supply can affect investment in the region.

-Little actually done by grantee in this respect.

-Publicize state energy audit or conservation programs.

-Write newspaper articles and conduct radio interviews. Develop good relations with press and use media to the fullest.

-Good relations with news media and frequent use of media are crucial for success of projects.

-Make up information packets for each sector.

-Set up information booths at county fairs.

-Give special encouragement to grain companies to start alcohol production.

-Some interest, but nothing actually done.

Ideas or OptionsCommentsBrookfield, Vt.

-Develop engineering and financial data for alternative energy source projects. Show local governments and residents that investment in these projects is economical.

-Town energy coordinator thinks that project approach works best.

-Contact local bank and interest them in financing projects.

-Need detailed and reliable data to get banks interested.

-Use property tax incentives to encourage sustained-yield wood harvesting.

-Nothing actually done yet.

-Do detailed evaluation of one wood-producing lot and develop model contract for wood supply.

-Nothing actually done yet.

-Evaluate homes for solar heating potential, where owners request it.

-Grantee plans to do this.

Lake Agassiz Regional Council

-Develop list of concrete measures local governments can take.

-Grantee has just begun, so nothing has been done yet.

-Show local governments projected energy cost savings (e.g., to year 2000) that can result from a conservation and renewables program.

-Identify funding sources for local government and private sector projects.

Sacramento Regional Area Planning Commission (RAPC)

-tax incentives, low-interest loans, and loan guarantees to encourage weatherization.

-Sacramento RAPC is helping municipalities develop these kinds of implementation measures. Several municipalities in the region, including Sacramento and Davis, are using these options. Plans for these municipalities are summarized in the Regional Energy Plan.¹⁵ More complete lists of options are available from Argonne.¹⁶

-Enact energy ordinance or ordinance changes for existing buildings: (a) require conservation standards to be met upon resale; (b) require minimum retrofit measures or performance standards by a certain date.

-energy ordinance for new development (site design and construction standards).

Ideas or OptionsComments

- Certify new structures and machinery as to energy efficiency.
- Allow property tax exemption for solar equipment and other renewables.
- Encourage utility companies to finance insulation through incremental payments in billing.
- Enact peak-load leveling ordinance or incentives.
- Train planners and building inspectors in rural towns.
- Help local governments enforce state regulations.
- Use land use planning to reduce transportation energy use.
- Develop walkways and bicycle paths.
- Require mandatory automobile maintenance checks.
- Encourage car- and van-pools.
- Improve traffic engineering.
- Campaign to improve energy efficiency on farms.
- Offer incentives for farm windmills and solar energy (esp. for crop drying).
- Encourage on-site or local burning of agricultural waste for energy.
- Establish local energy information clearinghouse.
- Encourage recycling. Start curbside pickup of recyclables. Ban non-returnables.
- Do demonstration audits for each sector. Take people through audits and calculate potential energy savings. Use federal programs to do weatherization demonstrations in each sector.

<u>Ideas or Options</u>	<u>Comments</u>
-Implement energy conservation plan for government vehicle fleets.	
-List actions that can be taken by each level of government.	
-Create action plan that does simple things first -- projects and programs that are inexpensive, low-risk, and produce quick results.	-A conservation campaign fits these criteria. Effectiveness of campaign should be quantified and publicized as much as possible to generate support for further energy planning.
-Develop energy ordinance as soon as supporting data can be gathered.	-Regional planning agency can gather supporting data for municipalities, if these data are necessary to ensure the validity of the ordinance.

Kisatchie-Delta Regional Planning
Development Department

- Coordinate Community Development Block Grant (CDBG), FmHA, and Community Services Agency (CSA) programs to promote weatherization of low-income housing.

B.1.7 Funding Sources for Capital Projects and Further Planning

<u>Ideas or Options</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission</u>	
-HUD weatherization program for public housing.	
-DOE-CETA weatherization program for assisted housing.	-Funding done through state programs.
-Economic Development Administration (EDA) grants for weatherization of municipal buildings and schools.	
-FmHA is financing planning of gasohol plant.	
-DOE & EDA are partially financing construction of gasohol plant.	

Hampshire County Planning Department

- County obtained energy planning grant from State of Massachusetts.

<u>Ideas or Options</u>	<u>Comments</u>
-State may fund rural transportation service, depending on results of a study in progress.	
-Fuel wood co-op was to be funded through membership fees, bank loans, and an outside grant.	-Actual financing arrangements not known, but apparently not sufficient to buy equipment.
<u>South Western Oklahoma Development Authority</u>	
-EDA makes energy planning grants.	-Previous energy planning work by grantee done with EDA grant.
-HUD and CETA money for low-income housing weatherization.	
-DOE funding weatherization of schools (50/50 matching).	
-Obtained funds from state for library energy materials.	
-HUD grant is paying for current energy specialist to develop energy plans for municipalities.	
-FmHA willing to fund gasohol plants and other projects.	
-Applied to DOE for grant to fund feasibility study of low-head hydro project.	
-Applied to DOE for grant to develop heat-exchange system in laundromats.	
<u>Kankakee-Iroquois Regional Planning Commission (K-IRPC)</u>	
-Applied for HUD Innovative Community Energy Planning grant.	
-Without outside funding, K-IRPC can only do limited promotion of conservation and renewables.	
<u>Brookfield, Vt.</u>	
-FmHA would fund projects.	

Ideas or OptionsComments

-Energy coordinator is showing town officials and residents how their own money can be invested.

-Get local banks interested in making loans for projects and home weatherization.

Lake Agassiz Regional Council

-Will encourage local governments to fund projects by calculating cost/benefit for capital projects.

-Will identify state and federal programs that could fund projects and further planning.

Northeast Georgia Area Planning and Development Commission

-CETA-paid workers did survey work.

-Estimated demand for FmHA weatherization funds: 86% of survey respondents do not have money to make improvements; 62% would not arrange loans; and 71% would make improvements if given money to buy materials.

-See Northeast Georgia Area Planning and Development Commission, Weatherization Needs of Low Income Families.¹⁷

Sacramento Area Regional Planning Commission

-Use local government money for weatherization loans (bonds might be necessary).

-Local government could subsidize weatherization and solar equipment with property tax credits or deferrals.

-Local government could finance peak-load-leveling computer system.

-Local government could pay for writing of energy ordinance and ongoing engineering review of new buildings.

<u>Ideas or Options</u>	<u>Comments</u>
<u>Kisatchie-Delta Regional Planning and Development District</u>	
-Leverage CDBG funds for weatherization (6 ways): (1) interest subsidy; (2) loan guarantee; (3) revolving loan fund; (4) tax-exempt municipal bonds; (5) rehabilitation grants or loans to owners; (6) grant rebates to owners.	-Grantee is encouraging towns to apply for CDBG funds.
-FmHA Sec. 504 weatherization loans and grants for elderly homeowners.	
-FmHA Sec. 523 technical and supervisory assistance for low-income, self-help programs.	

B.2 PROBLEMS ENCOUNTERED BY GRANTEES AND POSSIBLE SOLUTIONS

B.2.1 Involvement and Cooperation

<u>Problem</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission, Hampshire Planning Department, South Western Oklahoma Development Authority, Kankakee-Iroquois Regional Planning Commission, Brookfield, Vermont, Kisatchie-Delta Regional Planning and Development District</u>	
-Energy planner left during or immediately after grant period.	-Grantee should designate someone who can keep project active until a replacement can be found. DOE and FmHA should insist that backup personnel be designated, and that someone should be available for consultation after grant period expires.
<u>Hampshire Co. Planning Department</u>	
-Original project manager liked to work by himself -- no other viewpoints in plan; no check on technical accuracy of plan.	

<u>Ideas or Options</u>	<u>Comments</u>
-Local residents and government officials were not very aware of project.	-DOE could require letters of commitment from municipalities or counties in which planning will be done.
-Original project manager saw utility companies as enemies, instead of seeking their assistance and cooperation.	

Brookfield, Vermont

-Not enough understanding between original town energy coordinator and town officials. Town officials and residents did not understand purpose of planning grants.	-See comment above.
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B.2.2 Sources of Expertise and Information

<u>Problem</u>	<u>Comments</u>
<u>Southeast Georgia Area Planning and Development Commission</u>	
-Nobody knew specifications of heating systems in public housing.	
<u>Southeast Georgia Area Planning and Development Commission, Hampshire County Planning Department, Brookfield, Vermont, Kisatchie-Delta Regional Planning and Development District.</u>	
-Grantees were not sufficiently aware of Argonne's role or extent of its expertise.	-DOE should be able to publicize grant program. DOE grant selection criteria and an explanation of DOE-Argonne-FmHA relationship should be available to potential grantees so that grantees know it is a DOE program. Argonne should devote more time to the program so that it can be more involved.
<u>South Western Oklahoma Development Authority, Kankakee-Iroquois Regional Planning Commission</u>	
-Grantees would have preferred more field visits by Argonne or DOE.	

B.2.3 Energy Audits and Other Data Collection

<u>Problem</u>	<u>Comments</u>
<u>Hampshire Co. Planning Department</u>	
-Agricultural data difficult to obtain; very little data; and many different end uses.	-Grantee should reassess whether hard-to-obtain data is really necessary.
<u>Kankakee-Iroquois Regional Planning Commission</u>	
-Energy consumption figures from utilities and other suppliers not broken down into consistent categories.	

B.2.4 Generating and Assessing Alternative Plans

<u>Problem</u>	<u>Comments</u>
<u>Hampshire County Planning Department</u>	
-Unrealistic or unsubstantiated assessment of economic feasibility of wind and solar energy.	-Other persons (staff or advisory committee members) should check work done by planner. Ideally, someone with financial or engineering knowledge should assist planner, if planner does not have this expertise. Reliability of data largely will determine if anyone is willing to finance projects.
-Inaccuracies as to calculations (units, conversion factors, inflation rate, etc.)	
-Inconsistencies or gaps in data.	
-Incorrect calculation of financial feasibility of fuel wood co-ops.	

B.2.5 Implementation and Funding

<u>Problem</u>	<u>Comments</u>
<u>Hampshire County Planning Department</u>	
-Original project manager did not follow up on projects and programs suggested in plan.	-DOE should require that someone be designated by agency to do follow-up work after grant period.

<u>Problem</u>	<u>Comments</u>
-County Planning Department lacks engineering expertise (or funds for engineering studies) to study design alternative sources.	-Suggest to grantees that they: (1) contract out for more technical studies; (2) get local people with technical expertise to help; (3) use Argonne's expertise more.
-Fuel wood co-ops lacked capital to buy equipment.	-Co-op may have been able to get a loan, if reliable financial projections had been made.
-Towns will not implement plan because they lack confidence and the necessary funding.	-Have to develop strategy to inspire local confidence so that projects and further planning are funded locally. See "Conclusions and Recommendations."
-Local businesses are too small to be able to invest in capital projects.	-If community development corporations exist, get them interested.
-Because of travel distances and political loyalties, implementation on regional level is difficult.	
-County does not have much money to continue planning or do implementation and -- depending on state grant -- to do further work.	
<u>South Western Oklahoma Development Authority</u>	
-Lack of skilled, unemployed CETA laborers who can be paid with CETA funds to do low-income weatherization. Six-month time limit on hiring these workers compounds problem.	-A problem where unemployment is low. Another problem is lack of coordination between DOE program for weatherization materials and CETA program for labor.
-Paperwork for obtaining DOE school weatherization funds is extremely complex and costly.	-Application procedures should be simplified.
-Gasohol production is only marginally profitable, so investors are cautious.	
-Municipalities do not have funds or expertise to do energy planning on their own initiative.	-Regional planning agency probably will have to give continued assistance to small towns, even after plans or projects are started.

Problem

-Little implementation money, so little action. Getting no funds from state or local government.

Comments

-Have to build confidence & credibility quickly. Need to supply reliable financial data so that local governments, banks, and enterprises are willing to invest in energy projects.

Kankakee-Iroquois Regional
Planning Commission

-Does not have money for implementation.

-Implementation could not be started in first year because of delays in getting utility company data. Short duration of grant period aggravated this problem.

-DOE and FmHA should be liberal on giving extensions if it means more will be accomplished. Suggest extensions to grantees when they ask for cutback in S.O.W. tasks.

APPENDIX C

PROPOSED CHANGES IN DOE-FmHA INTERAGENCY AGREEMENT,
INCLUDING PROPOSED GRANT
SELECTION CRITERIA AND ACCOUNTING FORMAT

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C.1 PROPOSED CHANGES IN INTERAGENCY AGREEMENT

These changes are proposed in accordance with Task 4 of the existing interagency agreement. The interagency agreement is included here as Appendix D.

Reference to Existing Interagency Agreement

Scope of Work

Proposed Change

"Approach" (p. 1)

Require approval of grantees by both FmHA and DOE.

Tasks 1 & 2 (p. 2)

Include by reference the grant selection criteria included in this appendix.

Task 1 (p. 2)

Specify types of energy planning that cannot be funded under the program (e.g., "lifeline" planning or emergency energy planning) because of conflicts with Community Systems objectives or overlap with other DOE programs.

Task 2 (p. 2)

Allow DOE to publicize that DOE grant money is available through the FmHA Flll Program. DOE should be allowed to publicize the program according to the guidelines applicable to DOE programs. Any such advertisements, however, should refer proposals to FmHA.

Task 3 (pp. 2-3)

Grantees should be required to fulfill the additional reporting requirements specified in the grant selection criteria included in this appendix. These additional reporting requirements are necessary for a valid comparison of grantees' program results and for useful application of results to future energy planning projects. (See bottom of p. 1 of existing interagency agreement, scope of work).

Also, task 3 should specify that any S.O.W. changes must be approved by both DOE and FmHA.

Scope of WorkProposed Change

"Budget" (p. 3)

Specify that supplemental second-year grants will be made available on a competitive basis among first-year grantees. Specify that these grants are to be awarded on the basis of the second-year grant selection criteria included in this appendix.

C.2 PROPOSED FIRST-YEAR GRANT SELECTION CRITERIA

Grantee shall, at a minimum, perform the following tasks in addition to fulfilling the requirements of the FmHA Flll program. These tasks shall be included in grantee's Scope of Work. Grantee may perform these tasks in conjunction with ongoing programs, or in cooperation with other agencies or organizations. Supplemental planning grants will be provided by DOE for a second year, on a competitive basis among first-year grantees. Second-year grants will be provided primarily on the basis of performance of required tasks and any other tasks undertaken by grantee (see "Second-Year Grant Selection Criteria").

- (1) Grantee must select at least two of the following three tasks for inclusion in the scope of work:
 - (a) Develop and present to local officials and the public an energy ordinance or changes in existing ordinances that are designed to conserve energy. DOE will provide literature and technical assistance concerning the development of energy ordinances. Proposed ordinance or ordinance changes must empower local governments to regulate future or existing construction activity and land development so as to conserve energy. If the grantee is a regional planning agency (RPA) or county, the proposed ordinance or ordinance changes may be for either a county or an incorporated municipality. If the grantee is an RPA, copies of the proposed ordinance or ordinance changes, and relevant existing ordinances shall be sent to all county and municipal governments in the region. If grantee is a county or municipality, copies shall be sent to all municipalities in the county. The grantee shall send copies of these documents and the official record of action on the proposed ordinance or ordinance changes to FmHA and DOE, or representatives, as an addendum to the final report. This addendum shall also include copies of any supporting data or reports concerning the proposed ordinance or ordinance changes. Any supporting data shall also be included, to the maximum extent practicable, in the accounting format provided by DOE.
 - (b) Conduct a preliminary assessment of at least several means of producing energy in such a way as to reduce demand for scarce fuels (i.e., petroleum and/or natural gas.) These projects may be located anywhere in grantee's

planning jurisdiction. Single-or multi-building energy production, conversion, or storage or management systems (Community Systems) must be considered in this preliminary assessment. DOE will provide literature and technical assistance concerning Community Systems and other alternative energy sources.

If grantee is statewide or substate energy consumer organization, this requirement may be fulfilled by developing data or studies concerning load-management techniques, cogeneration and small power production facilities, or small hydroelectric power projects for submission to the Federal Energy Regulatory Commission, the state regulatory commissions, or nonregulated utilities. The grantee in such cases shall complete the accounting format provided by DOE to the maximum extent practicable, and shall attach to this format all data, studies, and other documents developed under the grant. The grantee shall attach to this accounting format a list of agencies and utility companies to which the data or studies developed were (or will be) submitted, and the dates and places of hearings at which such data or studies were or will be presented. The Grantee shall also attach a copy of the official record of action taken by the regulatory agencies or utility companies during the grant period, if any such action were taken. This accounting format and all attached documents shall be attached as an addendum to the final reports sent to FmHA and DOE or to their representatives as directed.

If grantee is an agency or organization other than an energy consumer organization, then it shall prepare a detailed analysis of one or two possible projects that must include identification of form of ownerships, sources of investment money, and potential customers for energy produced. The grantee shall also present this detailed analysis to expected owners and investors. Grantee shall report data developed for both preliminary and detailed analysis of projects on the accounting format provided by DOE. Any supporting data or narration shall be attached to this format, and all of these documents shall be attached as an addendum to the final reports sent to FmHA and DOE or to their representatives as directed.

- (c) Design and carry out a program for encouraging energy conservation. DOE will provide literature and technical assistance concerning community energy conservation. This energy conservation program may be directed at any part or the entirety of grantee's planning jurisdiction. The conservation program shall not be limited to public housing, assisted housing, or government buildings and operations, and need not cover these areas. The grantee shall develop a method for quantifying the effectiveness of its energy conservation program, in terms of energy savings and cost savings. Data on grantee's conservation program and effectiveness of this program shall be included as much as practicable in the accounting format provided by

DOE. The design of the grantee's conservation program, evaluation methodology, and any actual evaluation data shall be attached to this format; all of these documents shall be attached as an addendum to the final reports sent to FmHA and DOE or their representatives as directed.

If grantee is a community development corporation, this requirement may be fulfilled by doing a market survey of the demand for weatherization materials or other materials and services used for energy conservation, or the development of other data that would assist in the start-up of enterprises that provide such materials or services. In such cases, the grantee is not required to develop a method of quantifying the effectiveness of its efforts in reducing energy costs; however, grantee shall complete the accounting format provided by DOE to the maximum extent practicable. The grantee shall attach to this format all data, surveys, and other documents developed under the grant. This accounting format and all attached documents shall be attached as an addendum to the final reports sent to FmHA and DOE or to their representatives as directed.

If grantee is an energy consumer organization, this requirement may be fulfilled by preparing data or studies concerning energy conservation incentives for submission to the Federal Energy Regulatory Commission, state regulatory authorities, or nonregulated utilities. In such cases, the grantee is not required to develop a method for quantifying the effectiveness of its efforts in reducing energy costs; however, the grantee shall complete the accounting format provided by DOE to the maximum extent practicable, and shall attach to this format all data, studies, and other documents developed under the grant. The grantee shall also attach a copy of the official record of action taken by the regulatory agencies or utility companies. The accounting format and all attached documents shall be attached as an addendum to the final reports sent to FmHA and DOE or their representatives as directed.

- (2) All grantees that are government agencies shall include in the scope of work a format for the development of a long-range, comprehensive energy plan. This energy planning process may use any reasonable format and may include any part or all of grantee's planning that qualify under the FmHA Flll guidelines. However, this planning process must include opportunities for citizen participation. DOE will provide literature and technical assistance concerning the setup and operation of a comprehensive community energy planning process. The grantee shall begin this planning process during the grant period. All data, reports, or plans produced as a result of this planning process during the grant period shall be attached as an addendum to the final reports sent to FmHA and DOE or to their representatives as directed.

- (3) All grantees shall account for all actions which, directly or indirectly, could lead to energy conservation or increased energy production. The purpose of this accounting requirement and the other additional reporting requirements established by DOE, is to help DOE determine the most cost/effective ways of saving and producing energy, and to allow DOE to assess better the emphasis it should place on its grant programs. The accounting will be done by completing, to the maximum extent practicable, the accounting format provided by DOE. Grantee shall include data on all actions, whether proposed or actually implemented, including data required under (1)(a), (1)(b), and (1)(c). For DOE to determine the resources needed to develop a particular project or program, grantees are also required to estimate the percentage of time and money devoted to developing each project, program, or other action listed in the accounting format.

C.3 ACCOUNTING FORMAT FOR DOE-FUNDED STEP PROJECTS

C.3.1 Conservation Activities in First-Year Grant Period

Table C.1 lists conservation activities in the first-year grant period.

- Items 1 and 3-6 refer to actions intended to promote energy conservation and taken by the grantee during the grant period.
- Items 2 and 7-10 refer to the specific conservation measures that the grantee's actions are intended to promote.
- Items 11 and 12 refer to the evaluation methodology that grantees are to develop for their conservation activities.

C.3.2 Development of Alternative Energy Sources that Would Produce Energy by Alternative Means, Including Community Systems

Table C.2 shows the development of alternative energy sources and includes all projects or enterprises that would produce energy by alternative means, including community systems. Each item represents a column heading of a large table of alternative energy sources.

- Items 1 and 3-6 refer to actions intended to promote alternative energy sources and taken by the grantee during the grant period.
- Items 5-12 refer to specific systems or enterprises or to types of systems or enterprises that the grantee's actions are intended to promote.

Table C.1 A Conservation Activities in First-Year Grant Period,^{a,b}

1	2	3	4
Grantee actions that are intended to promote energy conservation (enumerate, and describe briefly)	Specify whether each of the energy conservation measures, planned, promoted, or undertaken in Item 1 were considered important or minor parts of the overall grant effort.	(a) Estimated total man-hours spent on energy planning under this grant (all energy planning activities funded by this grant). (b) Estimated percent of total man-hours spent on each action listed in Item 1.	(a) Total funds spent on energy planning under this grant (grant amount + matching funds). (b) Estimated percent of total funds spent on each action listed in Item 1.
5	*6	*7	*8
Target audience of each action listed in Item 1.	Estimate, if possible, the size of the target audience for each action listed in Item 1. Specify units (i.e., # of dwelling units, square feet of commercial space, # of vehicles).	Sources of funds for implementing each conservation measure listed in Item 2. Specify, if possible, whether funding sources are possible or actual.	Cost of each conservation measure listed in Item 2. Specify whether each cost figure is estimated or known, and whether it is a specific number, an average, or a range. Figures should be per unit (i.e., dwelling unit, vehicle), where applicable.
*9	*10	*11	*12
Yearly energy cost savings for each conservation measure listed in Item 2. Specify for each figure whether it is estimated or known, and whether it is a specific number, an average, or a range. Figures should be per unit (i.e., dwelling unit, vehicle), where applicable, and units should be the same as those listed in Item 8.	For each conservation measure listed in Item 2, estimate how much of each fuel type (i.e., fuel oil, natural gas, electricity, etc.) would be saved. If additional quantities of a fuel will be consumed, estimate the quantity and indicate.	Is evaluation methodology for conservation program attached?	*(a) Has any evaluation of conservation program been done yet? *(b) If so, are results attached?

^aGrantee must specify whether figures given are specific numbers, averages, or ranges.

^bInformation given in columns marked with asterisks (*) must be supported with calculations, narratives, or references.

Table C.2 Development of Alternative Energy Sources (Includes all projects or enterprises that would produce energy by alternative means, including Community Systems)

1	2	3	4
Grantee actions that are intended to promote development of alternative energy sources (enumerate and describe briefly).	List specific systems or enterprises, or <u>types</u> of systems or enterprises, for producing energy by alternative means, which are either planned, promoted, or undertaken by each action listed in Item 1. Specify, if possible, which of these systems or enterprises have actually been planned, and which have been promoted.	(a) Estimated total man-hours spent on energy planning under this grant (<u>all</u> energy planning activities funded by this grant). This figure should be the same as A (3) (a). (b) Estimated percent of total man-hours spent on each action listed in Item 1.	(a) Total funds spent on energy planning under this grant (grant amount + matching funds). This figure should be the same as A (4) (a). (b) Estimated percent of total funds spent on each action listed in Item 1.
*5	*6	*7	*8
List owners of each system or enterprise listed in Item 2. Specify whether owners are anticipated or actual.	Have anticipated owners been contacted yet? (Specify for each anticipated owner or group of owners). Describe nature of contact, including interest shown, in attachments.	Mode of financing: List investors and approximate percentage of capital costs each would provide. Specify whether investors are anticipated or actual.	Have investors been contacted yet? (Specify for each investor or group of investors). Describe nature of contact including interest shown in attachments.
*9	*10	*11	12
Customers for energy produced.	Have customers been contacted yet? (Specify for each customer or group of customers). Describe nature of contact in attachments.	Estimated capital costs for each system or enterprise listed in Item 2. Estimates must be supported in attachments.	Annual Energy Production *(a) Type of energy produced *(b) Quantity produced/yr *(1) Conventional units, such as gal. or kWh. (specify units) *(2) In 10 ¹² Btu

Table C.2 (Cont'd)

13		14	15		
Annual Energy Consumption		Annual Energy Savings in 10 ¹² Btu "Total" for Item 12 (b) (2) - "Total" for Item 13 (b) (2)	Annual Scarce Fuel Savings		
*(a) Type of fuel or energy consumed	*(b) Quantity con- sumed/yr		(a) Petroleum or petroleum-derived fuels		
	*(1) Conventional units, such as gal. or kWh (specify units).		*(1) Type of petroleum or petroleum-derived fuels saved (dis- placed) by the energy produced.	*(2) Quantity saved (displaced) per year, in conventional units (specify units.	*(3) Petroleum or petroleum-de- rived fuels consumed [from Item 13 (a)].
	*(2) In 10 ¹² Btu				
*(4) Quantity consumed per year, in con- ventional units (specify units) [from Item 13 (a)].	*(5) Net savings of petroleum or petroleum-de- rived fuels [Item 15 (a) (2) - Col. for each fuel type listed in Item 15(a)(1) and Item 15(a)(3)].	(b) Natural Gas	*(1) Quantity of natural gas saved (displaced) per year by the energy produced in 1000 ft ³ .	*(2) Quantity of natural gas consumed per year, in 1000 ft ³ [from Item 13 (a) (1)].	*(3) Net annual savings of natural gas, in 1000 ft ³ [Item 15 (b)(1) - Item 15 (b)(2)].
*16		17	18		
Economic life of system (yr).	Annual System Costs, including yearly amortized capital cost.		Cost per unit of energy (\$/10 ¹² Btu). This is Item 16 - Total of Item 12 (b)(2).		
*20	*21		*22	*23	
Internal Rate of Return.	Net Present Value.		Payback Period.	Times Interest Earned Ratio (Net Income before interest inter- est).	

- The information requested would be required to complete a good preliminary assessment of an energy system. Methods for calculating Items 20, 21, 22, and 23 may be found in many standard finance or accounting textbooks.*

C.3.3 Other Planning Activities

Table C.3 lists other planning activities that promote energy conservation and production in a less direct manner than the actions listed in Tables C.1 and C.2. Table C.3 should include all ordinances, energy audits, plans, reports, and other documents produced under this grant. Activities listed in Table C.3 can be wholly or partly included in actions listed in Sections A and B. Thus, there may be considerable overlap between this section and Sections A and B.

C.3.4 Explanation of Terms Used in the Accounting Formats

- Grantee Action: any planning, design, feasibility study, promotional activity, education program, workshop, data collection, or any other significant task performed during the course of the study and funded in whole or part by the grant.
- Target Audience: the group of people the action is to assist. Examples include low-income people, elderly people, the community as a whole, homeowners, renters, business persons, etc.
- Sources of Funds: specific names of businesses, individuals, or government entities. A "possible" source is one that has indicated interest in funding a program or project but has given no firm commitment. An "actual" source has given a firm commitment or has already begun spending funds.
- Cost: considered economic only.
- Alternative Energy Source: this term is difficult to define precisely because an "alternative" for one community can be "conventional" in another. Alternative as used here will include any renewable or inexhaustible resource and coal. Renewables include, but are not limited to, sunlight, biomass, wind, thermal energy stored in water or ice, and geothermal power.

C.4 PROPOSED SECOND-YEAR GRANT SELECTION CRITERIA

The proposed process to select grantees for second-year STEP grants is similar to the method used in the first year. Grants would be available on a competitive basis, with awards limited to those completing the first

*For example: Shillinglow, Gordon, and Rowen, Accounting: A Management Approach, 6th Edition, Richard D. Irwin, Inc., Homewood, Ill. (1979).

Table C.3 Other Planning Activities

1	2	3	4	5
	(a) Estimated total manhours spent on energy planning under this grant (<u>all</u> energy planning activities funded by this grant). This figure should be the same as A(3)(a) and B(3)(2).	Total funds spent on energy planning under this grant (grant amount & matching funds). This figure should be the same as A(4)(a) and B(3)(2).	Jurisdictions, sectors, buildings, or operations covered.	Draft currently available (e.g., first draft or final draft)
	(b) Estimated percent of total man-hours spent on each activity listed in Item 1.	(b) Estimated percent of total funds spent on each activity listed in Item 1.		
Ordinances or Ordinance Changes				
Energy Audits or on-site Surveys				
Energy Plans				
Reports and Other Documents, including data or studies presented to regulatory agencies and utilities				

Table C.3 (Cont'd)

1	6	7	8	9
	When will final draft be available?	Has copy of current draft been sent to FmHA, DOE, and Argonne National Laboratory, or is copy attached?	Has document been submitted to appropriate government bodies or other organizations. Specify government bodies and organizations document has been submitted to, and dates of submission.	Has document been approved by the government bodies or organization to which it was submitted? Specify, for each government body or organization what action has been taken, and the dates it has been or will be acted on.
Ordinances or Ordinance Changes				
Energy Audits or on-site Surveys				
Energy Plans				
Reports and other documents, including data or studies presented to regulatory agencies and utilities				

year of the program. Second-year funding should be limited to 50% of the first-year grant amount. The reason for the limitation is to encourage local matching and participation in the program.

Sections C.4.1 and C.4.2 provide the basis for evaluating second-year grant proposals. Section C.4.1 lists criteria for evaluating the success of the first-year effort. These criteria are based on the assumption that the first year's program was structured in response to the criteria stated previously in Sec. C.3. The second-year criteria must be varied for the different classes of grantees. Section C.4.2 briefly outlines tasks that should be included in the grantee's proposed second-year scope of work. These are considered minimal tasks; greater detail and additional efforts geared towards the specific needs of the locality would be expected in all actual proposals.

C.4.1 Evaluation of First-Year Performance

The overriding consideration will be the amount of energy cost savings that DOE believes will result from the grantee's planning efforts in the first year, and the increased likelihood or quantity of energy cost savings that will result if the grantee is funded for a second year. DOE's confidence in these estimates will be of utmost importance. Moreover, because grant recipients may vary widely in the population of their planning jurisdictions or in the size of their target populations, the local variations in population will be considered in evaluating grantees' performance. Specific evaluation criteria are listed below, with cross referencing to the first-year selection criteria listed in Sec. C.3.

Reference to Sec. C.3	Criteria Applies to These Grantees	Evaluation Criteria for Second Year
(1) (a)	All grantees	<ol style="list-style-type: none"> 1. Technical and legal feasibility of proposed energy ordinance or ordinance changes. 2. Amount of energy that is likely to be saved if ordinance or ordinance changes are adopted. 3. Whether ordinance/ordinance changes were submitted to the local government and were made available to the public. 4. Whether copies of ordinance/ordinance changes were sent to other local governments and to FmHA, and Argonne National Laboratory as specified. 5. If supporting data or reports were developed, whether these documents were sent to FmHA, DOE, and Argonne National Laboratory

Reference to Sec. C.3	Criteria Applies to These Grantees	Evaluation Criteria for Second Year
(1) (b)	Government Agencies or Community Development Corporations	<ol style="list-style-type: none"> Whether preliminary assessment of alternative sources was done as specified and whether preliminary assessment data were provided to FmHA, DOE, and Argonne National Laboratory. Whether Community Systems (as defined by the literature provided by DOE) were included in this preliminary assessment. Whether detailed analysis was done for selected projects, and DOE's confidence gained in the data developed for these projects.
	Energy Consumer Organizations	<ol style="list-style-type: none"> Whether data are reliable and relevant to federal or state regulations, or utility company policies regarding load management, cogeneration or other small power production facilities, or small hydro power projects. Specifically, the relevance of the completed study to opportunities to establish or change these regulations or policies is important. Whether grantee accounted for the way in which data or studies were or will be used, as required. Whether grantee provided copies of the official record of action taken (during the grant period) on the issues addressed by grantee's work.
(1) (c)	Government Agencies	<ol style="list-style-type: none"> Whether energy conservation program includes a significant effort directed at sectors other than public housing or government buildings and operations. Sophistication of grantee's conservation promotion techniques. Validity of grantee's proposed methodology for estimating the effectiveness of its conservation program.

Reference to Sec. C.3	Criteria Applies to These Grantees	Evaluation Criteria for Second Year
(1) (c)	Community Development Corporations	<ol style="list-style-type: none"> Whether grantee developed data that would assist in the startup of enterprises that provide conservation materials or services. Whether DOE is confident that such enterprises will be started. Whether grantee provided data, as specified, to FmHA and DOE.
	Energy Consumer Organizations	<ol style="list-style-type: none"> Reliability of data or studies developed, and relevance to Federal or State regulations, or utility company policies regarding energy conservation incentives. Whether grantee accounted for the way in which such data or studies were or will be used. Whether grantee provided copies of the official record of action taken (during the grant period) on the issues addressed by grantee's work.
(2)	Government Agencies	<ol style="list-style-type: none"> Whether a long-range, comprehensive energy planning process was started during the grant period. Whether this energy planning process includes opportunities for citizen participation. Whether all data, reports, and plans produced by this planning process were sent to FmHA and DOE.
(3)	All grantees	<ol style="list-style-type: none"> Whether grantee accounted for all actions, to the maximum extent practicable, on the accounting format provided by DOE. Whether grantee produced supporting data for the figures provided in this accounting format.

C.4.2 Tasks to be Included in Second-Year Scope of Work

Grantee shall, at a minimum, perform the following tasks in the second year, in addition to fulfilling the requirements of the FmHA Flll program. These tasks are to be included in grantee's Scope of Work.

Requirements 1-3 are the continuation or expansion of first-year tasks.

1. Applies to all grantees

- (a) Complete task, if not already completed, and fulfill reporting requirements specified for the first year.
- (b) Complete task, if not already completed.
Make financial and organizational arrangements for selected projects or do further studies if necessary.
For the second year, fulfill all reporting requirements specified for the first year.
- (c) Continue existing conservation program.
Expand conservation program -- for example, to additional sectors or geographic areas.
Using evaluation methodology developed in the first year, quantify effectiveness of conservation program.

2. Applies only to government agency grantees

Continue the long-range, comprehensive energy planning process begun in the first year.
Continue to allow opportunities for citizen participation.
For the second year, fulfill reporting requirements as specified for the first-year grant period.

3. Applies to all grantees

For the second year, fulfill reporting requirements as specified for the first-year grant period. These reporting requirements shall apply both to activities done under requirements (1) and (2) above, and all other activities engaged in by grantee under this grant.

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APPENDIX D

EXISTING DOE-FmHA INTERAGENCY AGREEMENT
(8-30-78 through 9-30-79)

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Department of Energy
Washington, DC 20525

INTERAGENCY AGREEMENT
No. EM-78-I-01-5135

AN INTERAGENCY AGREEMENT

between

THE U.S. DEPARTMENT OF ENERGY

and

FARMERS HOME ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE

Pursuant to P.L. 93.438
and other applicable law

INCORPORATION OF ENERGY CONSERVATION IN COMPREHENSIVE
PLANNING OF RURAL DEVELOPMENT

Accounting and Appropriation Data:

PR-M-01-78-4098
C3-01-03
CV-83-91
\$150,000
BNC 2303
89X0203.91
NFA 00451

DEPARTMENT OF ENERGY
Washington, DC 20585

Mr. William N. Nagle
Associate Administrator
Office of Rural Development Policy
Management and Coordination
Farmers Home Administration
U.S. Department of Agriculture
12th and Independence Avenue, S.W.
Washington, DC 20250

Dear Mr. Nagle:

This is in regard to a proposed Interagency Agreement between the Division of Buildings and Community Systems, Office of the Assistant Secretary for Conservation and Solar Applications, Department of Energy (DOE) and the Area Development Assistance Division of the Office of Rural Development Policy Management and Coordination of the Farmers Home Administration (FmHA), Department of Agriculture, for the "incorporation of planning and management for energy conservation in the rural Area Development Assistance Program." The proposed scope of work, submitted by your staff on March 9, 1978, is considered to be in furtherance of the DOE community systems program and would lead to DOE communities energy conservation objectives. The consideration of how rural communities can incorporate energy conservation in the development planning is of mutual benefit in consonance with the Memorandum of Understanding, dated February 18, 1977, between the two Departments. Therefore, DOE will provide the requested operating funds for the work described in Appendix A hereto on a reimbursable basis subject to the following conditions:

1. This agreement shall be effective upon execution and shall extend through September 30, 1979.
2. Funds are obligated for performance of this Agreement in the amount of \$150,000. This obligated amount is considered sufficient for performance of the work described in Appendix A.
3. DOE is not obligated to USDA for Agreement performance in any monetary amount in excess of the amount obligated herein.
4. DOE will fund in advance USDA costs for the performance of the proposed work not to exceed \$150,000. The USDA will provide the DOE project manager a complete report of the expenditures upon completion of the agreement.

The advance will be made on a Standard Form 1081 citing the Agreement number, the Appropriation Symbol 89 x 0203.91, Allotment Symbol CV-83-91 and Budget and Reporting Classification Number C3-01-03.

W.N. Nagle

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5. The responsible project officers under this Agreement will be:

DOE: Steve Cavros, Chief
Community Systems Branch
Division of Buildings and Community Systems
Department of Energy
Washington, DC 20545

USDA: P. Kugler, Director
Rural Development Planning
Farmers Home Administration
U.S. Department of Agriculture

6. The provisions of Appendix B, attached, shall be a part of this agreement.

This Interagency Agreement sets forth the terms and conditions of the Agreement between USDA and DOE. It is entered into pursuant to the DOE/USDA Memorandum of Understanding, dated February 18, 1977.

On behalf of the Department of Energy, I have signed five (5) copies of this Agreement. If the terms of this Agreement are acceptable to the U.S. Department of Agriculture, it is requested that such acceptance be indicated in the appropriate signature block and that the original and one copy be returned to this office.

Sincerely,

Joseph C. Cannon
Contracting Officer
Conservation and Solar Applications
Branch
Procurement and Contracting Management
Directorate

Enclosures:
As stated

Accepted:

United States Department of Agriculture

BY: _____

TITLE: _____

DATE: _____

SCOPE OF WORK

Interagency Agreement
EM-78-I-01-5135Objective

The objective of this project is to apply methodologies for incorporating energy conservation consideration in conducting comprehensive planning for rural development.

Background

The FmHA Area Development Assistance Planning grants may be used to address rural planning needs in such areas as energy, housing, community facilities, health, transportation, education, recreation, resource conservation, and the development of land for residential, agriculture, commercial and industrial uses. The overall objective of the program is to contribute to the development of comprehensive planning for rural development. Planning under the program should consider present population distribution, projected population growth or decline, economic conditions and trends of the rural area concerned and other area functions which are deemed essential for orderly growth of the rural area involved.

Within the general realm of rural development planning needs, there currently exists a need for rural community energy conservation planning. The development of effective community energy planning holds a great deal of potential for assisting in reducing energy demands in rural America and easing the tight situation of energy supplied.

Approach

FmHA will select multiple (4-6) grantees (communities) under its Area Development Assistance Planning program to receive an additional amount of funding, to include as a component in the rural development planning project a community energy conservation planning utilizing available methodology.

The individual project results will be used by DOE and FmHA as models for future community energy conservation planning. Results will be used to modify the available methodologies as a guideline for energy conservation planning considerations within the FmHA Area Development Assistance Planning program and DOE programs.

The basic operational plan for each project will be compiled so that results under each DOE-sponsored portion of a planning project can be easily compared so program results can be applied to other future rural comprehensive planning projects with energy planning components.

Tasks

1. Prepare evaluation and selection criteria for determining community participation.

Criteria will be developed by FmHA, in consultation with DOE, to be used in evaluating community energy conservation planning proposals for funding under the FmHA Area Development Assistance Planning program. This process will

include, but not be limited to, an evaluation of energy considerations as they are affected by population distribution, projected population growth or decline, economic conditions and trend of the rural area concerned, and other area functions essential for orderly growth. Actual energy planning needs of the rural area as projected by the applicant, public policies and regulations, citizen values, information needs and technical obstacles to energy planning will also be considered.

2. Solicit proposals and select communities to participate in program.

Proposals for additional amounts of grant funds to be provided by DOE will be considered by FmHA. This will involve an additional grant amount to be paid to a grantee to incorporate energy conservation planning as a component in the rural development planning activity. During the grant selection process by FmHA under the Area Development Assistance Planning program, public notice of additional funding provided by DOE will be made to the public and energy planning components will be solicited with grant proposals. Communities will be selected on a competitive basis based on FmHA Area Development Assistance Planning program criteria (7 CFR, Part 1948, Subpart A, Sec. 1948.32) and the criteria established in Task 1 above.

3. Manage, review and monitor execution of energy planning activities in the selected communities.

FmHA will manage, review and monitor the energy planning component of the grant project to ensure that the objectives of that portion of the planning activity are met. In addition, FmHA will ascertain that the purpose and scope of work for the energy planning portion of the planning activity will not duplicate other planning activities either completed or in process. As required under regulations implementing the FmHA Area Development Assistance Planning program, reports concerning financial status and project performance will be required on a quarterly and annual basis. The project performance reports shall include, but need not be limited to, the following:

- (a) A comparison of actual accomplishments to the objectives established for that period;
- (b) Reasons why established objectives were not met;
- (c) Problems, delays, or adverse conditions which will materially affect attainment of planning project objectives, prevent the meeting of time schedules or objectives, or preclude the attainment of project work elements during established time periods; this disclosure shall be accompanied by a statement of the action taken or contemplated and any Federal assistance needed to resolve the situation; and
- (d) Objectives established for the next reporting period.

4. Evaluate the end products of the selected community involvements, and recommend policies and guidelines for future involvement.

After a joint review of grant results under the supplemental energy planning portion of the Area Development Assistance Planning program, DOE and FmHA will evaluate the end projects of the selected rural community energy planning projects. The options presented by an evaluation of project results will be considered, and recommendations will be made to assist FmHA in incorporating energy planning considerations into the implementation of the Area Development Assistance Planning program. This will assist DOE to facilitate incorporation of energy conservation objectives into community planning activities and will assist FmHA to contribute to the development of comprehensive planning in rural areas.

Budget

DOE will transfer \$150,000 to the rural Area Development Assistance program. The total amount will be transferred to the selected communities based on the criteria set in Tasks 1 and 2. FmHA will use their own funds for management and evaluation, specified under the tasks above.

APPENDIX E

INTERVIEWS WITH GRANTEES
(both DOE- and FmHA-Funded Grantees)

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Questions for DOE-funded STEP Communities (except Brookfield, Vermont)

(1) Awareness of Argonne's Role.

Were you aware that DOE, through Argonne National Laboratory, was to provide technical assistance for the energy planning you were doing?

(2) Usefulness of Argonne's Assistance

Could you have done without assistance from Argonne, or could you have used more technical assistance?

(3) Administrative Arrangements

Do you think that energy planning would have been easier or more effective had it been funded and administered directly by DOE?

(4) Direction by DOE

Do you think that DOE should have provided stronger direction for grantees, e.g., stricter standards for selection of grantees, requiring certain tasks to be performed, more specific reporting requirements? Would stronger direction by DOE have been more or less desirable in your energy-planning project?

(5) FmHA Program Requirements

Are there any requirements of the FmHA Flll program that unnecessarily distracted you from your energy-planning efforts?

(6) Success of Implementation

How well are you proceeding on implementation of the plan or project tasks? Do you have or do you anticipate problems in implementing the plan - which elements of the plan and why?

(7) Funding of Implementation

How are you funding implementation of the plan or projects? Has state or local government provided funds? To which federal agencies have you applied for implementation funds?

(8) Continuation of Energy Planning

Will energy planning be a continuing activity of your agency?

(9) Evaluation of Effectiveness

Have you tried to estimate the amount of energy produced or conserved (in either physical amounts or dollar savings) as a result of your planning efforts? If you have not made such an estimate, do you think that the amount of energy conserved or produced will be significant?

(10) Approach to Energy Planning

Do you believe that comprehensive energy planning is the best approach for rural planning agencies, or do you believe that energy planning should concentrate on specific projects?

(11) Methodologies and Literature Used

What methodologies and literature (either sent by Argonne or obtained elsewhere) did you find useful?

(12) Advice to Future Grantees

Do you have any advice to future Flll grantees that want to do energy planning?

During June, 1980, responses to these 12 questions were obtained from the following STEP participants:

- Ginger Allen Birch, Southeast Georgia Area Planning and Development Commission; 6/18/80
- Steven Kulick, Hampshire County Planning Department; 6/12/80
- Harold Metcalf, South Western Oklahoma Development Authority; 6/23/80
- Ronald Fletcher, Kankakee-Iroquois Regional Planning Commission; 6/19/80
- Robert Stewart, Town of Brookfield, Vermont; 6/24/80
- Bill Harringdine, Northeast Georgia Area Planning and Development Commission; 6/23/80
- Elaine Lee, Kisatchie-Delta Planning and Development District; 6/19/80

Southeast Georgia Area Planning Development Commission -- Interview with Ms. Ginger Allen Birch; June 18, 1980

- (1) Ms. Birch said she was not aware of Argonne's role; however, she did not work on the project at the beginning. She received considerable help from Georgia Power Co. personnel who are helping with energy planning throughout the entire state.
- (2) She could have used ANL information on the space-heating system used in public housing there.
- (3) No opinion as to whether direct administration by DOE would have been better. She thinks that FmHA is getting more involved at state and local level, and that the change to administration at the state level is better.
- (4) No opinion.
- (5) No complaints about FmHA program requirements; 10,000 population limit is good because it ensures that small towns will get money they need. Public housing directors of large towns administer housing in nearby small towns, and methods used in small towns can be used in larger towns.

- (6) A seminar for weatherization of public and assisted housing was held. Georgia Power is training public housing personnel to do auditing and weatherization. Ms. Birch went to each public housing authority and set up a conservation program. Weatherization has been started in Alma housing projects, but further weatherization requires funding from HUD. She has done considerable educating of the poor and elderly because ignorance is a major problem.
- (7) HUD has a weatherization program now for public housing, and housing authority directors are in the process of asking HUD for money. Georgia Residential Finance Authority (GRFA) is doing weatherization of private low-income and elderly housing. GRFA has received some Section 8 money, but this money is not enough. The DOE-CETA weatherization program may contribute to Georgia's Section 8 funds.
- (8) Southeast Ga. will continue to do energy planning, and will hold more seminars, including seminars directed at local governments. However, Ms. Birch is the only one doing energy planning, and she also does much of the other planning for the agency. No conservation plans will be made for non low-income housing or other sectors. Schools and governmental buildings were weatherized under HUD and EDA grants. She is trying to get a gasohol plant built. FmHA is financing the planning, and DOE and EDA are partly financing construction.
- (9) An evaluation has begun of one of the three original housing projects for changes in energy consumption. One problem with the grant was that there was not enough time or money to do thorough evaluations.
- (10) There are limits to the comprehensive planning they can do -- they can work only through local governments and government bodies. No need for weatherization program for non low-income houses because Georgia Power already has such a program.
- (11) Useful literature
and information sources: -Information packets from TVA and CSA.
 -Georgia Power Company expertise.
 -Weatherization of public buildings done
 under previous grants.
- (12) Although they can do planning, they must also do implementation. Do not make plans if you cannot implement them. Although they need money for weatherization, they have been able to accomplish the most important means of implementation, i.e., education.

Hampshire County Planning Department -- Interview with Mr. Steven Kulick;
June 12, 1980

- (1) Although Mr. Kulick could not speak for the original project manager, Mr. White, he was not certain of Argonne's role and its level and range of expertise. He thinks Mr. White did not use Argonne as much as he could have.

- (2) One problem is that Mr. White liked to plan independently rather than seek assistance from others. Hampshire County could have used more assistance, but Mr. White preferred to work alone. However, R. Kron's comments were very helpful.
- (3) Direct administration of program by DOE would have been better.
- (4) Direction depends on what DOE would require. DOE should not require tasks that are beyond the capacity of rural towns.
- (5) Mr. Kulick was not familiar with FmHA requirements in this case because he did not write the original proposal or do any planning during the grant period.
- (6) -Towns have received a draft of the plan.
 -Mr. Kulick is meeting with each town to review the plan with them and to get their comments.
 -One town is interested in conservation for municipal buildings, and one town (Huntington) is still enthusiastic about developing a hydro site, but no action has been taken yet.
 -Mr. Kulick is encouraging towns to inventory potential energy resources, take actions, and fund actions (all actions and funding are the responsibility of the towns). Nothing has been produced so far.
 -One problem is that many towns, especially the less populated and more rural ones, are unreceptive and skeptical.
 -The main hope is that the towns will hire or retain energy coordinators.
 -It is difficult to act as a region because of travel distances. Also, in rural New England, political loyalty and action are on the town level (or cooperation among two or three towns), so Mr. Kulick is relying on towns to take the initiative.
 -Towns say they do not have money (very limited budgets) and need money to do projects.
 -A big problem was that the first project director did not do thorough enough research, and he did not follow up on plans.
- (7) -County is developing an energy policy and is trying to get a State Energy Extension grant, but this is for planning only. If grant does not materialize, the county will still formulate an energy policy, but will not be able to do much planning for the hilltowns.
 -The state is doing a transportation study and will fund rural transportation service depending on the results of this study.
 -Towns are skeptical of outside planning and outside money -- they do not necessarily want outside money.
- (8) Mr. Kulick said he will not be doing any more energy planning after August, 1980. He will revise the Hilltown Report and then that will be all for the hilltowns. All energy planning will be done by the county for the whole county from now on. Hampshire County could use continued assistance from Argonne. They were told that R. Kron could answer any technical questions.
- (9) He is making R. White's quantification of energy options more specific but has not had as much time as he should to do this. Projections have not changed very much (i.e., the two scenarios), and this is all that townspeople can absorb for now.

- Mr Kulick said that he thinks energy saved and produced will make the project worthwhile.
 - He added that figures on energy and dollar savings are what impress people most.
- (10) -He said that planning between units and levels has to be coordinated but that there is a limit to the value of planning.
 - He favors allotting resources at the rate of one-third for planning; two thirds for projects.
 - Some projects, e.g., hydro and conservation, will work anywhere.
 - Because conservation works anywhere, towns favor putting money into conservation before putting it into other projects.
 - Rural New England residents are impressed by tangible projects and are skeptical of planning ("don't appreciate it"). It would be better to make sure that some kind of project is started to stimulate confidence and interest.
 - People who got involved would have been more enthusiastic if a concrete project had been done.
 - (11) DOE CCEMP methodology (Hittman) was the main source of information.
 - (12) Advice: It is important that municipalities in a region have an official policy, and that residents are aware of this policy from the start of the project. DOE should require letters of support from municipalities as a contingency for a grant.

South Western Oklahoma Development Authority (SWODA) -- Interview with Mr. Harold Metcalf; June 23, 1980.

- (1) Mr. Metcalf was very aware of DOE's assistance through Argonne.
- (2) Argonne gave objective advice and helped give legitimacy to their planning efforts.
- (3) FmHA should administer the program because this agency has experience in rural areas and has offices in the area. FmHA also funds projects in which it is interested. FmHA was the only agency to give definite promise of funding for gasohol plants at the gasohol forum; this impressed those who attended. Both the Small Business Administration and DOE hedged the issue.
- (4) Less flexibility is undesirable. One advantage of the FmHA program is that it allows changes in the S.O.W. to meet immediate needs (this is unheard of in most grants). Credibility is established by meeting immediate needs.
- (5) They were not held up by any of FmHA's requirements.
- (6) -Mainly completed data gathering and projects started under EDA grant. In addition, they figured out how to get energy cost breakdown from a small town record-keeping system.

- No plans were made by SWODA or any municipalities. SWODA will do plans for a few selected towns under the next grant. They have a grant from HUD to do planning. In this initial grant, they mainly convinced communities of the idea's merit.
 - Two school districts will do weatherization (50% DOE funding) this fall.
 - The gas station is still selling gasohol; however, sales have dropped and leveled off. Supplier cut supplies by half and then raised the price. Initially gasohol was outselling unleaded 2:1.
 - There was great interest in buying and producing gasohol, and they were overrun by requests for information. The gasohol forum helped to eliminate fraud in the sale of gasohol production equipment. There are no new gasohol plants, but there is still great interest. Four plants are in existence in the region, but marginal economics prevent construction of new ones.
 - Towns do not have funds or expertise to do plans on their own initiative, so SWODA has to do planning for them.
 - The problem with weatherizing schools is DOE paperwork. Only five of 81 principals in the region are willing to do the paperwork. Principals could not understand the paperwork, so Mr. Metcalf had to resolve issues for them. Only two of the five principals are still willing to continue the weatherization. DOE paperwork is impossible to understand and costs almost as much as the actual weatherization.
 - There are not enough skilled, unemployed people in the region to do weatherization work for the local community action agency. They can only hire workers for six months, or else they have to hire them permanently; this aggravates the problem.
 - Grant-funded trips to North Dakota made Mr. Metcalf aware of energy-related development problems. He convinced congressmen to get gas- and oil-related development included in federal funds for areas affected by energy development.
 - The main problem with energy planning is lack of implementation money.
- (7) -No funds are available from state or local governments.
- One city applied for a DOE grant to do a feasibility study of low-head hydro. The city is consulting with SWODA on a grant proposal.
 - HUD has issued a grant to do comprehensive energy planning.
 - Mr. Metcalf has applied to DOE Appropriate Technology for a \$40,000 grant to construct heat exchange systems in laundromats.
 - FmHA is definitely interested in financing gasohol projects.
 - Local community action agency has received HUD and CETA money to do weatherization.
- (8) SWODA has hired a replacement for Mr. Metcalf (paid for by a HUD grant); however, he is still advising SWODA. Actual planning and implementation is still questionable. Continuation depends on availability of money. Even so, local leaders are receptive to continued energy planning.
- (9) No estimates of effectiveness have been made beyond school weatherization, low-income housing weatherization, and municipal services studies.
- (10) -Tangible projects must be done to establish credibility and generate interest.

- Comprehensive planning is not useful if there is no continuity in funding. Plans will be implemented only to the extent that grants will fund implementation and a planner's salary.
- (11) SWODA did not use Hittman methodology, per se; they used only parts of it. The methodologies were too complex for local government officials and employees. The most important task is to build management and improve record-keeping.
- (12) Advice to DOE:
 - Need continuity and coordination among federal programs to local agencies.
 - Need advisory people from rural areas in DOE.
 - Need less paperwork in DOE school weatherization program.

Kankakee-Iroquois Regional Planning Commission (K-IRPC) -- Interview with Mr. Ronald Fletcher; June 19, 1980

- (1) Argonne's role was not clear.
- (2) Mr. Fletcher said he wished Argonne could have sent someone there. (Note: four ANL staff members attended one of K-IRPCs workshops.) He could have used Argonne's advice on how to collect data. It would have helped had Argonne or DOE pressured utility companies into giving data.
- (3) No opinion.
- (4) Funding implementation and ability to force utility companies to submit data is what matters, not direction by DOE. K-IRPC knew what it wanted to do -- it just could not get data and did not have money for implementation.
- (5) FmHA did a fair job of administering the program; there were no complaints. The main problem with the program is the short duration of the grant period which means that if anything goes wrong, the whole work plan is disrupted. Planning has to be a continuous process that can accommodate unexpected delays.
- (6) -K-IRPC has a plan and strategy for implementation, but nothing has been done except to promote conservation. Local people must be informed about conservation. The state has an energy audit program, so K-IRPC is promoting the state's energy audit plan. They are also working with Purdue U. to promote gasohol.
 - Energy Advisory Committee approved the plan, and the Regional Planning Committee (which includes officials from all local governments) approved the plan. The plan has been submitted to all local governments.
- (7) K-IRPC does not have money to do anything except education and promotion. Implementation beyond this level depends on whether it gets a HUD Innovative Community Energy Conservation grant.
- (8) They have a data base and have made the public and local governments aware of energy problems; however, if implementation grants are not forthcoming, energy planning will be dropped.

- (9) K-IRPC does not have evaluation; it would have to wait and collect data after sufficient time has elapsed. It would like to do an evaluation but does not have the time or money.
- (10) To formulate a plan and subsequent projects, it is necessary to have a data base, but implementation money is necessary. If local governments see only plans, they will assume that it is just another government program that will not produce anything.
- (11) As far as Mr. Fletcher knows, all literature sent by Argonne was used. They collected a large amount of information and used most of it.
- (12) In doing an energy audit, a firm commitment from utilities must be received first. Also, small liquid propane and fuel oil dealers do not trust the government, and the data they give is unreliable. Mr. Fletcher had no advice on changing the program except the comments already made.

Town of Brookfield, Vermont -- Interview with Mr. Robert Stewart; June 24, 1980

1. Why was the original project discontinued?

Original energy coordinator resigned after five months. Although he was not hired, the town agreed to support him when he initiated the idea. Town selectmen stopped the project because they felt townspeople did not understand planning grants. Moreover, the town did not have implementation money.

2. What have you done so far and what are you planning to do?

He has started an audit and has secured complete access to utility oil, gas, and electricity data. He has audited three public buildings and contracted with a firm to devise a weatherization plan.

Hydro: He has contracted with a civil engineering firm to analyze hydro sites in town and to do a cost/benefit analysis of the most promising sites.

Wind: He is working with a wind power company to evaluate wind power at a school. Wind power data being developed at a nearby technical college may be useful.

Wood: He has talked with the state energy office about how to improve local fuel wood marketing.

Solar: He plans to contact interested homeowners and evaluate homes for solar potential. He wants to hold seminars on solar and other renewables and on conservation.

He is getting good reception among people as projects are initiated.

3. What is the best approach to rural energy planning?

The most important aspect is for people to see something concrete develop. There has been too much disappointment because nothing develops. Something workable and economical must be visible; concrete data are needed. Initial projects can be simple.

4. How do you propose to fund projects?

One of his objectives is to secure implementation money. FmHA is interested and would provide money. He realizes government cannot fund everything, so Mr. Stewart is giving town officials and residents data to show them how they can invest their own money.

Up-front money could be provided by banks, and some are already interested in making loans.

Northeast Georgia Area Planning and Development Commission -- Interview with Mr. Bill Herringdine; June 23, 1980

1. How will your agency follow up on the energy planning done under the DOE grant?

- The Commission has been re-funded by FmHA to do further energy planning and has hired a second person to do this planning.
- The Commission has been too busy with the low-income weatherization survey and plan last year to do much else. Local community action agency is doing weatherization. Ga. Power and Ga. Natural Gas are both very cooperative.
- Advisory Committee will continue to assist the agency. Last year, the advisory committee worked with DuPont to start vanpooling there.

2. What problems have you encountered or do you anticipate, either in the planning stage or with implementation?

- It will be difficult to have a regional plan without federal funds. As far as he knows, South Carolina is the only state that is funding regional energy plans.
- Because Georgia's state energy office has not decided yet if (and how) regional energy plans will be developed, funding by that state is uncertain.

Sacramento Regional Area Planning Commission (S.R.A.P.C.) -- Interview with Mr. Mike Brozo; June 24, 1980

1. How has energy planning in the Sacramento region progressed? What elements of the plan have been implemented?

- The plan did not produce direct results, but raised the issues and lead to local action plans that did produce results. The plan is considered valuable and complete by local governments in the region.
- The City and County of Sacramento both have changed ordinances and now permit procedures to require energy conservation measures.
- Roseville obtained a grant for energy planning and wrote an energy conservation ordinance.
- Retrofit ordinances and incentives in use require:
 - (a) an energy audit on resale of house, including calculation of payback period of retrofit;
 - (b) a minimum of \$500, or 25¢/ft² to be spent on retrofit after 1995;
 - (c) specific retrofit measures to be taken;

- (d) point values and a minimum number of energy conservation points upon resale; and
 - (e) a utility company to pay back builders for a certain number of energy conservation points for new buildings.
2. What energy-planning efforts are currently under way in the rural parts of the region, and what problems have been encountered?
 - They are training planners and building inspectors in rural areas.
 - S.R.A.P.C. is also helping local governments to enforce state regulations -- rural governments distrust state but trust the S.R.A.P.C.
 - The main problem is that rural communities do not have money or experience.
 - Data are needed to support energy ordinances, even in rural areas, to withstand court tests. Rural communities need monetary and technical assistance to write and enforce ordinances.
 - In rural areas, an energy ordinance must be unobtrusive and flexible; performance standards are preferable over specific requirements.
 3. If you were to design an energy planning program in a rural region with a \$25,000 grant, what would you do?
 - The first task would be an education program including sample audits of buildings in all sectors. Federal programs then would be used to do weatherization demonstrations in each sector. One utility in the region is taking people through demonstration audits of homes. This approach is best because rural people do not like outsiders telling them what is good for them; they have to see this for themselves. Also, it is necessary to have utility companies give technical assistance to those who need it.
 - Second, an energy ordinance is necessary -- one that is neither very complicated nor very strict.
 - General comment: Energy planning grants should require an action plan, and there should be larger grants to allow an action plan to be created. Writing energy policy into local plans is not valuable. Ordinances are what count. An action plan should do simple things first, e.g., municipal conservation, energy audits, and conservation demonstrations. These are cheap and cost-effective. Ordinances should also be enacted quickly, i.e., as soon as supporting data can be gathered.

Kisatchie - Delta Regional Planning and Development District -- Interview with Ms. Elaine Lee; June 19, 1980

1. Were you aware that Argonne National Laboratory was supposed to be providing technical assistance? Do you think you could have done without Argonne's assistance?
 - Ms. Lee did not realize Argonne could provide technical assistance, but she did not work on the project until the end of the grant period.
2. How are you coming along with implementation of the plan? Do you have or anticipate any problems implementing the plan?
 - She did a survey of 150 low-income houses. Houses were determined to be low-income by if they applied for assistance of any kind -- this was a flaw in the survey method because many of the poor do not apply for assistance.

- She found that poor who own homes spend much on maintainance. Low-income renters are the most destitute. Renters are losing an average of 60% of heating energy.
- She published a pamphlet on energy for low-income residents.
- The District has \$2 million from various agencies to do weatherization:
 - (a) HUD/CDBG money was obtained through the municipalities. They are insisting that rehabilitation done with CDBG money includes weatherization. Towns score well on CDBG applications, so they are helping other towns to be aware of these funds.
 - (b) Local community action agency got money from CSA to hire elderly and unemployed to do weatherization.
 - (c) They are helping to match FmHA loans to low-income homeowners. This is the best program because it does not require local governments to sponsor weatherization.
- The District has applied for HUD Innovative Community Energy Conservation grant.
- The District has an ongoing effort to assist weatherization of low-income residences, but has no formal plan. A formal plan could not be developed because the original energy planner left.
- Another planner is working on a gasohol project proposal.
- The District is trying solar heating in one public housing project.

3. Do you have any advice for future grantees, or FmHA and DOE?

- Programs should convince towns to care about poor (who are mainly black in Louisiana) so that they apply for CDBG funds.
- Plans do not help much in an area where many people are illiterate and are unwilling to cooperate.
- It would be helpful if the state would institute a state-wide audit program and clearinghouse so that local agencies could understand the supply-and-demand situation.

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APPENDIX F

Contact People:

- During first year of program
- Updated, July 1980

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STEP-Flll Contact People

DOE-Funded Grantees

1. During grant period: Mr. Hank Welch
Current: Ms. Ginger Allen Birch
Southeast Georgia Area and Planning and
Development Commission
P.O. Box 2049
902 Grove Avenue
Waycross, GA 31501
912-285-6097
2. During grant period: Mr. Robin A. White
Current: Mr. Steven Kulik
Hampshire County Planning Dept.
Hampshire County Court House
99 Main Street
Northhampton, MA 01060
413-584-7904
3. During grant: Mr. Harold F. Metcalf
Current: Mr. Gary Gorshing
South Western Oklahoma Development
Authority
P.O. Box 569
Burns Flat, OK 73624
405-562-4887
4. During grant period: Ms. Diane E. Oltman
Current: Mr. Ronald Fletcher
Kankakee - Iroquois Regional Planning
Council
P.O. Box 708
Francisville, IN 47946
219-567-9432
5. Original Energy Coordinator: Mr. Jack Snyder
Current: Mr. Robert Stewart
Town of Brookfield
Brookfield, VT 05036
802-276-3352 (town clerk)
6. Current: Mr. Lynn Fundingsland
Lake Agassiz Regional Council
Suite 205, South Plaza
Fargo, ND 58107
701-235-7885 or 701-237-5771, ext. 5373

FmHA - Funded Grantees

1. Current: Mr. Bill Herringdine
Northeast Georgia Area Planning
and Development Commission
305 Research Drive
Athens, GA 30605
404-548-3141
2. Current: Mr. Mike Brozo
Sacramento Regional Area Planning
Commission
800 H Street, Suite 300
Sacramento, CA 95814
916-441-5930
3. During grant period: Ms. Cindy Coco
Current: Ms. Elaine Lee
Kisatchie - Delta Regional
Planning and Development District
P.O. Box 8076
Alexandria, LA 71306
318-487-5454

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1. Code of Federal Regulations, Title 7, Chapter XVIII, Subchapter L, Part 1948, Subpart A, 32(g) (1948).
2. Hittman Associates, Inc., *Comprehensive Community Energy Planning: A Workbook, Vols. 1-3*, prepared for U.S. Department of Energy, Office of Buildings and Community Systems, DOE Report Nos. HEP/M0023-01,02, and 03, Washington, D.C. (November 1978).
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- *4. White, R.A., and S. Kulick, Hampshire County Planning Department, *Comprehensive Community Energy Plan for the Hilltowns of Hampshire County, Massachusetts*, prepared for U.S. Department of Agriculture, Farmers Home Administration, Washington, D.C. pp. 54-55 (May 1980).
5. Figures derived from information supplied by Robin A. White, Hampshire County, Mass., Planning Dept.
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- *7. Metcalf, H.F., South Western Oklahoma Development Authority, *Final Energy Project Performance Report*, prepared for U.S. Department of Agriculture, Farmers Home Administration, Washington, D.C. (April 1980).
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10. Public Utility Company Regulatory Policies Act of 1978, 16 U.S.C.2601 (November 1978).
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12. Kankakee-Iroquois Regional Planning Commission, *Report/Strategy*, Appendix (May 1980).
13. U.S. Department of Energy, Assistant Secretary for Conservation and Solar Applications, Office of Weatherization Assistance Programs, *Project Retro-Tech Home Weatherization Job Book*, DOE/CS-0040/2, UC-95a, c, d (August 1978).

*Available from the President's Clearinghouse for Community Energy Efficiency [tel. no. (800) 424-9040].

- *14. Kron, N., F. Davis, and H. Davis, *Energy Supply Options for Soldiers Grove, Wisconsin*, Argonne National Laboratory Report ANL/ICES-TM-39 (April 1979).
- 15. The Shaffer Electrical Generating Station northeast of Wheatfield had been considered as a possible cogeneration facility by utilizing waste hot water. This situation was investigated and the following conclusion was drawn: After consulting an engineer from NIPSCO, it appears that the potential for use of the low temperature hot water is neither a practical nor a cost-effective project at this time.
- *16. Sacramento Regional Area Planning Commission, *Regional Energy Plan*, prepared for the Federal Energy Administration and the U.S. Department of Housing and Urban Development, Washington, D.C. (November 1977).
- 17. The following reports are available:
 Erley, D., *Energy-Conserving Development Regulations: Current Practice*, prepared by American Planning Association, Argonne National Laboratory Report ANL/CNSV-TM-38 (April 1980).

 Kron, N.F., Jr., *Development Regulations Changes Local Elected Leaders Can Make to Promote Energy Conservation*, Argonne National Laboratory Report ANL/CNSV-TM-39 (July 1980).
- 18. Busken, M., Northeast Georgia Area Planning and Development Commission, *Weatherization Needs of Low-Income Families in Northeast Georgia*, prepared for U.S. Department of Agriculture, Farmers Home Administration, Washington, D.C. (March 1980).

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