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**SHARED SAVINGS AND LOW INCOME HOMEOWNERS:
Results of a Demonstration Project in Hennepin County**

Energy Task Force
of the Urban Consortium
for Technology Initiatives

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MASTER

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PREFACE

The Urban Consortium for Technology Initiatives was formed to pursue technological solutions to pressing urban problems. The Urban Consortium conducts its work program under the guidance of Task Forces structured according to the functions and concerns of local governments. The Energy Task Force, with a membership of municipal managers and technical professional from nineteen Consortium jurisdictions, has sponsored over one hundred energy management and technology projects in thirty-two Consortium member jurisdictions since 1978.

To develop in-house energy expertise, individual projects sponsored by the Task Force are managed and conducted by the staff of participating city and county governments. Projects with similar subjects are organized into "units" of four to five projects each, with each unit managed by a selected Task Force member. A description of the units and projects included in the Sixth Year (1984-1985) Energy Task Force Program follows:

UNIT -- LOCAL GOVERNMENT OPERATIONS

Energy used to support public facilities and services by the nation's local governments in 1983 totaled approximately 1.4 quadrillion BTU's. By focusing on applied research to improve energy efficiency in municipal operations, the Energy Task Force helps reduce operating costs without increasing tax burdens on residents and commercial establishments. This Sixth Year unit consisted of six projects:

- Baltimore, Maryland - "Wastewater Treatment Process Integration: Energy Operations and Cost Optimization"
- Detroit, Michigan - "Computer Control for Municipal Water Distribution: Design for Energy Cost Savings"
- Memphis, Tennessee - "Transportation Management for Business Relocation and Expansion: A Strategy with Federal Express Corporation"
- Philadelphia, Pennsylvania - "Incinerator Residue Dewatering Transfer Trailer"
- Phoenix, Arizona - "Thermal Storage Strategies for Energy Cost Reduction"
- Washington, DC - "Energy Monitoring and Control in Municipal Facilities: System Development and Testing"

UNIT -- COMMUNITY ENERGY MANAGEMENT

Of the nation's estimated population of 232 million, approximately 60 percent reside or work in urbanized areas. The 543 cities and counties that contain populations greater than 100,000 consumed a total of 49 quadrillion BTU's in 1983. Applied research sponsored by the Energy Task Force helps improve the economic vitality of this urban community by aiding energy efficiency and reducing energy costs for public services and the community as a whole. This Year Six unit consisted of four projects:

- Chicago, Illinois - "Neighborhood Energy Conservation Project: Building Community Capacity for Conservation Services"
- Denver, Colorado - "Refuse Combustion for Power and Thermal Energy: Planning for Urban Development and Solid Waste Management"

- New Orleans, Louisiana - "Incident Prevention and Response for Hazardous Materials: A Decision Support System"
- New York, New York - "Retention and Expansion Program for High Energy Use Businesses"

UNIT -- INTEGRATED ENERGY SYSTEMS

Effective use of advanced energy technology and integrated energy systems in urban areas could save from 4 to 8 quadrillion BTU's during the next two decades. Urban governments can aid the realization of these savings and improve capabilities for the use of alternative energy resources by serving as test beds for the practical application of new and integrated technologies. This Year Six unit consisted of five projects:

- Albuquerque, New Mexico - "Residential Space Heating with Wood: Efficiency and Environmental Performance"
- Columbus, Ohio - "Modular District Heating: Feasibility Analysis"
- Houston, Texas - "The Impact of Source Separation on a Waste-to-Energy Project"
- Milwaukee, Wisconsin - "Resource Recovery from Urban Yard Wastes: Feasibility Assessment"
- San Francisco, California - "Planning for Energy Efficiency in New Commercial Buildings: Evaluation Methods during Design"

UNIT-- PUBLIC/PRIVATE FINANCING AND IMPLEMENTATION

City and county governments often have difficulty in carrying out otherwise sound energy efficiency or alternative energy projects due to constraints in the acquisition of initial investment capital. Many of these investment constraints can be overcome by providing means for private sector participation in innovative financing and financial management strategies. This Year Six unit consisted of five projects:

- Hennepin County, Minnesota - "Shared Savings Applied to Low Income Homeowners"
- Kansas City, Missouri - "Kansas City Warm Room and Superinsulation Project"
- St. Louis, Missouri - "Financing Options for Superinsulated Housing"
- San Antonio, Texas - "Measures and Investment Options for Community Energy Conservation: Strategies with a Municipal Utility"
- San Jose, California - "Energy Management and Tracking System as a Software Package"

Reports from each of these projects are specifically designed to aid the transfer of proven experience to other local governments. Readers interested in obtaining any of these reports or further information about the Energy Task Force and the Urban Consortium should contact:

Energy Program
Public Technology, Inc.
1301 Pennsylvania Avenue, NW
Washington, DC 20004

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ABSTRACT AND ORGANIZATION

ABSTRACT

In 1984 Hennepin County, with financial support from the U.S. Department of Energy and as part of the Year Five energy program of the Urban Consortium's Energy Task Force, initiated a Residential Shared Savings Demonstration Project (RSSDP) for single family homeowners. Shared savings, or performance contracting, occurs when an energy service company (ESCo) finances and installs energy improvements in a customer's property and receives a share of the savings that result over time as their compensation.

Among the concerns that surfaced during the first year of the demonstration project was the perceived absence of participation by low income homeowners. After reviewing preliminary data from the first marketing efforts in two northwestern suburbs it was decided that a more aggressive attempt should be made to interest low income homeowners in the RSSDP. This effort occurred during 1985 under the County's Year Six project.

As part of the Year Six project the rigorous evaluation of the RSSDP initiated in 1984 was continued and expanded. A special direct mail approach was developed and used in the southern suburb of Richfield. Responses from the direct mail promotion were disappointing and additional efforts, such as direct mailings to clients of the 1983-84 Energy Assistance Program, distribution of promotional brochures at surplus commodity distribution centers, presentations at a neighborhood energy workshop, and providing program materials to persons applying for the EAP in 1984-85, were undertaken in an attempt to promote the program to those who were in the lowest income groups. These efforts were unsuccessful and raised new questions about the characteristics of the market that the project had been designed to serve.

The failure to meet the initial objectives of the project resulted in a vigorous and extensive effort to examine the approaches being used to serve this population and to critically review the data available on the charac-

teristics of low income consumers. The question that became of major importance was why this project failed in its attempts to generate interest from the low income target population.

Focus group sessions and individual interviews were conducted to try to identify the reasons for the apparent rejection of the shared savings program.

The results from the focus groups and surveys provided a picture of the lower income population that was considerably different from that which had been assumed to be reality at the beginning of the project.

The most significant findings were that:

- **The market for energy improvements in the targeted group is saturated.** Substantial evidence was found that the lowest income groups had already obtained a wide variety of energy improvements before the RSSDP was offered to them. Several programs (both grant and low interest loan) are available to this group. The evidence is clear that they have taken advantage of these opportunities to make needed improvements in their dwellings.

- **Shared savings, as a product, was unattractive to this population.** For the low income population, shared savings is an approach that must compete with publicly funded programs that have previously offered and are continuing to offer free what the RSSDP offers for a price and through a private sector company. Incentives that would encourage selection of the RSSDP in the general population are absent for the low income group because of the alternatives that they have available.

Although the project did not meet initial expectations, it produced some very valuable lessons for public programs in general and for the Residential Shared Savings Demonstration Project and local energy conservation efforts specifically.

- **Markets must be assessed before expanding or initiating a new program.** Numerous techniques (including focus groups) are readily available to governments and their staffs to help determine the response of targeted market groups to particular programs and services that will or are being

offered. Even if the choices to be assessed involve only how a program will be operated, market research can help program managers identify directions that will enhance the chances of program success.

- **Analyze the Consumer's Options.** Consumers usually have choices on how they will satisfy their needs and definite preferences on the order in which these needs should be met. Competition among products, services or programs can reduce the level of market penetration for each individual product and can dramatically affect the economic feasibility of continuing to provide a desired service.

- **Shared savings can be a feasible and attractive means to assist low income homeowners if the options for these consumers change.** In the current environment, publicly subsidized programs make the RSSDP a very poor second or third choice for low income residents. In the absence of competition from free or heavily subsidized programs shared savings could be a very attractive form of energy improvement financing.

- **Coordination and cooperation is needed among programs providing services to similar populations.** The low income population is served by a confusing collection of energy programs that have different eligibility criteria, improvement packages, resource limitations, sponsors, and regulations. The result can be duplication of some services and service gaps in other areas.

- **A residential shared savings program can achieve the same results as existing grant and loan programs with less public subsidy.** The program has been especially well received by those with incomes just above public assistance eligibility guidelines. Shared savings is one approach that can be used to help pay for continuing improvements to area residences as government support declines.

Although the ESCo (however reluctantly) was willing to serve low income homeowners, market interest was absent. It is unrealistic to expect any major change in low income consumer behavior if the current alternatives continue to be available.

In times of increasing pressure at the federal and state levels to control expenditures and to identify new ways of providing adequate food, shelter and health care to our citizens it is important that the private sector be brought into this battle. Although the RSSDP has been far from perfect it is one small effort to redirect our efforts, increase our resources and accomplish public goals.

REPORT ORGANIZATION

Chapter 1 of this report provides general background on the project, including a brief description of Hennepin County, the energy environment within which the project was conducted, and the Residential Shared Savings Demonstration Project. Chapter 2 describes the efforts to market the RSSDP to low income homeowners, the results of those efforts and the findings from an extensive market assessment effort. Chapter 3 summarizes the significant lessons learned during the project.

CHAPTER 1: BACKGROUND, ENVIRONMENT AND OBJECTIVES

INTRODUCTION

Hennepin County is located in east central Minnesota and is the most populous of Minnesota's 87 counties. Its nearly one million residents represent approximately one-quarter of the state's population. The County's 47 municipalities, which include the city of Minneapolis, provide a cross section of urban, suburban and rural characteristics.

Minnesota imports its traditional fuels (petroleum, coal, natural gas and uranium) from other states and foreign sources. In 1981 only 13.5 percent of the energy consumed in the state was actually produced in the state.¹

This dependence on external energy sources had led to vigorous efforts to reduce energy consumption in all sectors of the state's economy. Special attention has been given to residential space heating because of the area's long and cold winters (8,007 average [1950-1980]² heating degree days per year in the Minneapolis/St. Paul area). While the total annual energy consumption per housing unit per degree day declined 26.7 percent between 1971 and 1982,³ the average cost of that energy increased 209 percent, from \$344 to \$1,063.³ Residential energy consumption accounted for almost 25 percent of total end use energy demand in 1982.

Energy costs as a proportion of value added to products manufactured in Minnesota rose from 1.12 percent in 1972 to 3.5 percent in 1980. The total state energy bill increased from \$2.02 billion, or 8 percent of the Gross State Product (GSP), in 1973 to \$6.82 billion (13 percent of the GSP) in 1982.⁴

¹The State Energy Factbook, Midwest-Northeast Institute, January 1984, pp. 24-25.

²1984 Energy Policy and Conservation Biennial Report, Minnesota Department of Energy and Economic Development, p. 29.

³1984 Energy Data Book, Minnesota Department of Energy and Economic Development, July 1984, p. 5.

⁴1984 Energy Policy and Conservation Report, Minnesota Department of Energy and Economic Development, p. 17.

It is not surprising, therefore, that Minnesota's state and local governments and its utilities have been very active in developing and promoting energy conservation projects. Public sector interest in energy conservation reflects a concern for the welfare of individual residents as well as an awareness of the linkage between energy and the economy.

Economic activity is affected by how much the purchase of a good or service stimulates other sectors of the local economy. The overall net economic multiplier for energy in Minnesota is estimated to be .90. In contrast, the economic multiplier for all other goods and services is estimated to be 2.62. This means that \$1 spent on traditional fuels stimulates 90 cents of economic activity in the state, while \$1 spent on other goods stimulates \$2.62 of economic activity.⁵

Local governments are sensitive to these issues, but energy related activities must compete with others for priority and funding. In recent years decreasing federal and state emphasis on and financial support for energy initiatives and the emergence of more increasingly urgent human services needs in other areas have severely restricted the ability and willingness of many state and local governments to develop and fund energy conservation programs for their residents.

Changes in the energy environment in general, such as decreases in the price of oil (from \$34 per barrel in January 1983 to \$27.80 in January 1986)⁶ and the relatively stable costs of energy in the local area,⁷ have affected the level of public demand for aggressive conservation programs. Public interest in energy issues appears to have declined and other concerns are receiving greater attention and higher priority.

⁵1984 Energy and Conservation Policy and Conservation Biennial Report, Minnesota Department of Energy and Economic Development, p. 20.

⁶Price for Saudi Arabian light (OPEC) as quoted in The Wall Street Journal, January 6, 1983 and January 6, 1986.

⁷The price of electricity to residential consumers has increased approximately 10 percent since January 1983. Natural gas prices have actually decreased. In December 1982 the rate per CCF was \$.565. The current rate is \$.514. Since January 1983 there have been 10 rate changes. The last seven changes (since June 1983) have been decreases. Natural gas is the fuel for more than 95 percent of the single family residential heating systems in Hennepin County.

It is within this environment that Hennepin County initiated its Residential Shared Savings Demonstration Project (RSSDP) in 1984 as part of the Urban Consortium Year Five Energy Program. During the demonstration project County residents were offered the opportunity to reduce their energy costs by using a new approach to financing energy improvements that pays the participating contractor based on the savings that occur from improvements the contractor recommends, finances and installs. The contractor is paid from the results of their efforts--the energy savings--rather than for the means to achieve the results. The project was specifically designed to minimize public sector financial involvement while promoting residential conservation.

BACKGROUND AND CONCEPT

Because Hennepin County's current (Year Six) program is an extension of its Year Five project, it is essential that the reader have an understanding of the RSSDP.

The Residential Shared Savings Demonstration Project applied the concept of performance contracting (through the sharing of energy cost savings) to a single family, homeowner population. Shared savings contracts have become increasingly popular in commercial, industrial, institutional and multi-family markets. Before Hennepin County's project, however, shared savings contracts were not available to owners of single family dwellings. Energy service companies (ESCo's) did not see this market sector as profitable.⁸ The RSSDP addressed the perceived shortcomings of the single family market for ESCo's through the development of a cooperative and innovative partnership between Hennepin County and a private sector energy service company.

⁸It should be noted that the economic feasibility of the shared savings approach to residential improvements remains to be proven. The contractor with whom the County worked in the Year Five and Year Six projects, however, has indicated their interest in continuing to offer improvements using this financing approach. The major question is whether the savings will meet the expectations of clients and the company. A significant gap between the actual and projected savings will adversely affect private sector interest in financing efforts aimed at the residential market.

The County's primary objective was to demonstrate that shared savings was feasible without public sector subsidy. Other objectives of the project (for the customer, County and company) are shown in Figure 1.

Figure 1

OBJECTIVES OF THE HENNEPIN COUNTY
RESIDENTIAL SHARED SAVINGS DEMONSTRATION PROJECT

Objectives for the Customer

- Significant energy savings and cost reductions.
- Comprehensive energy services from a single source.
- No initial capital investment.
- Transfer of financial risk to the contractor (energy service company)

Objectives for Hennepin County

- Develop and document an approach that addresses previously unmet needs and facilitates private sector answers to public sector problems.
- Maximize access to shared savings for all residents.
- Safeguard interests of participating customers.
- Identify and eliminate potential areas of County liability.
- Implement a project that can be readily duplicated and is transferable to other governmental jurisdictions.

Objectives for the Energy Service Company

- Optimize economies of scale.
- Eliminate institutional barriers to residential shared savings.
- Minimize late payments/defaults by clients and casualty losses.
- Realize a reasonable profit and return on investment.

The Residential Shared Savings Demonstration Project was the first effort in the country to apply the concept of shared savings to the single family residential market. As a result, it offered a unique opportunity to implement a research design that would allow rigorous assessment of marketing strategies, consumer interest, improvement packages and energy savings.

Research Strategy (Year Five)

The research design used in the RSSDP is based on the random assignment of single family residences into comparison and treatment groups. Project activity was intentionally restricted to limited geographic areas to enhance the administrative feasibility of the project, to reduce the ESCo's risk and to ensure that only a limited, but sufficiently large number of consumers are asked to participate before a thorough evaluation of the resultant energy savings is completed.

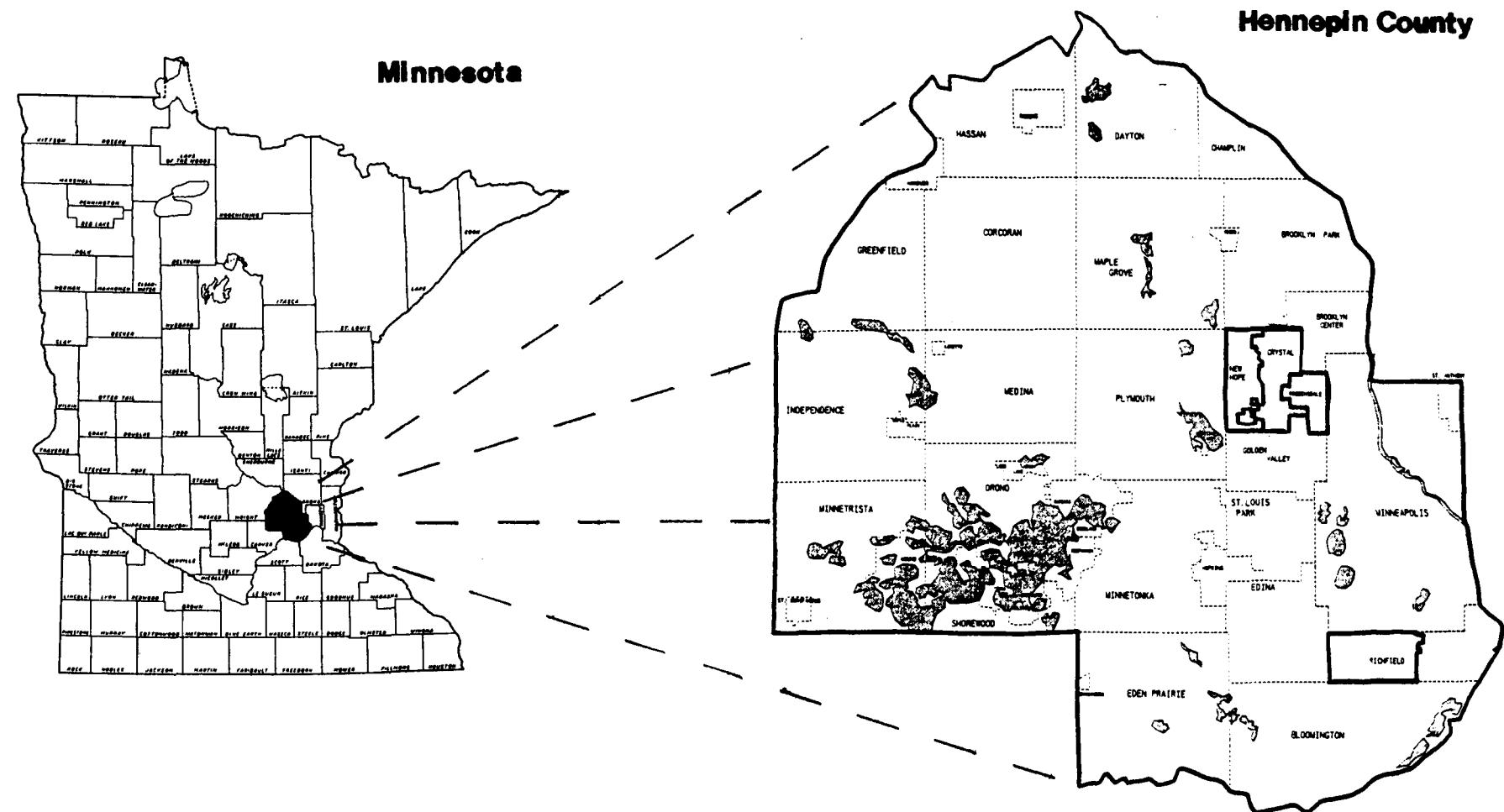
Three suburban municipalities--New Hope, Richfield and Robbinsdale--were selected by the County as areas where the research design would be applied. The selection of these municipalities as test areas was based on a variety of factors, including: median household income, number of owner-occupied single family homes, number of single family homes with 1983 natural gas consumption levels above the County median, and median age of the municipality's owner-occupied single family housing stock. Table 1 compares the demographic characteristics of the test areas to the same figures for the County.⁹ The location of Hennepin County and the municipalities are shown in Figure 2. New Hope and Robbinsdale were selected by the County and ESCo as the first municipalities to be included in the RSSDP. The results from New Hope and Robbinsdale prompted the expansion of the demonstration project into Richfield. (Richfield was later selected by the County as the site for the Year Six effort.) Three additional municipalities (Crystal, Golden Valley and Brooklyn Park) were added later to provide the contractor with the opportunity to expand their customer base.

⁹Crystal is included in Table 1 and shown in Figure 2 because low income homeowners from this municipality were included in the pool of potential interviewees for the survey conducted during Year Six in the northwestern suburbs.

Table 1
DEMOGRAPHIC CHARACTERISTICS OF MARKET TEST AREAS

	Number of Owner Occupied Homes	Number of Owner Occupied Homes with Consumption Levels $\geq 1,400$ CCF	% of Owner Occupied Homes with Consumption Levels $\geq 1,400$ CCF	Median Household Income	Median Years of Education	Median Year Owner Occupied House was Built
Crystal	7,000	2,129	30%	\$22,631	12.65	1955.88
New Hope	4,647	1,838	39%	\$23,276	12.80	1965.27
Robbinsdale	4,251	1,417	33%	\$20,149	12.60	1947.20
Richfield	10,000	2,635	26%	\$20,424	12.80	1951.50
Hennepin County	227,282	97,583	43%	\$20,077	12.90	1952.20

Figure 2
LOCATION OF DEMONSTRATION PROJECT SITES



Note: The four Municipalities included in the demonstration project are outlined in solid lines.

The research design that was implemented in New Hope, Robbinsdale and Richfield allows comparison of the energy consumption of subsets of households solicited for RSSDP participation approximately 12 months apart. A summary of the overall research design is provided in Figure 3. Two groups of households were randomly selected from the population of owner-occupied households in each municipality. The first of these groups was offered the opportunity to participate in the demonstration project during 1984. Households who responded to the solicitation by requesting an audit and had improvements installed were defined as the treatment group. The remaining households were scheduled for solicitation 12 months later. Households within this group who requested an audit and had improvements installed comprised the comparison group.

The treatment group acts as their own controls in that weather adjusted household energy consumption for the period after the improvements are installed is being compared to the period before installation of the improvements.

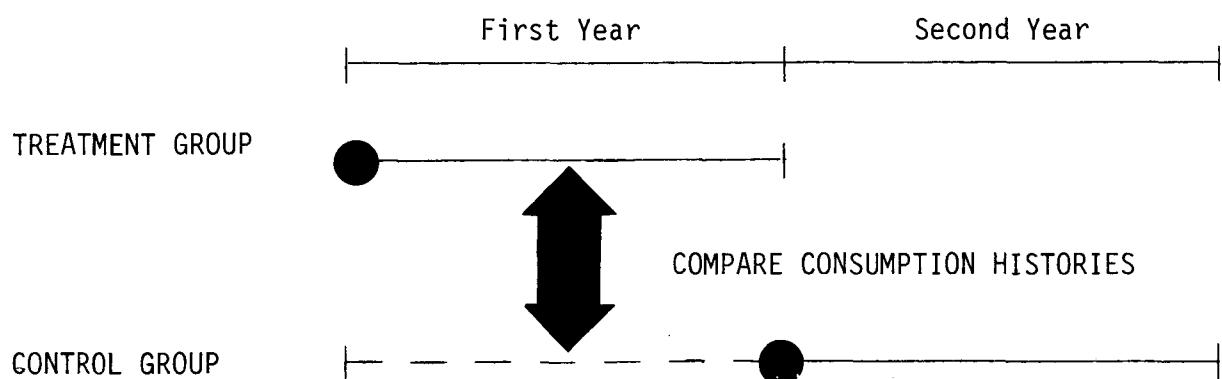
It is possible that the households which become customers are a self-selected group which would have reduced their energy consumption even without participating in the RSSDP. Protection against this possibility is afforded by comparing the energy consumption of the treatment group after the improvements are installed with the consumption experience of a comparison group during the same calendar period. The randomly selected homeowners who become customers in phase two (12 months later) serve as that comparison group.

Different marketing strategies were used in an effort to determine which marketing techniques and sponsors were most effective in stimulating consumer interest and whether there were statistically significant differences in response rates to a particular technique in the different municipalities. Marketing strategies were randomly assigned to households within the treatment group.

RSSDP Operational Process

The following is a summary of how the Residential Shared Savings Demonstration Project worked.

Figure 3
RESEARCH DESIGN METHODOLOGY



- The treatment group receives energy saving improvements in the first year. The control group population will receive similar improvements in the second year.
- The treatment and control group populations were randomly selected from the population of single family homeowners in the participating municipalities and are therefore assumed to have similar characteristics.
- Data reflecting demographic and housing characteristics will be collected for each group to verify the comparability of the two populations.

A potential customer receives a direct mail solicitation regarding shared savings. If interested, they are asked to sign and return a card that informs the ESCo of their interest and authorizes the local utilities to release information on the household's energy and water consumption histories. (The project area has separate electric and natural gas utilities as well as separate municipal water utilities. Water is included because several of the improvements are designed to reduce water consumption.)

Once these cards are received, baseline data are collected for each interested household. A minimum of 24 months of prior and continuous occupancy and utility records for that period are required in order to qualify for participation. An energy audit is then scheduled.

Every resident homeowner expressing interest in the program receives a free, no obligation audit. The results of the audit, including a listing of the most cost effective improvements needed by that dwelling, are provided without charge, regardless of whether the homeowner executes an energy service agreement (contract) with the ESCo. Since the ESCo is financing this program and has accepted 100 percent of the financial risk, they can establish a utility consumption threshold which must be reached before an Energy Service Agreement will be offered. The County's participation, however, encouraged the company to accept some marginal dwellings to ensure that the public objectives of the County were pursued and that County support was maintained.

The audit is used by the ESCo to determine whether the improvements being offered are appropriate for the particular dwelling and as the basis for the presentation of the shared savings option to the homeowner. Homeowners are requested to accompany the auditor during the examination of the dwelling. This provides the auditor with an opportunity to educate the homeowner on ways to reduce energy consumption by the household. The result of this audit is a computer analysis of the amount and type of materials needed to accomplish the recommended improvements and an energy (cost) savings projection. The savings projection is presented to the homeowner along with an explanation of the shared savings option. If the homeowner finds the proposal attractive, the energy service agreement is explained in detail and signed and the installation is scheduled. (Note: Homeowners have

the opportunity to buy out of the package at specific prices that are related to the expected savings and length of time the contract has been in effect. Approximately 25 percent of all customers have chosen to take advantage of the early purchase option.) The homeowner may also elect to use the audit information and secure the same improvements from another contractor or install the improvements themselves. It is not known how extensively these alternatives were pursued by the homeowners.

Installation of the improvements is accomplished by a crew of ESCo employees or by a subcontractor. Utilizing information provided by the auditor, the crews go through the home systematically completing the installation of measures. Upon completion, the homeowner, and then an inspector from the ESCo, reviews and approves the installation. If any deficiencies are found, the crew or the inspector is required to take corrective action.

Approximately 90 individual measures are included in the improvement package used in the RSSDP. Not all the measures are applied to every home. The measures offered to individual homeowners are determined by the improvement needs and the characteristics of their dwelling. In general, the measures are of limited cost in terms of materials but are highly labor intensive.

The improvements included in the basic program offered to the homeowners are derived from the 50/50 program developed, tested and promoted by the U.S. Department of Energy (DOE). The DOE program focuses on the installation of 50 measures that pay back an average of 50 percent of their cost from the energy savings they achieve in one year.

The package used by the ESCo in the County's RSSDP emphasizes building envelope improvements that reduce infiltration. Attic insulation is recommended only when little or none is already present. Storm doors and windows, furnace replacements and solar water heaters are not included in the package because of their longer payback periods and the requirement that the homeowner agreement be limited to a five-year term.

The customer pays the ESCo 75 percent of their projected savings in energy costs for the first 3 years of the 5-year contract in 36 equal monthly payments and 50 percent of the savings in energy costs in excess of that

amount during the last 2 years. A reconciliation of the actual and projected savings is conducted at the end of the third year. Adjustments in the company's favor (i.e., actual savings that are higher than projections) are amortized over the last two years of the agreement. If the projected savings exceed the actual, then the ESCo must make up the difference to the customer.

The energy savings projected by the ESCo are guaranteed through a third party insurance policy paid for by the ESCo at the time each contract is signed. This policy covers the savings projected for the first three years following installation.

ESCo/Hennepin County Relationship

During the Year Five project, a cooperative relationship developed between the County and the participating ESCo--Sentinel Energy of Minnesota, Inc.--which succeeded in overcoming many of the perceived obstacles to shared savings. Sentinel is responsible for the full range of ESCo services, including contacting homeowners to schedule audits, reviewing consumption data, performing audits, explaining the program, arranging for installation, financing the improvements and providing a third party guarantee. The County serves as the liaison between Sentinel and the utilities, responds to consumer questions about the program or Sentinel's "legitimacy," and maintains a daily liaison with the company to ensure that problems that occur are brought to the attention of project and corporate management as soon as possible. The County's primary function, however, has been in the areas of monitoring and evaluation.

The RSSDP was, from the outset, specifically designed to maintain an arm's length relationship between the County and the ESCo. This option, one of several alternatives available for structuring the project, was selected for a variety of reasons:

- The County is experienced in ensuring access, availability, and quality of services. Cost and return on investment (or level of benefit obtained for the expenditure being made) are usually secondary considera-

tions. The County has little experience with the pricing or marketing of products or services or in developing incentives to encourage desired behavior in consumers.

- County governments in Minnesota have traditionally been responsible for providing assistance and programs to the lower income populations. This role is often limited to administering programs funded by the federal and/or state government for which the guidelines for level and type of service and eligibility have already been prescribed. The County has had very limited experience with offering broader programs that are strictly voluntary and require some sharing of costs to County residents in general.

- The RSSDP had to be conducted without any property tax or long-term financing commitments by Hennepin County. As a result, the project was designed so that the participating ESCo assumes 100 percent of the costs and financial risks associated with achieving the expected energy savings. They receive part of that savings as payment for their services. County interference in the operation and management of the direct service aspects of the project could seriously and adversely affect the company's potential return on their effort and investment.

- The County did not have the resources to perform installations or conduct extensive inspections, and the project staff did not have the technical expertise to adequately supervise direct service activities. The ESCo, on the other hand, was experienced in directly performing improvements, supervising work teams and subcontractors, and in training auditors, installers and inspectors.

- The limited funds available from the grant and the County's contribution required that the County's staff resources be allocated to research design, monitoring, data collection and analysis. Since this was the only project of its kind in the country, the rigor of the research and evaluation effort was extremely important. Efforts to operate the direct service side would only have been possible with a corresponding decrease in emphasis on the evaluation related activities. The ESCo's primary concern, however, was for efficient and cost effective program operation. Research and evaluation was, to them, a secondary activity.

- A major goal of the project was to implement and operate a program that could be readily transferred and adopted by other local and/or state governments. The absence of government management, financing and provision of the direct services to the consumer and the participation of the private ESCo in exchange for support with autonomy greatly improved the potential transferability of this program and its results.
- The County's concern was with the examination and testing of the concept. The specific details of the operation of the direct service side of the program can always be negotiated and modified if the market's response to the concept of shared savings is positive.
- When the RSSDP was being designed, concerns were emerging nationwide about the legal liability of local governments and public officials for decisions made as part of their official duties. In this project, the County Attorney and project staff were concerned that the project could be perceived as a violation of anti-trust statutes or granting special position in a competitive marketplace to either the County (if the service was directly provided) or a specific company (if the County financed the participation of the ESCo). This consideration was a major one in the final decisions on the structuring of the relationship with the contractor.

Year Five Results

The Year Five project was enthusiastically received by local homeowners. More than 18 percent of the homeowners in Robbinsdale, New Hope and Crystal who received a promotional letter from the County requested an audit. Of these, 23 percent ended up executing energy service agreements with the contractor and having the recommended improvements installed. Approximately 6 percent of the homeowners solicited by the ESCo requested audits.

As of December 31, 1985 more than 770 homes had received improvements through the Residential Shared Savings Demonstration Project. The projected energy savings for these homes during their first three years of participation is \$1.2 million.

One of the major fears of project staff was that only middle or upper middle income persons would participate in the project. This was one of the reasons that the median income level of the municipality was a major criterion in the selection of test areas. The results from the participant survey conducted by the County showed that 17.8 percent of the participants in Richfield, Robbinsdale and New Hope had self-reported household incomes of less than \$20,000. Approximately 21.5 percent fell into the \$20,000 to \$30,000 range and 26.2 percent had incomes of \$30,000 to \$40,000. More than 65 percent of the participants had incomes of less than \$40,000.

Although these figures indicated that lower and lower middle income homeowners were voluntarily choosing to participate in the Residential Shared Savings Demonstration Project, County staff were especially interested in increasing the participation from the lowest income groups. This interest led to the development and implementation of the County's Year Six project--Shared Savings and Low Income Homeowners: Results of a Demonstration Project in Hennepin County.

CHAPTER 2: PROJECT DESCRIPTION

INTRODUCTION

Despite all the federal, state and local energy conservation programs which have been created to help low income households, energy and energy costs remain a serious problem for this population.¹⁰ The County limited its project to low income homeowners because project staff already had a knowledge of the homeowner market and because projects in Minnesota and other states were already examining a variety of approaches for addressing the energy problems of low income renters. A recent analysis by the Consumer Energy Council of America found that, while government benefits to low income families increased by a total of \$12 billion between 1973 and 1981, the aggregate loss of purchasing power by these households exceeded \$75 billion. Government programs offset only an estimated 16 percent of rising energy bills.¹¹

LOW INCOME HOUSEHOLDS AND ENERGY

Low income households have been particularly hurt by escalating fuel bills because they contribute a higher proportion of their income to energy payments than other households. For example, in 1973 an average Minnesota family of four living at the poverty level of \$4,460 paid approximately \$310, or 7 percent of its income, for home heating, cooking and other residential energy costs (excluding gasoline). By 1981, that same household with an adjusted poverty level income of \$9,300 paid nearly \$1,200, or 13 percent of its annual income, to meet its basic energy needs. In contrast, an average median income household paid approximately 4 percent of its income in 1973 and 5 percent in 1981 for residential energy expenses.¹²

¹⁰"Low income households" and "low income population" as subsequently used in this report refer to low income homeowners. The energy problems faced by low income renters may be equal to or greater than those faced by this group.

¹¹Cooper, M., et. al., Equity and Energy, Westview Press, Boulder, Colorado (1983), pp. 101-114.

¹²1984 Energy Policy and Conservation Biennial Report, Minnesota Department of Energy and Economic Development, p. 18.

THE YEAR SIX PROPOSAL

To try to address the needs of low income homeowners Hennepin County proposed an expansion of the Residential Shared Savings Demonstration Project that emphasized maintaining the research design initiated in Year Five while modifying the marketing strategies to try to attract greater interest by low income homeowners. It was expected that enough interest would be generated to ensure that at least 30 homes could be improved. (The primary reason for limiting the scope of the project to 30 homes was the concern that if low income customers proved unable to maintain payments it would be necessary to limit the losses of the ESCo.) No changes were to be made in the services offered through the RSSDP; the improvements would be identical to the "regular" program, the payment plan and operational procedures would be the same, and no subsidy was to be offered to the low income households or the ESCo. Special marketing strategies were to be used to encourage enrollment by low income homeowners. After receiving financial support and approval of the proposal from the U.S. Department of Energy and the Urban Consortium detailed planning began.

In developing the Year Six project it was decided that, for comparison and practical purposes, the existing contract with Sentinel Energy of Minnesota would be renewed if the company was interested in continuing to participate. Although Sentinel expressed serious concerns about the emphasis being placed on the low income homeowner and the potential impact of marketing strategies that included a special appeal to lower income persons on program participation rates, they indicated a high level of interest in continuing with the program. The ESCo's role in the project changed little and focused on actually managing the direct services provided to customers. The County's activities, meanwhile, emphasized reaching target populations, monitoring program operations, developing and enhancing the project data base and evaluating the results of project efforts.

As part of the Year Six proposal and in anticipation of the concerns about liability that Sentinel eventually expressed, the County approached the local natural gas utility (Minnegasco) with an informal request for \$10,000

to be used as a special purpose fund to offset "excessive bad debt" that could result from the efforts to serve low income customers. Minnegasco included this contribution as part of their "Conservation Improvement Program," as approved by the Minnesota Public Utilities Commission. The County accepted Minnegasco's offer in April 1985 and established an escrow account for use if excessive liabilities occurred.

In developing the concept of the liabilities fund great care was taken to ensure that the potential availability of this support did not affect Sentinel's effort to serve lower income clients in the same manner as other participants. There was some concern that the fund could encourage premature and excessive categorization of low income client accounts as "bad debt" and "non-payers" without exhausting the reconciliation efforts that would normally occur. Sentinel was not informed that this special support had been provided but was instead asked to review any bad debt and non-pay accounts with project staff. If warranted by the client's income and circumstances, the County expressed willingness to explore options other than a total writeoff by the company.

While no major modifications were proposed for the improvement packages offered in the RSSDP, great attention was given to refining the marketing strategies. This was necessary because the earlier marketing efforts had resulted in some indications that shared savings was a difficult concept for many persons to grasp. It was continually perceived as being "too good to be true" by actual and prospective customers. Energy and other home improvement contractors have fueled this skepticism by making extravagant claims for the energy savings potential of their products and services. An extensive effort was planned to publicize the availability of the project to Richfield's low income households. These efforts were designed, in part, to address two specific questions:

- Would the low income population in Richfield respond to various "special appeals" to consider participation in the RSSDP.
- Does sponsorship affect interest and acceptance rates.

The marketing strategies were designed to indicate which marketing technique and sponsor was most effective in stimulating consumer interest and to determine the impact of including a special appeal to low income homeowners and an endorsement letter by Minnegasco on response rates. Copies of the letters used in the marketing strategies are included in the Appendix. The basic strategies used had already been applied in New Hope and Robbinsdale during Year Five.

In order to ensure that the test of techniques resulted in measurement of their effectiveness, it was necessary to randomly assign marketing strategies to households within the treatment group. Otherwise, a given strategy may appear to be more effective when, in fact, its results have been favorably influenced by the characteristics of the particular households to which it is applied. One-half (4,861) of Richfield's homeownership households were randomly selected for assignment to the six marketing strategies used in Year Six. The other 4,861 homeowners were assigned to the comparison group for future solicitation.

Six different direct mail approaches were used in the Year Six Project:

- A. Sentinel letter with no mention of County sponsorship and no low income insert. This letter was sent on Sentinel letterhead and was signed by the president of the company. No indication was given that the RSSDP was a County sponsored project. A similar letter had been used in New Hope and Robbinsdale and had failed to generate much consumer interest. It was mailed to 258 Richfield homeowners, however, to determine if the level of acceptance from Richfield residents would be different than that found in the northwestern test sites and to facilitate comparisons with the earlier marketing strategies and the other strategies used in Year Six.
- B. Sentinel letter with no mention of County sponsorship but including the low income insert. The letter used in this strategy was the same one used in strategy A. The 294 homeowners receiving this letter, however, also received a 3" x 8 1/2" bright yellow "notice" designed especially to attract the interest of low income persons. The results from this

strategy were to be compared with those of the first strategy to determine if use of the low income insert affected response or participation rates or the characteristics of the respondents.

- C. Sentinel letter which mentions Hennepin County as the project sponsor with no low income insert. The letter from Sentinel's President was similar to the Hennepin County letters used in strategies D and E and to a letter used in the marketing of the RSSDP in New Hope and Robbinsdale. Low income "notices" were not included. A total of 1,218 of these letters were mailed to Richfield residents.
- D. Hennepin County letter with no low income insert. This letter was printed on Hennepin County stationery and was signed by the Chairman of the Hennepin County Board of Commissioners. The letter explained the shared savings concept and invited the homeowner to schedule a free audit. Sentinel Energy was identified as the contractor working with the County on this project. It was mailed to 870 homeowners.
- E. Hennepin County letter with the low income insert. This marketing strategy included the letter used in strategy D and the low income "notice" from strategy B. The letter and "notice" were mailed to 655 Richfield homeowners.
- F. Hennepin County letter with a utility endorsement but no low income insert. This letter was identical to the letter used in strategies D and E, but the 1,566 households that received this mailing also found that it included an endorsement by Minnegasco that encouraged the homeowner to consider participating. It was expected that the support from Minnegasco would improve resident interest and encourage consideration of this new approach to securing energy improvements.

The specific efforts to solicit low income involvement in the RSSDP centered around two documents. The first was the "low income insert." The ESCo's representatives were not enthusiastic about including a special appeal to low income households with the solicitations. It was their feeling that these inserts might suggest to middle and upper middle income residents that the RSSDP was primarily a low income program, and thus cause them to ignore the solicitation. Concern was also expressed about a possible higher default

rate among lower income households. The ESCo did not want overrepresentation of these households among their customers. The wording of the insert was modified to try to address these issues.

The "notice" stated that:

The shared savings program is available to all residents of Richfield regardless of income. Several other programs are, however, also available to lower-income households. A special brochure describing these programs has been prepared and may be obtained by calling the Hennepin County Office of Planning and Development at 348-6282.

Nearly a thousand of these inserts (949) were included in mailings to Richfield households. The bright yellow inserts were expected to generate requests for brochures and suggested that the RSSDP should be investigated by those who are, or consider themselves to be, lower-income households.

The second document was a brochure (Appendix B) that provided a brief description of the Residential Shared Savings Demonstration Project, the Richfield House Doctor Program, and the (federal) Weatherization Assistance and Energy Assistance Programs. It clearly stated that the energy improvements provided through the House Doctor and Weatherization Assistance Programs were free and included the income guidelines for eligibility.

The brochures invited the reader to obtain more information on the described programs by indicating his/her interest on a prepaid business reply card included as part of the brochure. Returned reply cards that contained a request for information about shared savings would represent one indicator of interest by the low income population.

In addition to these direct mail efforts, County staff also made a brief presentation about the RSSDP as part of an energy workshop sponsored by the local natural gas utility (Minnegasco) and the city of Richfield. Approximately 125 persons attended this session. The thrust of the workshop was that there were a variety of home energy improvements which could be undertaken on a do-it-yourself basis. The County staff presentation suggested that the RSSDP might be considered by those who wanted the energy savings, but who could not or did not want to do the work themselves, e.g., seniors. While it was not described as a "low income program," the description of the RSSDP emphasized the features that might be attractive to low income house-

holds. The workshop was designed to address the needs of a broad audience and was not specifically targeted at low income persons. No effort was made by the City or County to identify the demographic characteristics of the attendees.

Brochures were also distributed to everyone attending four separate "commodity distribution" sessions. Approximately 480 households are estimated to have received information about the RSSDP and other programs in this fashion. Brochures were also made available to Energy Assistance Program clientele at the point of application. Approximately 280 households also received brochures from a special mailing to 1983-84 Energy Assistance Program clients. In total then, 949 of the 4,861 households receiving direct mail solicitations received the "low income insert" and at least 480 low income households received the brochure from commodity distribution points, Energy Assistance Program counselors or the special mailing to previous assistance program clients.

Target Area Characteristics

All prior RSSDP activity had taken place in the northwestern suburbs of the County. The ESCo had requested that activity be confined to contiguous areas for economic and management reasons, and this had been agreed to by the County. (The first three communities in which activity took place--New Hope, Robbinsdale and Crystal--are contained within an area of approximately four square miles.) For its Year Six participant, the County decided to select a city in a different part of the County. The selected city--Richfield--has a population of approximately 37,000 and has a homeownership population that very closely resembles that of Hennepin County in median income, education level and age of its housing stock. Its characteristics are also generally similar to those found in the three northwestern suburbs.

One difference in these communities, however, was in the amount of energy conservation activity that had been initiated by the municipalities. Richfield has, in recent years, given great emphasis to residential rehabilitation and energy program activity. It was not clear what impact this type of support would have on consumer acceptance of, or need for, the RSSDP. One hypothesis was that there would be greater interest in shared savings because

the locally initiated programs had sensitized residents to energy conservation; an alternative hypothesis was that there would be less interest because of greater market saturation by past city programs. Consequently, the acceptance rate in the two areas (Richfield versus New Hope/Robbinsdale/Crystal) was one of the key results which the staff looked forward to observing.

Competing Programs

While the County and its ESCo were trying to market shared savings to low income homeowners in Richfield, there were three other programs from which these households could also secure services.

The first of these was the federal Weatherization Assistance Program. As with other such programs around the country, this program is designed to complement the Energy Assistance Program by providing weatherization improvements consisting of insulation, weatherstripping and other comprehensive energy reduction measures. All improvements are provided free to eligible households. Income guidelines are somewhat lower than those of the Energy Assistance Program. A copy of all applications for Energy Assistance are forwarded to the Weatherization Assistance Program for later contact. While this program is free to eligible households, there have been waiting lists for services in the past. In suburban Hennepin County, including the Richfield area, the weatherization program is administered by Hennepin County, but implemented through a contract with a nonprofit corporation--the Natural Resources Corporation (NRC).

The second program available to low income homeowners in Richfield was the Richfield House Doctor Program. This program was funded by Minnegasco and also offered free energy improvements. It was modelled after the Princeton House Doctor Program and was available--without cost--to persons with incomes meeting the HUD "very low income" criteria. The income eligibility criteria had to be raised to the "lower income" level after the program was initiated as a result of more limited client participation than had been expected. The program was administered by the city and work was

done by Energy Outfitters, a for-profit energy improvement company and a one-time subcontractor of Sentinel. A total of 40 homes were expected to be improved through the House Doctor program in 1985.

The type of improvements available through the House Doctor Program were similar to those offered under the RSSDP, but the audit and installations were based on the results from a blower door test conducted by the subcontractor. Including the House Doctor Program in the brochure offered the opportunity to directly compare "consumer preferences" between two very similar programs (House Doctor and RSSDP).

A third program offering free energy improvements to Richfield homeowners was the HUD Urban County Community Development Block Grant funded home rehabilitation "deferred loan program." This program, while primarily concerned with rehabilitation, can provide energy saving measures to eligible households. Although Hennepin County administers this rehabilitation program for most of the 43 municipalities participating in the Urban County CDBG program, Richfield is one of eight cities which have chosen to administer the program with municipal staff. The income limits of eligibility are tied to the HUD "very low income" criteria. While technically a loan program, no payment would be required of the recipient until or unless they sold the improved house within five years. (A graduated payment formula would then apply.)

Richfield residents might also be eligible for one of several rehabilitation programs sponsored by the Minnesota Housing Finance Agency (MHFA). Over the last several years these have included loan and grant programs and have offered improvements at no cost or at lower than market interest rates. For the loan programs the income eligibility requirements were slightly higher than the HUD "lower income" levels. Income requirements for the grant programs closely paralleled those of the Energy Assistance Program. The programs of the MHFA were primarily designed as rehabilitation programs, but required certain energy improvements when appropriate to the specific structure. City staff administer all Minnesota Housing Finance Programs for Richfield residents.

Thus, Richfield homeowners, depending upon their income, might be eligible for several programs that offered energy improvements similar to those available through the RSSDP, but without charge (or with low interest financing.) City staff administered and actively promoted these alternatives.

The first offering of the RSSDP to Richfield residents was initially planned for distribution in September. At the request of city staff, the solicitations were delayed until the House Doctor Program was ready to accept applications. On November 26, 1984, the Year Six marketing effort began with the first mailing of RSSDP solicitations to Richfield homeowners announcing the availability of shared savings services. With the mailing of these solicitations and the low income inserts, staff were hopeful that a significant low income response would soon be evident. Mailings were sent out weekly, with each week's mailing containing a mixture of the households randomly assigned to the various marketing strategies.

During its efforts to identify a potential site for the Year Six project, County staff developed an estimate, based on 1980 census data, of the number of low income home-owning households in Richfield. This figure was used as an indicator of the potential size of the target population. It was estimated that approximately 1,000 of the households residing in owner-occupied single family dwellings had incomes of less than \$10,000 in 1979 (about \$15,000 in 1984 dollars).

Data compiled from municipal reports for the 1984-85 Energy Assistance Program (EAP) confirmed that Richfield had a substantial potential as the site for the effort to enroll lower income populations in the RSSDP. Although Richfield had approximately 6.3 percent of the County's estimated population in 1984, it accounted for 6.9 percent of all households qualifying for assistance and 7.7 percent of the homeowner households. Homeowners represented 55 percent of Richfield's EAP households, but only 49 percent of the households applying for the EAP in suburban Hennepin County. Of the households applying for the EAP in Richfield, 33 percent were headed by persons over 60 years of age, compared to 25 percent for the other suburban Hennepin

County jurisdictions. It certainly appeared that the population of low income persons in the city would be more than sufficient to test the interest of this group in the RSSDP.

In the research design, one half of Richfield's homeowners were randomly assigned to the treatment group that received solicitations in late 1984 and early 1985 and one half were reserved for future use as a comparison group. Using this approach it was reasonably expected that one half of the low income homeowners in Richfield would receive at least one chance to participate in the RSSDP during the Year Six project.

In the northwestern suburbs (New Hope and Robbinsdale) in which the RSSDP was initiated and in which the most rigorous experimental design was employed, the response rate from all marketing strategies was 11.6 percent, with 3.4 percent of the solicitations resulting in contracts. Of the RSSDP clients who returned their customer surveys from these municipalities, 20.1 percent were homeowners with household incomes of \$20,000 or less. Only 3 percent, however, had household incomes of \$10,000 or less. With the additional appeal through the insert, it was expected that the response rate, especially from the lower income group, would be increased in Richfield.

The County's project staff was prepared to receive a high number of telephone calls from low income Richfield residents as a result of the insert in the direct mailings. Almost immediately after the mailings were initiated County staff began receiving calls from Richfield residents, but the questions being asked were very general in nature and did not appear to be coming from any particular income group. A few requests were received for brochures regarding low income programs, but very few. After several weeks had passed, only 11 of these requests had been received. While it was realized that not all low income households would request the brochure, even though they might be interested, it was apparent that this marketing effort had not stimulated any great interest in the RSSDP from the target population. The expected volume of telephone calls requesting information about "low income programs" did not occur.

As the absence of the response by low income homeowners to the direct mail solicitations became apparent, it was decided to use special avenues to try to reach this population. The County requested that Energy Assistance

Program counselors provide brochures to their clients and a County staff person distributed brochures at four separate commodity distribution sessions.

A special mailing was also made to 280 clients of the 1983-84 Energy Assistance Program. Each client received a letter from Hennepin County and a copy of the low income brochure describing the Energy Assistance, Weatherization, House Doctor and Shared Savings Programs.

Figure 4 displays the results from the special efforts to interest low income homeowners. Although these efforts generated response rates that exceeded the rate from the insert to the general mailer they did not approach the figures that would have been anticipated based on the experiences in the northwestern suburbs. If low income homeowners represented 10 percent of Richfield's home-owning households, which is approximately the ratio estimated at the beginning of the project and one of the reasons for selecting Richfield as the test site for the low income effort, it was expected that they would also constitute, at a minimum and as a result of their representation in the general population, 10 percent of the participants in the RSSDP from that municipality. The whole intent of the special effort to encourage low income homeowner interest was to increase their level of participation beyond what would be expected as their "fair share" based on their representation in the homeowner population. Clearly, the extra marketing and educational efforts helped to improve low income homeowner response rates but, even with these efforts, the results did not meet expectations. What was not clear was why these efforts had failed.

At this point four options were available for the Year Six Project:

- Continue with the project as planned on the assumption that the preliminary results were a "fluke."
- Redesign the service and/or marketing strategies based on the "best guess" of project staff as to the reason for market resistance.
- Initiate a market research effort to explain the results.
- Discontinue all efforts to enroll the low income population in the RSSDP.

Figure 4

RESPONSE OF LOW INCOME HOMEOWNERS TO VARIOUS MARKETING APPROACHES

	<u>Amount Distributed</u>	<u>Response</u>	<u>Response Rate</u>
<u>Direct Mail</u>			
Yellow Stuffer Included with General Richfield Mailing	949	11	1.2
<u>Letter and Brochure</u>			
Direct Mail to 83-84 EAP Clients	280	12	4.3
Breakdown of Preferences:			
Energy Assistance	8		
Shared Savings	6		
House Doctor	11		
Natural Resources	8		
<u>Brochures</u>			
Commodities Distribution (four drops)	600	31	5.2
Breakdown of Preferences:			
Energy Assistance	23		
Shared Savings	5		
House Doctor	9		
Natural Resources	11		
City Hall Information Rack	100	1	1.0
Energy Assistance Intake		0	
Hennepin County Social Services		0	

After some discussion of the relative merits of each option, it was decided that a concerted effort would be made to research the consumer behavior of the low income population. It was felt that this option offered the greatest opportunity to obtain meaningful information regarding this population and its attitudes toward shared savings. This research had not previously been undertaken because it was considered unnecessary--it was assumed that County sponsorship would, as it had in the earlier project, be an attractive enough stimulus to encourage response by the target group.

The Needs of the Low Income Homeowner

Public sector "market research" is a matter which has been receiving much attention in Hennepin County and elsewhere. The thrust of this attention is that such research may be necessary to "improve service delivery, efficiency and effectiveness." In the past, ample budgets and sources of revenue and state/federal guidelines for implementation and administration of programs made such research unnecessary. In an environment that now features competition among a variety of concerns for priority and limited public resources market research is becoming essential to help identify areas where the consumers of services see the greatest need for attention.

The use of the term "needs" has become very common in human and social service program delivery systems. "Needs" is, however, an inexact term. Public officials, service professionals, program managers and special interest groups make claims on society's resources in order to meet human "needs." But because "needs" is not an economic term, there are no criteria that can be used to ascertain when "needs" are satisfied. It has been argued that since human "needs" cannot be limited neither should society's effort to respond to these "needs."

Observers such as John McKnight of Northwestern University, however, argue that service providers--because they deliver "services"--may have an economic incentive to provide more service than clients may want or need. "Services need income, and an economic system needs growth. Within this framework the client is less a person in need than a person who is needed. In business terms, the client is less the consumer than the raw material for servicing systems. In management terms, the client becomes both the output

and the input. His essential function is to meet the needs of services, the servicing system and the national economy. The central political issue becomes the servicers' capacity to manufacture needs in order to expand the economy of the servicing system."

While McKnight's perspective may be overstated, it is directly relevant to the issues faced by project management when the results from the effort to interest low income homeowners in the RSSDP were analyzed. The views of McKnight and others indicate increasing concern that elected officials, program planners and managers in government tend to develop and implement programs that respond to the populations that they are charged with serving in a fashion that is consistent with their personal beliefs and perspectives on that population. These perceptions, however, may have little in common with reality. In the private sector, focus groups and market testing have long been accepted as appropriate and efficient methods for determining a target audience's response to particular products and product attributes, advertising strategies and proposed pricing structures. The findings from such groups assist product retailers, manufacturers and marketers in providing products that consumers want and are willing to buy. Such efforts are designed to reduce the potential for failure when a full scale production and marketing effort is mounted. They are also used to help identify new needs and ways of addressing those needs with products and services. The emphasis in government, to date, has been on providing services, with cost and effectiveness as secondary considerations. Few programs or service theories are tested in rigorously designed demonstration projects or subjected to a thorough evaluation and analysis before being scheduled for full implementation. Once a program is implemented it is difficult, if not impossible, to reexamine the premises upon which it was based or to objectively assess whether the outcomes the program was designed to achieve are, in fact, being accomplished.

PRELIMINARY HYPOTHESES

Prior to initiating the market research effort, staff, from their perspectives and interpretations of the target group's actions, postulated possible explanations for the apparent rejection of shared savings by low income

homeowners in Richfield. The lack of response by this population was interpreted as meaning that the service and/or marketing strategies that had been used were "flawed."

Eight hypotheses were initially identified:

- **The written solicitation material had been ignored.** All project marketing had involved the use of written, "direct mail" material. It is possible that this material was viewed as simply "junk mail" and that the target population does not base their purchasing decisions on written information or respond to direct mail solicitations.
- **The solicitation was perceived to be inapplicable.** Many homeowners in suburban Hennepin County have made energy improvements to their dwellings in the last 10-12 years. The target population may feel that their past efforts are sufficient--regardless of the potential for further cost-effective improvements--and consequently ignore all energy related solicitations.
- **The sponsor was a problem.** Homeowners may have rejected the project because of its County sponsorship. County sponsorship may have been interpreted as equating to a subsidy and some households may have rejected involvement for reasons such as pride or because they perceived it as a program only for low income populations. Conversely, the target population may have objected to the project because of the primary role being played by a private contractor. Since Sentinel Energy of Minnesota, Inc. had been incorporated in the state for less than a year prior to the Richfield marketing effort and had done business previously in only New Hope, Robbinsdale and Crystal, rejection of Sentinel implied a distrust of private businesses in general, rather than of Sentinel in particular.
- **The market for energy products may be saturated.** The homeowner may have received so much information regarding energy conservation, e.g., commercials for products and services, public service announcements, and program information, that he/she has become desensitized. Richfield's historically active energy program outreach activities increased the possibility that this hypothesis would be supported.

- **The shared savings concept was misunderstood.** It was possible that the shared savings offer was being lumped with other energy service/program solicitations and that energy programs in general were being rejected.
- **Other concerns were more pressing.** Both the product and the marketing efforts may have been "accepted" and understood by the homeowner, but other and more immediate concerns had a higher priority.
- **The target population had been overestimated.** If the number of low income households had declined or if the number previously receiving weatherization grants or assistance in obtaining energy improvements had been underestimated, then the response rate may have been proportionate to the actual size of the target population.

- **Shared savings, as a product, was unattractive to the consumer.** Shared savings may have been rejected in favor of some other option available to the household.

Staff expected that one or more of these hypotheses relating to the marketing of the RSSDP would be revealed to be of primary importance or, alternatively, that some "flaw" in the shared savings concept would be found to be responsible for the poor response rate.

MARKET RESEARCH APPROACHES AND FINDINGS

The strategies used to determine the reasons for the absence of interest in the RSSDP ranged from a review of the information available from other studies and programs to identifying and implementing approaches that could augment this base of previously collected data.

Literature Search

The first step taken in the market research effort was a literature search. A number of articles were identified as potentially useful through this search, but very few proved to be particularly relevant. This absence of information is not surprising. Market research has traditionally been used by the private sector to identify the needs, preferences and spending

patterns of population groups with considerable discretionary income. The private sector has done comparatively little marketing research into the consumer habits of the large and growing low income population.

According to one recent article,¹³ merchants that specialize in serving low income consumers believe that this population can be effectively solicited if several consumption characteristics are understood:

- Low income consumers buy goods and services only when they need them; they do not "buy ahead."
- Low income consumers can spend only small amounts of money at a time; they need to minimize their cash outlays.
- Low income consumers respond to media advertising and want merchandise that resembles the products available to the well-to-do consumers; they often buy poor quality imitations which do not last.

Focus Groups

Materials obtained through the literature search provided interesting information, but did not explain the results that occurred in Richfield. Clearly, a different and primary research methodology had to be used.

In reviewing possible options, focus groups were identified as an attractive marketing research tool. A focus group is a group interview of generally six to twelve participants brought together to discuss a research topic or a product or service. The rationale for a focus group is that the group interview offers the opportunity for the respondents to openly share their opinions in the security of a group setting. Focus groups provide a way of getting closer to the client or consumer and of overcoming the isolation that can develop between a client population and the service planners and providers.

The focus group approach, as used in this project, was intended to stimulate in-depth and probing discussions that would have been impossible through surveys, interviews or other forms of direct questioning. Project staff had previously been warned by Energy Assistance Program administrators

¹³The Wall Street Journal, June 24, 1985.

that the Richfield program's clients, in particular, had always been extremely reluctant to identify themselves as participants in a low income program. Focus groups stimulate responses from otherwise reluctant participants. As a result, it was felt that they should be used as one tool in the effort to research low income consumer behavior.

Focus groups are generally classified as exploratory, clinical or phenomenological.

- Exploratory focus groups generate ideas, test constructs and develop hypotheses.
- Clinical focus groups provide a better understanding of consumer motivation and allow in-depth examination of the consumer.
- Phenomenological focus groups allow the observers to "experience the [consumer's] emotional framework" and to understand the decisionmaking process behind the selection or rejection of a good or service.¹⁴

County staff had no experience with focus groups, but felt optimistic that, in this situation, they could provide useful information that might help explain the consumer behavior of the low income population in Richfield and also provide direction for refining the marketing or service strategies. There were, however, two serious obstacles to the use of focus groups. The first was the need for an experienced, trained and objective moderator. This is repeatedly cited in the literature as one of the most critical elements in conducting a productive focus group. Existing project staff did not have the facilitative skills or group process experience required to effectively perform this function. The second obstacle was the potential cost of conducting these sessions. Preliminary estimates indicated that this cost could exceed \$5,000. At this point, Dr. Brian C. Aldrich, a professor from the Department of Sociology and Social Work, Winona (Minnesota) State University, agreed to assist the County with this project and offered his services as a focus group moderator for a nominal fee. Dr. Aldrich has had considerable experience as a moderator and is very interested in the use of these groups in social science research.

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McDaniel, Carl, "Focus Groups: Their Role in the Marketing Research Process," Akron Business and Economic Review, Winter 1979, pp. 14-16.

Focus Group Strategy

The market research strategy that was developed with the assistance of Dr. Aldrich included: (1) the use of focus groups to identify possible reasons for the consumer behavior of the low income population in Richfield, and (2) follow-up surveys to validate the hypotheses identified. Focus groups may not be representative of the larger population from which they are drawn, even when participants are carefully selected. The follow-up survey/interview was included to validate the results from the focus groups. The questions in the survey were based on the information, opinions and perspectives presented by focus group participants.

Two focus group sessions were scheduled and 25 telephone surveys were to follow. The procedures used in preparing for and conducting each focus group session were similar:

- Participants were selected at random from a list of Energy Assistance Program clients from the city of Richfield.
- Potential participants were offered a choice of afternoon or evening sessions to encourage attendance.
- Both sessions were held in a local community center, lasted approximately one and one-half hours and were tape (audio) recorded.
- Six to ten EAP clients were included in each session.
- Participants were paid \$10 at the beginning of their session as compensation for the time they were committing to assist the project.
- Each participant was asked to complete a questionnaire at the conclusion of the session. (The questionnaire was used to obtain demographic information that could be compared with the respondents to the follow-up telephone surveys and the general customer population.)

As noted previously, staff had developed their own explanations for the results observed in Richfield. It was expected that the focus groups would be used to verify or refute these hypotheses. Dr. Aldrich, however, suggested that the focus groups be allowed to develop and present their own perspectives on the RSSDP. The preconceived alternatives of staff, if

offered to the participants for their reaction and response, would bias the results and the subsequent interpretation of those results. He argued that the greatest benefit from these sessions would occur if there was a "mind dump" in response to neutral, topical stimuli. Hypotheses would become evident from the responses. This approach was agreed to and, it should be noted, Dr. Aldrich was never appraised of the hypotheses developed by staff.

The participants in the focus groups were asked to address, with the assistance of Dr. Aldrich, four main questions:

- "What comes to mind when you hear the words, 'energy conservation'?"
- "What do you think of when you hear the term 'household expenses'?"
- "What kinds of energy saving programs do you know about?"
- "Have you heard about the Hennepin County Residential Shared Savings Demonstration Project?" (Before responding to this question Dr. Aldrich provided the participants with a brief description of the RSSDP and the shared savings concept.)

These questions were designed to encourage responses and involvement from those in attendance and to offer some focal points for more in-depth discussion.

Richfield Focus Group Findings

After the focus groups completed their work, Dr. Aldrich was asked to review the audio tapes and provide a summary of the major findings and questions concerning the RSSDP to project staff. Dr. Aldrich served as a neutral and objective analyst of the comments from the consumers. In his report of May 21, 1985 he identified three major conclusions from the focus group interviews:

- **Fourteen of the sixteen households represented had already had their homes weatherized through one or more of the various grant programs available to low income residents.** From the participants' comments it was apparent that Richfield city staff had been very effective in reaching this population. One staff person in particular had established a "casework

relationship" with most of those present and would regularly contact these households as new programs for which they might be eligible became available. It should also be noted that these participants had come to accept grant programs as the norm. Of the major programs available to them--the federal Weatherization Assistance Program, state sponsored housing rehabilitation programs with priority given to energy improvements and the two locally administered (HUD or utility funded) rehabilitation/energy programs--all but one involved outright grants or "deferred payments," i.e., no repayment if the homeowner remains in the home for five years.

- **The focus group participants considered the demonstration project "shared costs," rather than "shared savings."** Participants did not appear to understand, nor did they trust, the method used to calculate how much energy they had saved and what they would have to pay the company. Further, they seemed unable to comprehend that they would eventually be paying less to the utilities as a result of shared savings and that the Energy Service Company would guarantee that their savings would at least equal their payments to the ESCo.

- **The participants are constantly being bombarded by sales calls for various "energy saving" products, and, as a result, generally respond negatively to any program involving a private contractor.** The participants had been inundated with telephone solicitations and, in general, did not trust private contractors or their claims. They were very suspicious and concerned about the quality of home improvement contractors and the services they provide. Several participants indicated that they were afraid of "being taken advantage of." The general indication from the participants who had received letters introducing the RSSDP was that it had been considered junk mail and tossed out.

Other findings of interest¹⁵ from these sessions were that:

- There was a strong general commitment to energy conservation. Conservation was viewed as necessary and high costs were the motivation.

¹⁵Staff observations.

- When one participant indicated that, ". . . if nothing else was available, I would have considered [RSSDP]," all of the other participants in that session indicated agreement.
- Most of the participants did not notice that the County was a sponsor of the RSSDP and did not feel that County sponsorship made any difference in their reaction to the concept or program.
- Participants agreed that energy conservation programs had produced positive results, e.g., increased comfort, but none had experienced a net reduction in costs.
- Participants did not want to be involved in a program with unknown costs.
- Most of the participants had learned about energy conservation and energy programs from city staff or relatives.
- Participants were very aware of their energy costs (some could cite figures going back 10 to 15 years) and the effects of the improvements installed in their homes.
- Few of the focus group members could identify the names of the programs in which they had participated or the sponsors of the programs that had provided them with services.

Dr. Aldrich concluded that "the Shared Savings Demonstration Project, as described to these groups, is not a valid option for energy conservation and reduction of household expenses. The program is seen as a shared costs program for which they would have to pay. They do not need the program because they have already been through various weatherization programs on a grant basis."¹⁶

Richfield Telephone Survey Findings

The follow-up surveys (Appendix C) were also carefully structured. All respondents were selected from a listing of Energy Assistance Program clients. Individuals were interviewed by telephone and the wording of the

¹⁶Dr. Brian C. Aldrich, "Focus Group Report on the Hennepin County Shared Savings Demonstration Project," May 21, 1985 (unpublished).

actual survey questions was carefully reviewed by several professionals experienced in the design and conduct of surveys. The questions were developed from the comments and perspectives offered by participants in the focus groups.

In general, the results from the follow-up surveys supported the conclusions drawn from the focus groups.

- Many of the respondents had obtained one or more major energy improvements to their home through a public program. Seventy-five percent of the respondents indicating that all needed improvements had been made had obtained their improvements through a public program.
- Sixty-five percent of the respondents indicated that they did not need attic insulation and venting. More than 60 percent of these installations had occurred as a result of a public program. In only one instance was self-financing identified as the financing approach used to obtain this improvement. Almost 20 percent of the respondents who indicated that they did not need attic insulation did not know how the insulation had been paid for.
- Although the respondents have been heavily served by public rehabilitation/energy programs, 77 percent indicated that at least one additional improvement was needed to their property.
- Respondents who indicated that specific measures were needed were very definite as to which improvements should be made; 65 percent needed storm windows and doors; 59 percent wanted sealing, caulking and weatherstripping; and 41 percent needed attic insulation.
- The respondents indicating that improvements were needed expected to have difficulty in financing them. For 60 percent of the needed measures the source of financing was either "Can't Afford" (41 percent) or "Don't Know" (19 percent). Government help was looked at as a source of financing for 25 percent of the improvements and self-financing for 15 percent. When self-financing was indicated as the payment approach, the improvement was "sealing, caulking and weatherstripping." This one improvement category

accounted for 72 percent of the self-financing responses. For other types of improvements "Government Assistance," "Can't Afford" and "Don't Know" were the usual responses.

- Nearly 95 percent of the respondents indicating that one or more improvements were needed indicated interest in the shared savings project and concept after it was described by the interviewer. Most of these expressions of interest were contingent upon further information and investigation, the demonstrated legitimacy of the program and company participating and the level of savings that could be produced.
- Of the respondents who had indicated that no improvements were needed in their home, 60 percent would have been interested in the shared savings project if they had a need for improvements.
- Despite the direct mailings and other promotional efforts that had been designed to bring the RSSDP to the attention of the low income population, only 4.3 percent of the respondents indicated that they were aware of or had heard of the RSSDP.
- The interviewer indicated that some of the respondents were suspicious of the survey--despite repeated assurances that it was being conducted for a legitimate Hennepin County project.

After reviewing the discussions in the focus groups and the results from the telephone interviews, the most significant finding was the high proportion of the participating households that had already received some improvements to their home. This finding was not altogether unexpected since Energy Assistance Program clients--from which the focus group and interview participants were drawn--have been a target group for the federal weatherization program and other state and municipally initiated conservation efforts. If this level of market saturation exists, however, in both the EAP and the larger low income population (i.e., those who qualify for assistance but are not participating), then the number of low income homeowners who need improvements to their homes is considerably smaller than had originally been estimated.

This finding poses another problem for any organization or program that would try to use some sharing of savings to offset the costs of providing the improvements--the need for some improvements, but the prior installation of others, may mean that the economics and return on investment for installing the needed improvements will be insufficient to justify installation.

It also appears that this population would be interested in shared savings as a financing approach for their energy improvements if other government subsidized programs were not available. In several instances survey respondents who had previously participated in a different public program indicated that they considered RSSDP and its approach to payment for improvements better than the programs which they had used. The grant and low interest loan programs do appear to have reduced the size of the market for a shared savings program for low income residents. The consumers are, however, making a very rational choice when they select these free or subsidized programs over a new and unproven program that requires some sharing of savings by participants as payment for the improvements they receive.

Respondent comments, when asked "What do you think about [the RSSDP]?" and "Would you have participated if [the RSSDP] were available in your neighborhood?" were generally similar and included:

- Good program--payback method is attractive. Don't need it now [improvements have been made], but "easier way to pay back [for improvements] than what I did."
- Like it, but don't need it because improvements have already been made.
- Don't like it--should be free to low income persons. Might have participated, but no need for improvements now.
- Sounds good if the cost savings are realized.
- Good program--people who are able to pay should.
- Favorable attitude toward the [RSSDP], but concerned about the guarantee and how it works and the cost savings.
- Good program for low income people.
- Pretty good program--like the audit and financing approach.

- Kind of leary; would like proof of paying with savings.
- Programs sound good--almost "too good to be true."
- Great, wish it had been available when I needed it.

The dramatic results from the focus groups and follow-up surveys raised concerns and suspicions that the findings were unique to the city of Richfield and its low income population because of the emphasis that the city has given to residential rehabilitation and energy conservation efforts. Several municipally initiated programs have been available to Richfield's residents that have not been offered in other suburban jurisdictions. The city has also emphasized the availability of information on energy savings measures through the state and local utilities to help stimulate consumers to take action on their own. The obvious and important question was whether the findings concerning market interest and saturation were unique to Richfield or also existed in other suburban municipalities. To address this question it was decided to duplicate the focus group and survey process in the northwestern suburbs that were serving as test sites for the RSSDP.

Northwestern Suburban Focus Group Findings

After contacting Dr. Aldrich and determining that he was available to again act as moderator, a second series of focus groups and telephone surveys was planned. These sessions were held in the city of Crystal--approximately at the geographic center of the cities of New Hope, Crystal and Robbinsdale--to ensure easy accessibility for potential participants. The focus groups in Crystal were structurally similar to those held in Richfield; e.g., the groups were the same size, sessions were held at a local community center, participants were selected from lists of Energy Assistance Program clients, and the sessions were tape recorded. There were, however, some differences in the way questions were presented to the focus groups and in the amount and type of probing that occurred. The Crystal sessions were also video taped. Perhaps the major difference was the addition of a program review exercise to the Crystal sessions. In this part of the focus group activity, participants were provided with descriptions of three major programs that are available to low income residents of the County. After reviewing the descriptions,

participants were asked to rank the programs and identify major strengths and weaknesses. The three programs described were the Weatherization Assistance Program, a low interest/deferred loan (rehabilitation) program and the Hennepin County Residential Shared Savings Demonstration Project.

In his review of the results from the Crystal focus groups, Dr. Aldrich emphasized that the responses to the RSSDP from these groups were similar to the responses previously obtained in Richfield. He also observed that:

- Less than a majority of the participants in these two groups had used weatherization or deferred loans to reduce utility costs, while almost all of the participants in the first two groups (Richfield) had.
- The afternoon group, comprised mostly of older women heads of households, indicated a very low level of trust for male contractors.
- The evening group was able to specify that the "shared costs" perception was based upon the fact that under the present project structure, actual cost savings are deferred to some future point, and that the "up front" costs are too great for persons on fixed or low incomes. This is especially true if the household was signed up for Minnegasco's budget plan. Participants in that plan prepay this year's energy costs by making monthly payments that equal one-twelfth of the prior year's total energy bills. Consequently, a shared savings customer would be making budget payments that are based on a previous and higher energy consumption level--plus the new and additional monthly payment to the ESCo--regardless of any energy savings experienced. The actual cash savings are deferred to some future point. This was not a new critique of the concept, but was important in that it suggested a greater degree of understanding among this population than had been previously evident.
- The ranking of the three types of low income energy programs made it clear that shared savings is not perceived as an attractive way for these participants to reduce fuel costs. In the afternoon session, six of the eight participants ranked the Weatherization Assistance Program as their first preference. The shared savings option was universally ranked last among the choices. The discussion indicated that the older females who constituted the majority of the participants were concerned about having to

deal with contractors and the perception of these consumers was that shared savings would mean extra costs. The perception that the RSSDP would lead to extra costs was shared by the younger male heads of households who constituted a majority of the participants in the evening group. Another negative for this group was that many of the energy savings measures were items which these homeowners felt they could adequately install themselves. In this session the deferred loan program was the first choice of eight of the nine participants. The shared savings project was, again, the third choice.

• One other finding of interest was that the participants in the focus groups were not entirely satisfied with the grant programs which had been available to them in the past, despite the fact that they were grateful for the assistance. Several respondents expressed disappointment that program spending limits had been reached on their homes before all of the improvements that they felt were needed had been installed. (This was especially true of CDBG and state rehabilitation programs where priority is given to health and safety improvements.)

Dr. Aldrich, in the conclusion of his "Focus Group Report #2," summarized his impressions of the results from the focus groups:

"In addition to all the problems which have been enumerated from the four focus groups, including treating the original mailing as junk mail, rejection of any and all calls from contractors soliciting over the phone (and in competition with local government employees using a more personal approach), fears of having strange males in the home, inadequate technical knowledge on the part of older women, and general suspicion of the private sector (and sense of trust in the government sector), the "shared cost" program runs counter to the rationality of low income groups because the payout of the program is not only an expense not associated with the [weatherization and deferred loan programs], but creates a situation in which shared savings adds an additional financial burden to the already marginal income situation of the household."

The choice being made by these consumers appears to be both rational and appropriate for this client group.

Findings From the Northwestern Suburban Telephone Survey

Before initiating the telephone survey in the northwestern suburbs, a review of the findings from the focus groups and first survey was conducted. As a result several new questions were incorporated into the second survey and other questions and the survey instrument were restructured. The size of the sample was also expanded and a target of 80 interviews was set. A copy of the survey instrument is provided in Appendix C.

The interviews were conducted by two students from the University of Minnesota who had previously been trained in survey research by the University's Center for Social Research. With the changes made in the structure of the survey, the addition of previously unasked questions, the use of experienced interviewers and the expanded size of the sample, the results from this survey were expected to provide support for, or refutation of, the findings from the Richfield survey.

Comparisons, as appropriate, have been made with the Richfield low income survey, Richfield RSSDP participants and RSSDP participants from the northwestern suburbs of Crystal, New Hope and Robbinsdale.

- In the Richfield survey, 77.3 percent of the low income respondents had homes with less than 1,250 sq. ft. of living space. The corresponding figure for RSSDP participants from Richfield was 62.3 percent. In the northwestern suburbs the homes were generally larger, with only 68.8 percent of the interviewed EAP clients and 45.6 percent of that area's RSSDP participants having living areas that fell below the 1,250 sq. ft. threshold.
- Almost 54 percent of the survey respondents in the northwestern suburbs participate in the "budget plan" and "service plus programs" offered by the local natural gas utility. (This question was not asked in the Richfield survey or of RSSDP customers.) Focus group participants felt that this makes shared savings more difficult for low income persons to afford.
- As expected, the vast majority of the respondents (98.7 percent) were aware of, or had heard of, the Energy Assistance Program. This figure was minimally higher than the 95.7 percent found in the Richfield survey. The respondents in the northwestern suburbs also had a greater level of awareness (25 percent versus 4.3 percent) of the RSSDP. The most significant differ-

ence, however, was in the area of the weatherization program. In Richfield, 69.6 percent of the respondents knew about the weatherization program. In the northwestern suburbs, this figure was 90 percent--much higher than had been expected. The difference is statistically significant. Awareness of the low interest government loan program for housing rehabilitation was also high (63.7 percent) in the northwestern municipalities. These findings are especially confounding when the aggressive campaign in Richfield and the general absence of such efforts in the northwestern suburbs are considered.

- There was very limited awareness of the availability of utility sponsored home energy audits. Only 38.7 percent of the respondents to the northwestern survey indicated that they knew of this program.

- When asked "Have you yourself made any improvements in your home to reduce your fuel bills?", 87.5 percent of the interviewees from Crystal, Robbinsdale and New Hope said "yes."

- In Richfield, 66 percent of the low income survey respondents had indicated that they did not need attic insulation. In the northwestern suburbs, 87.5 percent had made this improvement. A large percentage of the respondents in the northwestern suburbs reported having had other energy improvements made to their homes; caulking and weatherstripping (71.2 percent); storm windows/doors (49.9 percent); and wall insulation (41.2 percent) were most frequently cited. Few of the respondents (6.3 percent) indicated that they had installed set-back thermostats.

- Despite this energy conservation activity, nearly half (47.5 percent) of the survey respondents in the northwestern area claimed that their homes needed additional improvements. Of those who said they were not planning to make these needed improvements, 84.6 percent cited a lack of money as the reason. In Richfield, 77 percent of the low income respondents had indicated a need for additional improvements.

- In the northwestern survey, government grants were the source of financing for:

- 77.4 percent of the wall insulation installations
- 69.6 percent of the caulking and sealing
- 65.6 percent of the attic insulations

39.5 percent of the storm windows and doors
35.0 percent of the furnaces
28.1 percent of the set-back and replacement thermostats

Self-financing through cash or bank loans was the method of payment for 50 percent or more of the: thermostats (59.4 percent); storm windows/doors (55.3 percent); and furnaces (50.0 percent).

Of the group in the northwestern suburbs that had indicated a need for additional improvements, 59.5 percent plan to have these installed within one year of the survey. Government grants were cited as the expected source of financing for 33 percent of these measures.

• After the shared savings concept was explained, Crystal, New Hope and Robbinsdale respondents were asked if they would be interested if a contract were offered; 13.7 percent said "yes" or "probably" and 66.7 percent said "no." The most common reason given for rejecting the offer was that the respondent's home did not need additional improvements. Other comments suggested skepticism about the concept, but no consistently recurring theme of criticism was evident.

• More than a third (37.4 percent) of the respondents indicated that they would (or probably would) be more interested in shared savings if it were offered by government, but an even greater percentage (41.2 percent) indicated government involvement would make no difference or would cause them to be less interested.

• Respondents were asked "What role, if any, do you think local government should play in helping residents make energy improvements?" Although a wide variety of comments were offered to this open ended question, two roles had the greatest level of support; provide assistance to the truly needy (27.4 percent) and continue and/or expand current programs (21.1 percent). Almost 50 percent of the respondents see these as appropriate roles for local governments. Richfield respondents were asked this same question and provided similar options; 26.1 percent were supportive of the current role and 17.4 percent wanted local government to assist only the truly need.

- The vast majority of the respondents (96.1 percent) in the north-western suburbs "agreed" (i.e., "agreed," "moderately agreed," or "strongly agreed") that energy represented a large part of their budget. In other attitudinal questions, 76.2 percent of the respondents "agreed" that "government was usually truthful." The comparable figures relating to the truthfulness of private businesses and utilities were 38.7 percent and 66.2 percent, respectively.

RSSDP Customer Survey Findings

As a central part of the RSSDP, the County implemented a survey strategy to obtain descriptive, demographic, attitudinal and contractor performance data from homeowners electing to execute an Energy Service Agreement. The return rates for these questionnaires have consistently exceeded 70 percent.

The questionnaire requests information on household income and family size. As a result, comparisons of low income and other income level households, and between municipalities can be conducted. Analysis of the early returns from the New Hope and Robbinsdale test sites was one factor in the decision to make special efforts with the low income population.

The data in the customer survey file provides an excellent picture of these two populations.¹⁷

- The low income customer population represented 16.5 percent of the RSSDP participants in Crystal, New Hope and Robbinsdale and 10.6 percent of the Richfield RSSDP clients. For the full program (all suburban municipalities) the low income figure was 14.3 percent.

- Most (85.4 percent) of the low income RSSDP participants in Crystal, New Hope, Richfield and Robbinsdale "agreed" or "strongly agreed" that "energy bills represent a large part of (their) family's budget." The comparable figure for the higher income population was 55.3 percent. There was little difference in the degree of agreement between Richfield residents (61.8 percent) participating in the RSSDP and those from Crystal, New Hope and Robbinsdale (58.5 percent).

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For this comparison, the low income population is defined as those households with incomes of less than \$20,000 in 1984.

- The low income (53 percent) and higher income (56 percent) populations both felt that "information received from a government agency is usually truthful," but a larger percentage (22.4 percent) of the higher income customers agreed that "information received from a private business is usually truthful" than lower income customers (15.2 percent). There was also a very significant difference in the responses to this question from the different municipalities. A majority (58.2 percent) of the participants from the northwestern suburbs agreed with this statement, but less than half (47.3 percent) of the Richfield customers agreed. In fact, 10.9 percent of Richfield's RSSDP customers "disagreed" or "strongly disagreed" with this statement versus 6.1 percent of the northwestern suburban customers.

- The low income population is more likely to include persons 65 years of age or older; 27.1 percent for the low income population versus 4.7 percent for the higher income group.

- There is also a dramatic difference in the age distribution by geographic area; 25 percent of the Richfield RSSDP households have persons in them who are 65 or older versus 13.5 percent of the northwestern suburban households.

- The homes of the low income population tend to be smaller: 64.7 percent of the low income population reported that their home had 1,250 square feet of heated floor area. The corresponding figure for those with higher incomes was 39.7 percent.

- All households set their thermostats back at night (the median setting for both groups was 64 degrees), but 32.3 percent of the higher income population reduced their night time thermostat temperatures to 60 degrees or less. For the low income group this figure was 26.5 percent. When away from home, 10.9 percent of the higher income population set their thermostats at 55 degrees or less versus 5.6 percent of the low income participants. Low income customers had a slightly higher daytime median thermostat setting (70 degrees versus 68 degrees). Seventy-seven percent of the low income households had daytime settings of 70 degrees or less and 2 percent had settings of 65 degrees or less. For the higher income group, 88.7 percent of the households were at 70 degrees or below and 15.2 percent were at 65 degrees or less. There were also significant differences between

the customers from the different municipalities. In Richfield, the median night temperature was 68 degrees versus 63 degrees in the three northwestern suburbs. In the northwestern suburbs, 70 percent of the RSSDP customers indicated night thermostat settings of 65 degrees or less, with 32.7 percent using settings of 60 degrees or less. The comparable figures for Richfield were 41.5 percent and 18.9 percent. The median daytime temperatures were 68 degrees for both groups. When away from home, 79.2 percent of the northwestern suburban customers set their thermostats at 65 degrees or lower versus 69.4 percent in Richfield.

- Low income RSSDP households tend to contain a smaller number of persons: 2.14 persons per household versus 3.14 persons per household for higher income households.
- Of the low income households, 16.3 percent claim to have "special energy needs because of a hobby, for medical purposes, or for another situation," compared with 8.9 percent of the higher income population.
- Income is directly correlated to educational level and the results from the RSSDP customer survey strongly confirm this relationship. In the low income group, 69.5 percent of the adults in the household had educational levels of high school graduate or less and only 10.8 percent of the adults had graduated from college. In the higher income group these figures were 40.0 percent and 30.7 percent, respectively.

Marketing Strategies Results

With all of the direct mail and special promotional materials and efforts it was expected that the participation rates for the low income group would be higher in Richfield than had been the case in Robbinsdale and New Hope. With a potential population of 1,000 low income homeowners, the randomized selection strategy for assignment to marketing techniques was expected to result in the solicitation of at least 50 percent of this group. In Crystal, New Hope and Robbinsdale, 16.5 percent of the RSSDP clients had been in the lower income category without any low income targeted mailing inserts or additional material distributions. Achieving contracts with 30 low income homeowners would have required a 6.0 percent contract versus initial solici-

tations rate. This was the original target and, based on the rates of participation (6.2 percent) from the Hennepin County sponsored direct mail efforts in New Hope and Robbinsdale, it appeared realistic.

Table 2 shows the response of consumers to the six different direct mail marketing strategies used in Richfield. Some of the more significant findings include:

- Hennepin County sponsored promotions drew a substantially higher response rate than did similar promotions sponsored by the ESCo. The difference was statistically significant.
- Response rates to marketing strategies that included the low income insert (B and E) were slightly higher than similar strategies that did not include the insert (A and D). The differences, however, were not statistically significant.
- Utility sponsorship appeared to add little to the level of consumer interest when the promotion is sponsored by the local government.

Table 3 compares the results from Richfield with the results from similar marketing strategies in New Hope and Robbinsdale. General findings from the northwestern test sites were also observed in Richfield:

- Sentinel letters with references to County sponsorship generated higher, but not statistically significant, response rates than Sentinel letters that did not mention the County.
- County promotional materials generated greater levels of interest than similar materials sponsored by Sentinel.

It is also evident from Table 3 that Richfield homeowners were generally less responsive to the direct mail strategies and the RSSDP approach to acquiring energy improvements. Richfield's response to similar promotional efforts was consistently lower than had been found in New Hope and Robbinsdale. Not only was the level of initial interest lower, but there was lower participation in the RSSDP.

In Richfield's respondents to the customer survey, only 5 households reported income levels that are defined as low income for this analysis. Of this total, one responded to the Hennepin County letter with no low income

TABLE 2
COMPARISON OF SIMILAR MARKETING STRATEGIES
Richfield versus New Hope and Robbinsdale

<u>Marketing Strategy</u>	<u>Original Solicitations</u>	<u>Responses</u>	<u>Response Rate</u>	<u>Respondents Receiving Improvements (Contracts)</u>	<u>Contracts Versus Responses</u>	<u>Contracts Versus Original Solicitations</u>
A. Sentinel sponsored direct mail (excluding Hennepin reference)-- without low income insert	258	4	1.5%	2	50.0%	0.8%
B. Sentinel sponsored direct mail (excluding Hennepin reference)-- with low income insert	294	5	1.7%	3	60.0%	1.0%
C. Sentinel sponsored direct mail--without low income insert	1,218	37	3.0%	8	21.6%	0.7%
D. Hennepin sponsored direct mail--without low income insert	870	124	14.2%	18	14.5%	2.1%
E. Hennepin sponsored direct mail--with low income insert	655	112	17.0%	21	18.8%	3.2%
F. Hennepin sponsored direct mail--with utility endorsement	1,566	261	16.6%	40	15.3%	2.6%
	4,861	543		92		

TABLE 3
COMPARISON OF SIMILAR MARKETING STRATEGIES
Richfield Versus New Hope and Robbinsdale

<u>Marketing Strategy</u>	<u>Original Solicitations</u>	<u>Responses</u>	<u>Response Rate</u>	<u>Respondents Receiving Improvements (Contracts)</u>	<u>Contracts Versus Responses</u>	<u>Contracts Versus Original Solicitations</u>
A. Sentinel sponsored direct mail (excluding Hennepin reference) without low income insert						
Richfield	258	4	1.5%	2	50.0%	0.8%
New Hope and Robbinsdale	450	18	4.0%	5	27.8%	1.1%
C. Sentinel sponsored direct mail without low income insert						
Richfield	1,218	37	3.0%	8	21.6%	0.7%
New Hope and Robbinsdale	900	63	7.0%	17	27.0%	1.9%
D. Hennepin Sponsored direct mail without low income insert						
Richfield	870	124	14.2%	18	14.5%	2.1%
New Hope and Robbinsdale	900	188	20.9%	56	29.8%	6.2%
Hennepin sponsored direct mail technique without low income insert <i>Versus</i>						
Sentinel sponsored direct mail technique (excluding County reference) without low income insert						
Richfield { Hennepin	870	124	14.2%	18	14.5%	2.1%
Sentinel	258	4	1.5%	2	50.0%	0.8%
New Hope & Robbinsdale { Hennepin	900	188	20.9%	56	29.8%	6.2%
Sentinel	450	18	4.0%	5	27.8%	1.1%
Richfield* <i>Versus</i>	2,346	165	6.3%	28	28.7%	1.2%
New Hope and Robbinsdale	2,250	269	10.6%	78	28.2%	3.1%

* Percentage figures reflect equal weighting of strategies.

insert, one responded to the County letter with the insert, two responded to the County letter with the utility endorsement and one responded to one of the special strategies used, i.e., via commodity distribution or Energy Assistance Program referral or through the workshop. Thus, only 2 of the 56 RSSDP participants who returned their program evaluation surveys to the County indicated that their participation was a direct result of having been approached through one of the special marketing efforts that had been conducted.

RESULTS AND CONCLUSIONS

The Year Six project did not generate the level of consumer interest among the low income population that had originally been anticipated. The failure to meet the initial objectives of the project, however, resulted in a vigorous and extensive effort to examine the approaches being used to serve this population and to critically review the data available on the characteristics of low income consumers. The question that became of major importance was why this program had failed in its effort to generate interest from the low income target population.

Earlier in the project, eight hypotheses had been developed to explain the observed behavior of the target market groups. Were these hypotheses supported by the data collected through the focus groups and surveys?

1. The Written Solicitation Material Had Been Ignored

Conclusion. There is evidence that written approaches or direct mailers are ineffective in stimulating interest from this market segment.

Support for this Conclusion. Numerous references to the letters offering the program as "another piece of junk mail" were made by respondents to the telephone surveys and participants in the focus groups. Many people did not even recall receiving the letter. Other studies (e.g., Richard Weijo, Gary Dodge and William Rudelius, "Stimulating Energy Conservation by Homeowners: A Planning Model for Local Governments," Public Administration Review, September/October 1983, pp. 439-40) have shown that person-to-person contact or aggressive mixed media campaigns are needed to stimulate actions by low income consumers.

Richfield's "caseworker" approach, which involves significant levels of personal contact to promote available programs, seems to be effective. A major and unresolved question, however, is the cost effectiveness of these alternatives. The results from the Year Five RSSDP marketing efforts are also a cause for concern. An informational meeting strategy in the local community failed to generate higher levels of consumer interest or eventual participation in the project than did the direct-mail approach. It is likely that a more extensive marketing campaign that included presentations to neighborhood groups, television stories and newspaper articles (metropolitan area and neighborhood) would have improved the participation rates.

2. The Solicitation Was Perceived to be Inapplicable

Conclusion. There is evidence that some members of the target group have unmet needs that could be potentially addressed by the RSSDP, but there is suspicion about whether the RSSDP is the program through which to meet these needs.

Support for this Conclusion. The follow-up survey in Richfield revealed that 77 percent of the respondents had additional energy improvement needs. Even in the northwestern suburbs, there was some indication of interest in additional measures. In Richfield, where 95 percent of the respondents needing improvements expressed interest in the RSSDP, support for the concept was contingent upon further information and investigation, the demonstrated legitimacy of the program and participating company and the level of savings that would be produced. In the northwestern suburbs, only 13.7 percent of the respondents indicated interest in the RSSDP. The most frequently cited reason for this response was an absence of need for additional improvements.

The Richfield and northwestern area follow-up surveys also suggest a strong perception that government will assist in or provide needed improvements. Self-financing was the option selected for future improvement financing for only 12 percent of the measures identified by Richfield respondents as needed; "Can't Afford" (44.9 percent), "Government Assistance" (22.4 percent), and "Don't Know" (18.4 percent) were the other options selected for financing the needed improvements. For

the northwestern suburbs, 33 percent of the measures planned for implementation within one year were expected to be financed through government grants. Further evidence of the choices being made by these consumers was provided by the consistent identification of the RSSDP as the last choice of the focus group participants in the northwestern suburbs if grant or low interest loans programs are available.

3. The Sponsor was a Problem

Conclusion. County sponsorship was more attractive than private sponsorship.

Support for this Conclusion. Although there was some discontent with existing programs, respondents from both surveys most frequently cited government's appropriate role as "assisting only the truly needy" and "continuing/expanding current programs." Retrenchment or reduced efforts were not perceived as appropriate. There is also a wide disparity in the level of credibility given to government and private marketing overtures; 53 percent of the RSSDP's low income participants indicated that "information from a government agency is usually truthful" versus 15.2 percent for private businesses. More than a third of the respondents to the follow-up survey in the northwestern suburbs indicated that they would (or probably would) be more interested in shared savings if the program were offered by the government. This finding, however, was balanced by the responses of 41.2 percent who indicated that government involvement would make no difference in their level of interest. This same absence of impact of sponsor was observed in the Richfield focus groups.

4. The Market for Energy Products may be Saturated

Conclusion. There is substantial evidence that the low income group had already obtained a wide variety of energy improvements before the RSSDP was offered to them.

Support for this Conclusion. The respondents to the telephone surveys and participants in the focus groups present a very definite and clear picture of a market segment that has readily accessible avenues for

securing energy improvements and has taken advantage of them. Major improvements (such as attic insulation, wall insulation and caulking and weatherstripping) have been made or were not identified as needed.

- In the Richfield focus groups, where saturation was first identified as a possible contributor to the target group's resistance, 14 of the 16 households represented had already had their homes weatherized through one or more of the various grant programs available to them.
- Respondents to the Richfield survey were asked whether they needed six specific improvements (attic insulation, wall insulation, caulking and weatherstripping, storm doors/windows, new thermostats and new furnaces). Not one of the improvements--and respondents were asked for their independent reaction for each of the six improvements--was cited as needed by 50 percent or more of the respondents. In only two instances was a "yes" response received from even 40 percent of the interviewees.
- Although the focus groups in the northwestern suburbs indicated a lower level of utilization of public energy programs, the level of improvements that had been made appeared to be equal to, or greater than, the results in Richfield.
- More than 87 percent of the respondents to the survey in the northwestern suburbs have made improvements in their homes to reduce fuel bills. Most of the installed improvements have been major ones: 94.3 percent had insulated their attic; 81.4 percent had caulked, sealed and weatherstripped; 55.7 percent had installed new storm windows/doors; and 42.9 percent had insulated their walls.
- Of the respondents in the northwestern suburbs who indicated a need for additional improvements, 59.5 percent expect to have the improvements completed within one year--most without government assistance.
- The most frequently mentioned reason by the northwestern suburban low income group for their absence of interest in the RSSDP was that they did not need additional improvements.

5. The Shared Savings Concept was Misunderstood

Conclusion. There is some evidence that potential clients did not understand aspects of the project, but there was also evidence of very sophisticated assessments and rational choices.

Support for this Conclusion. Focus group participants in both areas, Richfield and the northwestern suburbs, defined the program as "shared costs" rather than "shared savings." They very correctly understood that prepayment (even though based on savings and uniform scheduling of the homeowner's obligation), would result in payments being required immediately and realized savings being deferred to a future point in their contract.

They recognized and astutely determined that participation in the budget payment plans of the local utilities would further aggravate this problem because of the historical base on which future payments are determined and the difficulty of adjusting for improvements within the plan year.

It was also clear from the participants in the Richfield focus groups that low income customers had little or no recall of the programs that had provided them with energy services. They seldom knew the names of programs they had used or the sponsors of those programs.

Although energy was a major issue for this population group it appears that the priority needs have been addressed and that the remaining improvements that are needed have lesser urgency than other problem areas being faced by these residents.

6. Other Concerns Were More Pressing

Conclusion. The evidence appears to be contradictory, but it did not appear that energy conservation is the major priority of the target population.

Support for this Conclusion. Although there is evidence of continued need in the responses of the Richfield survey respondents, there is little corroborative data from the northwestern area. In neither area was there any strong interest in new local government efforts to promote conservation.

In the RSSDP's customer survey data base, low income consumers indicate overwhelming agreement that energy costs are a significant part of their household expenditures. But many have already taken some action (by participating in a publicly sponsored energy conservation effort or by doing it themselves) to help reduce their energy costs.

The percentage of the participants indicating that they had made a major modification to their homes which would affect their energy consumption was almost identical for the high and low income populations (30.4 percent and 28.6 percent, respectively). Of those who had made major energy improvement efforts, the improvements most often cited as accomplished were insulation of the attic (including increases of existing levels) and storm windows/doors. These two categories accounted for 59.8 percent of the improvements made by the high income groups and 66.6 percent of those made by low income households.

Other comments from focus group participants indicated that they had been besieged by energy conservation promotions--both private and public--and that they have had enough and no longer want to be bothered.

7. The Target Population Had Been Overestimated

Conclusion. This hypothesis is strongly supported by the data collected from the focus groups and follow-up interviews.

Support for this Conclusion. The target population was defined as low income homeowners in Richfield. There is no evidence to suggest that the number of homes included in this population was significantly different than had been estimated in the preliminary figures calculated as the project began. The problem, however, was that the number of homes in this population that needed energy improvements was much lower than the number of low income homes in the population. The focus groups and follow-up surveys clearly indicate that previous and existing publicly sponsored conservation programs have made significant inroads toward addressing at least a substantial part of the improvement needs of these households. The improvements wanted by the population which has already been served by a prior public program or financed improve-

ments themselves are generally items with long, simple payback periods that would make investment by a private company uneconomical. Such improvements as storm windows/doors and new furnaces have payback periods that do not lend themselves to a shared savings approach.

It is ironic that past successes in reaching this group with publicly subsidized conservation programs have made this a disinterested and uneconomical population for a new service approach that replaces public financing with private capital. The evidence from the focus groups and survey respondents clearly indicate that RSSDP cannot compete with government supported programs that have been designed to serve this population and have already penetrated and captured much of this market. It should be noted that the finding that this hypothesis is true is closely correlated to the earlier finding that market saturation has occurred.

8. Shared Savings, as a Product, was Unattractive to the Low Income Consumer

Conclusion. This hypothesis is strongly supported by the data from the focus groups and survey respondents.

Support for this Conclusion. Shared savings is a new approach to addressing a continuing problem (i.e., making energy improvements to a residential building). For the low income population, it is also an approach that must compete with publicly funded programs that have previously offered and are continuing to offer free what the RSSDP offers for a price and through a private sector company. As we have seen, suspicion about private companies is very strong in the low income group. There is a very significant absence of interest in trying the RSSDP, primarily because many in this population do not feel that they need additional improvements. There was concern about legitimacy and the level of savings that would be produced. There is a strong belief that government will assist with future improvements, just as they have helped in the past. There is no real incentive for the consumers in the target group to choose participation in the RSSDP. Incentives that would encourage this choice in the general population are absent for the low income group because of the alternatives that they have available.

When reviewing the income distribution for participants in the RSSDP, it became apparent that the project has drawn the majority of its participants from the middle and lower income groups (62.8 percent), even without making special efforts to improve participation at the very lowest income levels. The RSSDP is securing its greatest levels of penetration in the income groups just above the eligibility levels for assistance. It is interesting to recall that, as was noted earlier, the RSSDP might be attractive to low income clients if free public programs were unavailable. This reaction was most evident in the responses from the Richfield interviewees who had indicated no need for further improvements in their dwellings.

NEXT STEPS

As shown in the preceding assessment, marketing the Residential Shared Savings Demonstration Project to low income homeowners was a frustrating experience that failed to meet the objectives initially developed for the project. It is clear, from the intensive investigation that was conducted concerning the reasons for this result that the RSSDP is a product that cannot compete against the direct provision of similar services on a free or subsidized basis by government or utility sponsors. The target population, when faced with the RSSDP and a free or grant program as alternatives, makes a rational consumption decision and selects the product of least cost. Although that product is of least cost to the low income consumer there is another perspective that must also be considered. Does this decision enhance the cost effectiveness of government programs and maximize the results achieved by limited government resources? The clear answer is that it does not.

Most energy programs have been designed and implemented in such a way that government pays upfront for the materials and labor required to make energy improvements to a homeowner's property that may or may not result in a savings level that pays back the investment within a reasonable period of time. The risk of performance is the government's and the homeowner's. Even if the improvements realize substantial savings in energy costs, these

savings are realized over time and only incrementally offset the costs paid out initially for the improvement. Thus, government pays for a service to be performed and not for the outcome for which the program was established.

Government now offers a variety of subsidized energy conservation programs, primarily to the low income population. The need for assistance continues, but the assumptions presently being accepted about the level of need and the products that should be available should be reassessed. Dollars spent on energy programs have an opportunity cost--they cannot be used to support other efforts to assist the low income population since governments have only a limited pool of resources to draw from. In energy, unlike other areas of low income need, programs that assist the consumers can, at least partially, be paid for from the cost savings that result and that would not have otherwise been available without the program.

Attitudes toward government and what and how much it should do and for whom have been radically changing since the late seventies. The need for cost containment, program effectiveness and continuing reassessment are being reinforced as values that must now be incorporated as ongoing tenets of local government operation. Theodore Levitt, in his classic article "Marketing Myopia,"¹⁸ convincingly argued that companies that wish to continue to grow must define their industries broadly to take advantage of growth opportunities. To continue growing they must ascertain and act on their customers' needs and desires, not bank on the presumptive longevity of their products. Government is no exception to this logic. It is when consumers who pay (taxpayers and businesses) revolt through measures such as Proposition 13 or indicate increasing levels of concern about the national debt that elected officials and civil service program managers and implementers make major changes in their management attitudes and courses of direction. Too often government's role is incorrectly identified as providing a particular program or type of service instead of trying to achieve a particular outcome or objective. It is time for governments at all levels to look for new ways of accomplishing their mission and objectives with the limited resources available.

¹⁸ Harvard Business Review, Sept./Oct. 1975, Vol. 53, No. 5.

In practical terms, the results in this project have led to a reassessment of the special efforts to market RSSDP to low income consumers. These efforts have now been discontinued based upon their ineffectiveness. The shared savings program will continue to be promoted as an option for any homeowner regardless of income. The choice on how to obtain energy improvements and the appropriateness of the RSSDP for the individual homeowner will continue to be the consumer's. The RSSDP will emphasize improving the offered packages and the quality and accessibility of contractors to maximize the attractiveness of shared savings as a viable option for consumer choice.

CHAPTER 3: SUMMARY AND LESSONS LEARNED

INTRODUCTION

The findings from this project have been presented in Chapter 2. Although the project did not live up to initial expectations, in terms of improving existing homes and generating low income homeowner interest, it produced some very valuable lessons--some applicable to public programs in general and others applicable to the Residential Shared Savings Demonstration Project and local energy conservation efforts specifically.

GENERAL

Markets must be Assessed Before Expanding or Initiating a New Program

Numerous techniques are readily available to governments and their staff to help determine the response of targeted market groups to particular programs and services that will or are being offered. Even if the choices to be assessed involve only how a program will be operated, market research can help program managers identify directions that enhance the chances of program success.

The in-depth exploration, or qualitative research opportunity that is available through focus groups can uncover a wide range of information, insight and ideas. Because it uses group dynamics to enhance discussion, this technique has the potential to reveal a wider range and a greater depth of information than could be obtained from individual open-end question-answer interviews. The quality and depth of the findings from use of the focus group technique, however, depend on the communication skills and research objectivity of the moderator.

Focus groups are an effective tool for testing new ideas, developing concepts, identifying consumer attitudes and behavior, identifying program or product problem areas and developing hypotheses. Insights gathered from this type of qualitative research can provide direction and guidance for decision makers.

Focus groups can also contribute to the effectiveness of quantitative research by identifying the variables that must be measured and developing the hypotheses for quantitative research to test. Quantitative precision is meaningless if the wrong variables are measured or the wrong hypotheses tested.¹⁹

Focus groups also help management make more effective use of quantitative data by uncovering the attitudes and human behavior which interpret and/or explain the underlying reasons for these results. It has been observed that, "It is a rare quantitative survey which does not raise questions as to why certain results were obtained."²⁰

In this project focus groups were used to help explain the results that occurred. The findings from these groups served as the basis for development of the individual survey instrument. It should be emphasized that focus groups provide explanatory, attitudinal and diagnostic information but cannot be used to measure pervasiveness in the total population. Quantitative research is needed to ascertain the extensiveness of the findings from the focus groups in the target population or market segment.

The focused group technique can be readily applied to government programs, especially where there is a clearly defined consumer. The approach has been used on a wide variety of subjects in the private sector (from advertising campaigns to zoo exhibits) and with diverse population groups (from attorneys to venereal disease victims).

Managers interested in implementing a specific program or addressing the perceived needs of a target group should use focus groups and other techniques, as resources allow, to ensure that the populations they hoped to serve will respond in the ways expected and to identify problems that inhibit realization of the projected results.

¹⁹Danny N. Bellinger, Kenneth L. Berhardt, Jac L. Goldstucker, "Qualitative Research in Marketing", American Marketing Association Monograph, Series 3 (1976), p. 5.

²⁰Bellinger, p. 49

These efforts should be conducted before implementation to reduce the potential for mismatching the offered product with the consumer's willingness to accept the offer. Focus groups are also a most effective tool for use in assessing program results and attempting to ascertain the reasons that the observed results occurred.

As a result of the use of focus groups and extensive interviews with individuals, it is clear that in Hennepin County, and under current circumstances, the Residential Shared Savings Demonstration Project (as it presently exists) is not an acceptable option to low income homeowners for meeting their energy improvement needs.

Analyze the Consumers' Options

Consumers, even those with low incomes and special needs, usually have choices on how they will satisfy their needs. Competition among products or programs can reduce the level of market penetration for each individual product and can dramatically affect the economic feasibility of continuing to provide the desired service.

Shared savings cannot compete with many existing public sector energy programs aimed at the low income population which provide improvements for free. Shared savings may have some advantages over these programs--guaranteed savings, for example--but customers definitely pay for the improvements they receive. When offered the choice between shared savings and a traditional public sector grant (or "deferred loan") program, the obvious and rational choice is the free program. This was clearly the choice being made by low income consumers during the Year Six Residential Shared Savings Demonstration Project.

There is also serious doubt that a private ESCo can make sufficient improvements to a home which has received energy improvements through various (and perhaps multiple) public energy/rehabilitation programs to make the financing of a shared savings option appropriate from the company's perspective. Thousands of homes which have been improved previously through various public programs may not be particularly energy efficient, but are nonetheless no longer attractive to an ESCo. There has been considerable discussion locally and nationally as to the appropriate level of energy efficiency to

which homes should be brought through the federal Weatherization Assistance Program and other state and local programs designed to assist the low income population. The results found in Hennepin County's effort to market RSSDP to the low income groups seem to support the contention of some that current conservation oriented efforts may be self-defeating from a larger, public policy perspective.

SPECIFIC

Shared Savings or Some Other Form of Performance Contracting can be a Feasible and Attractive Means to Assist Low Income Homeowners if the Options for these Consumers Change

In the current environment, publicly subsidized programs make the RSSDP a very poor second or third choice for low income residents. Reductions in federal and state budgets for energy conservation programs are likely to occur in the coming years. In such a situation, few of the current programs may continue to exist. In the absence of competition from free or heavily subsidized programs, shared savings could be a very attractive form of energy improvement financing--especially if the only other choices for the customer are to do nothing or to self-finance.

Shared savings could also become more attractive to this client group if a significant increase occurs in the price of energy. While this appears a remote possibility at present, even a modest increase may change the economics of shared savings enough to make it attractive to the low income population and more feasible for a private sector company.

Interest in energy improvements is highly correlated to the cost of energy. The current environment is one which de-emphasizes the need for individuals to take action to reduce consumption because retail energy costs have been generally stable and the wholesale prices have been declining. Other needs are being assigned high priority.

It should be noted, however, that the response to the RSSDP in the communities in which it has been offered has been dramatic and encouraging. In Robbinsdale, New Hope and Crystal more than 14 percent of all residents receiving an offer to participate in the RSSDP requested an audit. Almost

3.8 percent of the population solicited eventually elected to participate in the program by executing an Energy Services Agreement with the ESCo. Although Richfield was less responsive to this opportunity, more than 11 percent of the solicited homeowners requested audits and 1.9 percent proceeded with contracts. These figures are especially convincing when compared to response rates to RCS audit and low interest loan program offers. They are indicators of very real levels of consumer acceptance if there is a match between the product (service) and the consumer's needs.

The marketing strategy that achieved the highest success rate (3.2 percent of the solicitations resulted in contracts) was the Hennepin County sponsored direct mail approach with the low income insert. The differences found between ESCo sponsored marketing efforts and County sponsored efforts continued and were, as had been observed in New Hope and Robbinsdale, statistically significant.

Performance Contracting is an Appealing Approach to Increasing Consumer Confidence in Home and Energy Improvement Contractors

The shared savings approach requires that consumers shift from normal patterns of product response and understanding to some new concepts and methods of assessment. In this approach the consumer pays for the results of the installed improvements, rather than the methods and materials by which results are supposed to be secured. This is an unfamiliar approach that consequently makes consumers uncomfortable. For some people, understanding this difference has encouraged their participation. It is not uncommon that energy products or services fail to live up to the exaggerated claims and expectations that surround them. In the RSSDP, the company must back up their promises of performance by risking their compensation on the results that are achieved.

The use of this approach encourages contractors to make more reasonable claims and may assist in overcoming the very poor image that home and energy improvement firms have with the consuming public. Companies that cannot meet the promises they make will not be in business for long.

Coordination and Cooperation is Needed Among Programs Providing Assistance to the Low Income Population

During the project it became increasingly evident that the low income population is served by a confusing collection of energy programs that have different eligibility criteria, improvement packages, resource limitations, sponsors and regulations. Most participants in the focus groups and respondents to the follow-up surveys could not remember which programs they had used and who sponsored them, or even what they received as a result of their participation. The result can be duplication of some services and service gaps in other areas.

Direct and formal communication between sponsors is needed when programs are directed at a similar population. The emphasis should be on providing a comprehensive range of services, with different services provided efficiently from different sources. The clients' needs and the benefit/costs of the desired improvements should determine the services that are provided.

A Residential Shared Savings Program Can Achieve the Same Results as Existing Grant and Loan Programs with Less Public Subsidy

The results from this project indicate that shared savings is suffering from comparison with free and heavily subsidized alternatives. For the majority of the County's population, shared savings has been a very well received program. More than 770 installations have been completed and over 400 requests for audits were pending on January 1, 1986, in the six suburban municipalities that have had the opportunity to participate. This is very strong evidence that shared savings is a most attractive approach to consumers. The distribution of participants by household income provides further evidence that the program is being especially well received by those just above assistance level eligibility guidelines. Lower income clients have also participated.

Shared savings can be economically feasible for a private, non-profit or public agency. The unknowns at this point are the exact amount of the investment in improvements that will be required and the type of improvements that will provide the best return for the consumer, public and investors' dollars. At the very most it may be that some public subsidy will be

required to assist in the capitalization of ESCo's willing to serve the low income and single family residential markets. The investment would be in return for the private contractor's acceptance of risk and commitment to a longer-term relationship with the customer. A working partnership with the private sector will result in fewer public expenditures for improvements now being financed nearly 100 percent by government. In turn, this approach could lead to development of a continuing and revolving energy program investment fund.

For the winter of 1985-86 Minnesota was allocated nearly \$78 million for payments to low income persons under the Federal Energy Assistance Program. The first impact of the Gramm-Rudman-Hollings Act may well be felt on this program and a loss of up to 10 percent of the authorized funds could occur. In the city of Minneapolis nearly 20,000 applications for help from this program are expected. The time has come to look for longer-term answers. Shared savings is one approach that can be used to help pay for continuing improvements to area residences as governmental support declines.

Education of Consumers Must be Incorporated Into Energy Conservation Programs if Results and Savings are to be Maximized

Initially the Richfield research design included the opportunity to test the impact of consumer education on participation in the RSSDP and on the savings that result.

Limited grant resources and an ability to obtain additional funding for this part of the design resulted in the necessary elimination of the special educational effort. This does not, however, indicate that education was discounted in importance but rather that other and more basic project activities required more immediate attention.

It is clear that consumer behavior is a critical element in the effectiveness of any improvement program. The level of impact, however, has never been rigorously tested. This needs to be done to ascertain whether a clearer understanding by the participants of the relationship between behavior and energy savings will improve the consistency of savings that occurs.

CONCLUSION

The single most disturbing yet important finding of this project was that government may, as a result of its past use of heavily subsidized programs, have removed a major opportunity for the private sector to accept part of the responsibility for accomplishing energy improvements for low income homeowners. Although the willingness was there (however reluctantly) on the part of the ESCo, the market support was absent. The results from the extensive focus group and survey work initiated to find out why the low income consumers failed to respond has pinpointed previously installed improvements as the major reason. Changes can be made in the RSSDP to make it more attractive and to address some of the appropriate concerns by the members of the target population included in our market assessment effort, but the reality is that these changes will be of little value without market support and endorsement through participation. It would be unrealistic to anticipate any major change in consumer behavior if the current alternatives continue to be available to the low income population.

In a time of increasing pressure at the federal and state levels to control expenditures and to identify new ways of addressing the most pressing needs of our citizens (such as adequate food, shelter and health care) every effort must be made to include the private sector in the battle and to identify new approaches that can be used to help acquire the resources needed to address our growing list of public problem areas. The Residential Shared Savings Demonstration Project is one small effort to redirect our efforts and increase our resources. The RSSDP has been far from perfect, but it has been a major and progressive step and much has been learned. In this part of the project, the lessons have been learned from failure. Still, the knowledge obtained and presented in this report may be helpful to those who want to develop and implement a comprehensive Residential Shared Savings Program in their local area. These lessons have been the biggest benefit from the effort to market residential shared savings to low income homeowners.

APPENDICES

APPENDIX A: SAMPLE PROGRAM ANNOUNCEMENT LETTERS

This appendix contains the letters used by the County and Sentinel Energy of Minnesota, Inc. to inform Richfield residents of their opportunity to participate in the Residential Shared Savings Demonstration Project.

The letters were used in six mailing strategies:

1. Sentinel letter with no mention of County sponsorship (letter 1) and no low income insert.
2. Sentinel letter with no mention of County sponsorship (letter 1) but including the separate low income insert.
3. Sentinel letter which mentions Hennepin County as the project sponsor (letter 2) with no low income insert.
4. Hennepin County letter (letter 3) with no low income insert.
5. Hennepin County letter (letter 3) with the low income insert.
6. Hennepin County letter (letter 3) with a utility endorsement (letter 4) but no low income insert.



SENTINEL ENERGY OF MINNESOTA, INC.

"YOU SAVE OR WE PAY!"

Dear Richfield Homeowner:

You may be eligible to participate in a new energy program designed to reduce energy costs for qualifying homeowners without any financial risk or upfront costs. This new service is being introduced to homeowners in your city by Sentinel Energy, one of the nation's largest independent residential conservation companies.

The central feature of this program is a new concept called "shared savings." With this concept, Sentinel installs needed energy improvements in your home at no initial cost to you. The contractor is paid only to the extent your utility bills are actually reduced. If the improvements do not produce an energy savings, there are no costs to you. If there are savings, you and the contractor share the financial benefits proportionately. This program shifts risks to the contractor and away from the homeowner.

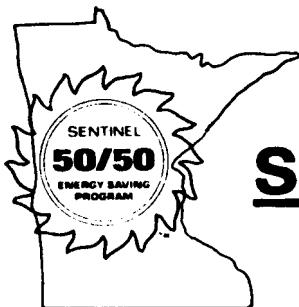
If you have lived in your home for over two years, you are eligible for a free, no obligation home energy audit. After the energy audit, you and the auditor can discuss improvements which will result in possible energy savings and determine whether or not you are interested in and qualify for the program.

If you are interested in participating in this program, please return the enclosed postage paid card as soon as possible. When the card is returned, we will contact you to schedule your free, no obligation energy audit. If you have any questions, please feel free to call 535-1880.

Sincerely yours,

Richard M. Esteves
President

tf
Enclosure



SENTINEL ENERGY OF MINNESOTA, INC.

"YOU SAVE OR WE PAY!"

Dear Richfield Homeowner:

You may be eligible to participate in a new energy program sponsored by Hennepin County designed to reduce energy costs for qualifying homeowners without any financial risk or upfront costs. Hennepin County has selected our company, Sentinel Energy of Minnesota, to implement this new program.

The central feature of this program is a new concept called "shared savings." This approach allows us to help you reduce your energy costs without any tax dollars. Under this concept, the contractor installs needed energy improvements in your home and is paid over time based on the level of energy savings that are projected. You and the contractor will be sharing the savings. If the improvements do not ultimately produce the expected savings, there will be no cost to you.

If you have lived in your home for over two years, you are eligible for a free, no obligation home energy audit. After the energy audit, you and the auditor can discuss improvements which will result in possible energy savings and determine whether or not you are interested in and qualify for the program.

Hennepin County, through the Office of Planning and Development, has started this demonstration program to help you reduce your energy bills. Heating and cooling bills represent a substantial part of a family's budget. Improving the energy efficiency of your home will keep more dollars in our local economy. Hennepin County, therefore, encourages you to consider this shared savings approach to reducing your energy consumption.

If you are interested in participating in this program, please return the enclosed postage paid card as soon as possible. When the card is returned, we will contact you to schedule your free, no obligation energy audit. If you have any questions, please feel free to call 535-1880.

Sincerely yours,

Richard Hammond
Project Director

tf
Enclosure

JOHN E. DERUS
CHAIRMAN



PHONE
348-3086

BOARD OF HENNEPIN COUNTY COMMISSIONERS

2400 GOVERNMENT CENTER
MINNEAPOLIS, MINNESOTA 55487

Dear Hennepin County Homeowner:

You may be eligible to participate in Hennepin County's new energy program designed to reduce energy costs for qualifying homeowners. This program sponsored by Hennepin County in cooperation with the city of Richfield is designed to eliminate any financial risk for homeowners interested in making their home more energy efficient.

This program is being introduced to randomly selected homeowners in your area. The County has selected Sentinel Energy, one of the nation's largest independent residential conservation companies, to help implement this special program to reduce energy costs.

The central feature of this program is a new concept called "shared savings." This approach allows us to help you reduce your energy costs without any tax dollars. Under this concept, the contractor installs needed energy improvements in your home at no initial cost to you. The contractor is paid only to the extent your utility bills are actually reduced. If the improvements do not produce an energy savings, there are no costs to you. If there are savings, you and the contractor share the financial benefits proportionately. This program shifts risks to the contractor and away from the homeowner.

If you have lived in your home for over two years, you are eligible for a free, no obligation home energy audit, regardless of your income. After the energy audit, you and the auditor can discuss improvements which will result in possible energy savings and determine whether or not you are interested in and qualify for the program.

Hennepin County, through the Office of Planning and Development, has started this demonstration program to help you reduce your energy bills. Heating and cooling bills represent a substantial part of a family's budget. Improving the energy efficiency of your home will keep more dollars in our local economy. Hennepin County, therefore, encourages you to consider this shared savings approach to reducing your energy consumption.

If you are interested in participating in this program, please return the enclosed postage paid card as soon as possible. When the card is returned, someone from the Shared Savings Demonstration Project will contact you to schedule your free, no obligation energy audit. If you have any questions, please feel free to call 612-535-1880.

Sincerely,

A handwritten signature in dark ink, appearing to read "John E. Derus".

Commissioner John E. Derus, Chairman
Hennepin County Board of Commissioners



Dear Homeowner:

Shared Savings is a new concept in the energy conservation field. Hennepin County has initiated a unique and innovative Shared Savings Demonstration Project which is being offered to Richfield homeowners.

Minnegasco is cooperating with Hennepin County in the Demonstration Project to test this new program designed to help you control your energy costs. Any investment in energy conservation today will save energy as long as you own your home.

Shared Savings is unique because there are no up-front costs to the homeowner. If the improvements installed in your home do not produce the projected energy savings, there is nothing you have to pay. If the improvements cause a reduction in your energy consumption, you and the contractor share the resulting savings. All the risk is assumed by the contractor.

Minnegasco encourages you to consider participation in the Shared Savings Demonstration Project as a way to improve the energy efficiency of your home.

Sincerely,

A handwritten signature in black ink, appearing to read "John Sweney".

John Sweney

/bb

83 / 84

APPENDIX B

The content of the brochure used to help inform and interest lower income clients in the RSSDP is shown in this appendix. The brochure was actually a three fold pamphlet that allowed the client to detach the expression of interest from the descriptive material and mail this preaddressed business reply card to the County to receive further information on any of the four available programs.



If You Have Trouble
Meeting Your
Monthly Utility Bills,
There Are Several
Programs Specially
Designed To Help You.

Consider each of these programs as a way to reduce your utility bills. Depending on eligibility, you may qualify for one or more programs. You may want to apply for energy assistance payments to reduce your utility bills and use one of the other weatherization programs to make your home more energy efficient as a way of making your utility payments even smaller.

RICHFIELD HOUSE DOCTOR PROGRAM

The House Doctor program provides free home weatherization to low and moderate income Richfield homeowners. This is a new pilot program sponsored by the City of Richfield and Minnegasco.

Description:

Income eligible homeowners receive free weatherization improvements installed in their home. This can include caulking, weatherstripping and other measures.

Qualifications:

You must be a Richfield resident and fit the income guidelines below.

Family Size	Annual Income
1	\$11,500
2	13,100
3	14,750
4	16,400
5	17,700

NATURAL RESOURCES CORP.

WEATHERIZATION PROGRAM

Low and fixed income residents may be eligible for this free program which will make your home more energy efficient.

Description:

Eligible applicants will receive a free home energy audit. Based on the audit, a variety of weatherization improvements will be installed at no cost to you. Improvements consist of insulation, and weatherstripping and other comprehensive energy reduction measures.

Qualifications:

Income guidelines are as follows:

Family Size	Annual Income
1	\$ 6,225
2	8,400
3	10,575
4	12,750
5	14,925

HENNEPIN COUNTY SHARED SAVINGS

DEMONSTRATION PROJECT

This program provides a unique alternative to help you finance home energy saving improvements.

Description:

Your home receives a free energy audit. You can then have a contractor install energy saving improvements. There are no upfront costs. You pay only to the extent your utility bill is reduced and your energy savings is guaranteed.

Qualifications:

There are no income guidelines.

To be eligible, you must:

- Own your home.
- Heat your home with either natural gas or electricity.
- Have lived in your home for the past two years.

ENERGY ASSISTANCE PAYMENTS

Energy assistance payments are direct grants made on your behalf to the utility to reduce your heating bills.

This federally funded program paid an average of \$345 to low and moderate income residents during the last heating season.

Family Size	Annual Income
1	\$ 7,493
2	9,798
3	12,105
4	14,411
5	16,717

Yes!

I want to know more about ways to cut my energy costs.

I'm interested in the following programs.

Check one or more.

- Energy Assistance Payments
- Hennepin County Shared Savings Project
- Richfield House Doctor Program
- Natural Resources Corp. Weatherization Program

Last Name _____

First _____

Street Address _____

City _____ Zip _____

Phone Number _____

I hereby authorize Minnegasco, NSP and my municipal water utility to supply my consumption records to the Hennepin County Office of Planning and Development, as needed, for the purpose of energy related research. This information will be kept completely confidential.

Drop this in the mail after you complete it. No postage is necessary.

Signature _____

APPENDIX C

Two versions of the Low Income Conservation Survey were used in this project. The first version was used in Richfield. After reviewing the results of that survey and the focus groups, a modified version was developed for the interviews with residents from the northwestern suburbs.

LOW INCOME ENERGY CONSERVATION SURVEY
(used in Richfield)

Questionnaire # _____ Date _____ Interviewer Initials _____

Hello, my name is _____ and I'm working with Hennepin County. I want to point out that I'm not selling anything. The County is doing energy research in your community and we would like to survey your household. May I speak to the person in your household who is most familiar with your household's energy consumption? (Find out when it would be convenient to talk with that person if he/she is unavailable.)

(Repeat if necessary.) Your comments will be grouped with the responses from other households in your community and will only be used for energy research by Hennepin County.

1. May I ask what type of dwelling you are currently living in?

<input type="checkbox"/> freestanding home	{	continue interview			
<input type="checkbox"/> town house		{	terminate interview		
<input type="checkbox"/> owner occupied duplex				{	
<input type="checkbox"/> condominium					{
<input type="checkbox"/> apartment					
<input type="checkbox"/> mobile home					
<input type="checkbox"/> other					

2. What is the major source of fuel used for heating your home?

<input type="checkbox"/> gas	{	continue interview	
<input type="checkbox"/> electric		{	terminate interview
<input type="checkbox"/> fuel oil			
<input type="checkbox"/> wood			
<input type="checkbox"/> other			

3. In what year was your house built?

Year _____ Don't Know _____

4. How long have you lived in your home?

Year _____ Don't Know _____

5. About how much living space do you have? (Include only heated areas.)
(Read list.)

<input type="checkbox"/> less than 500 sq. ft.
<input type="checkbox"/> 500-749 sq. ft.
<input type="checkbox"/> 750-1249 sq. ft.
<input type="checkbox"/> 1250-1699 sq. ft.
<input type="checkbox"/> 1700-2249 sq. ft.
<input type="checkbox"/> more than 2250 sq. ft.

6. Does your household participate in the "Budget Plan" provided by Minnegasco?

Yes
 No

7. Does your household participate in Minnegasco's "Service Plus" program?

Yes
 No

8. Which of these programs for homeowners are you aware of? Have you heard of?

- Energy (Fuel) Assistance Program
- Weatherization Program
- Hennepin County Shared Savings Program
- Low Interest Government Loan Program for Housing Rehabilitation
- Low Cost Utility Sponsored Home Energy Audits
- None of the Above

9. Have you yourself made any improvements in your home to reduce your fuel bills?

Yes
 No (skip to question 9)

(If Yes)

a. Could you please tell me which of these improvements you have made?
(Read list.)

attic insulation and venting
wall insulation
sealing, caulking, weatherstripping
new storm windows, doors
new thermostat
new furnace
set-back thermostat
other/specify

b. Now I would like to find out how you financed these improvements, I'm going to read a list of those improvements you had installed. Please tell me if you financed the improvements by spending cash out of your own pocket, through a regular bank loan, a low interest government backed loan, or through a government program without any cost to you.

10. Are you aware of any energy saving improvements which may have been installed in your home prior to your ownership?

Yes
 No

a. Which are you aware of? I'm going to read a short list.

attic insulation and venting
wall insulation
sealing, caulking, weatherstripping
new storm windows, doors
new thermostat
new furnace
other/describe _____

No	Yes

11. Considering your home now, do you think your home needs any (additional) improvements to reduce your fuel bills?

Yes
 No (skip to question 11)

a. Do you plan on having any of these improvements installed during the next year?

Yes
 No (skip to d)

(If Yes)

b. What improvements do you plan to make during the next year?

attic insulation and venting
wall insulation
sealing, caulking, weatherstripping
new storm windows, doors
new thermostat
new furnace
other/specify _____

No	Yes

Cash
Reg Bank Loan
Low Int Govt Program
Govt Program
Without Any C

c. Now I'd like to find out how you plan to finance these improvements. You said you plan to install _____. How will you finance that improvement? (Skip to question 11)

(If No)

d. You said your home needs energy improvements, but you do not plan to have them installed during the next year. Why Not? (probe)

12. If you spent \$100 on home energy improvements, how much would you expect to save on your utility bill annually? _____ (\$ amount/year)

13. Next, I want your opinion about a new way for you to get your home weatherized. First, I'm going to read a general description of the program and then I'll ask you some specific questions about the elements of the program.

The weatherization service is called "shared savings." First, a private contractor provides the home with a free, no obligation energy audit. The audit will identify areas in the home which can be improved to reduce the household's energy bills. If the homeowner wants the improvements, the contractor will install them. The homeowner agrees to share with the contractor any resulting energy savings caused by the installation of the improvements.

Under the shared savings program, the contractor projects the savings that will occur if he installs the improvements. He guarantees that level of energy savings. To show you how this works let me use an example where the household is spending \$1,400 per year for their gas, electric and water. Let's also assume in this hypothetical situation that the contractor projects a 20 percent savings.

First, the homeowner would sign a five-year contract. The contractor agrees to install and maintain the improvements. The homeowner agrees to split any resulting savings. During the first three years of the contract savings is split 75/25 with the contractor receiving the greater amount. This would mean that the homeowner would pay the contractor his share of the savings through monthly payments of \$17. During the last two years of the contract, the savings are split 50/50. This would mean the monthly payment would be about \$12.

The savings guarantee is backed by an insurance company. If the contractor fails to project the household's savings accurately, causing monthly payments to be made larger than they are suppose to be, the homeowner will get a refund for the difference.

Now, that is a general description of a shared savings services. I'd like to continue by asking you some specific questions about this new service.

a. What do you think about the free, no obligation energy audit? Is this satisfactory to you? (probe)

b. What do you think about the guaranteed energy savings that the contractor promises will be achieved? Is that satisfactory to you? (probe)

c. What do you think about splitting the savings with the contractor. Remember my hypothetical case. The homeowner is promised a 20% reduction in his energy bills. That means he will be making monthly payments to the contractor of \$17 for three years and \$12 for two years. Remember, these payments come from the resulting savings. What do you think about this financing plan? Is it satisfactory to you? (probe)

d. What do you think about splitting these savings through a contract for 5 years? Is that satisfactory to you? (probe)

14. If this type of service were offered to you, do you think you would be interested?

Yes Why? (probe) _____

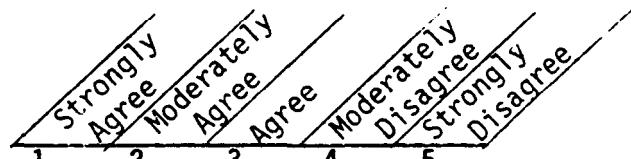
No Why? (probe) _____

15. If this type of service were offered to you by the government, do you think you would be more or less interested?

More Interested Why? (probe) _____

Less Interested Why? (probe) _____

The following general questions seek information about your attitudes on a variety of issues.



16. My energy bills represent a large part of my family's budget.

1 2 3 4 5

17. Information received from a government agency is usually truthful.

1 2 3 4 5

18. Information received from a private business is usually truthful.

1 2 3 4 5

19. Information received from a utility company is usually truthful.

1 2 3 4 5

20. What role, if any, do you think local governments should play in helping residents make energy improvements? (probe--who, what how)

These final demographic questions are for statistical purposes only.

21. How many adults (age 18 and over) are there in your household? _____

22. What are their ages? Enter the number of adults, e.g., 1, 2, 3, in each age range.

- 18-21
- 22-24
- 25-34
- 35-44
- 45-54
- 55-64
- over 65

23. How many children (under age 18) are there in your household? _____

24. What are their ages? Enter the number, e.g., 1, 2, 3, in each age range.

- 0-5
- 6-12
- 13-17

25. What is the highest level of education achieved by each adult (persons over 18) in your household? Enter the number of adults, e.g., 1, 2, 3, in the appropriate category.

- did not graduate from high school
- high school graduate
- 1-3 years of college
- college graduate
- college graduate +

26. What is your educational level?

- did not graduate from high school
- high school graduate
- 1-3 years of college
- college graduate
- college graduate +

27. What is your age? _____

28. Sex?

- Male
- Female

29. And what was your total family income last year? (Do not read categories. Mark the appropriate category.)

- less than \$2,500
- \$2,500 to \$4,999
- \$5,000 to \$7,499
- \$7,500 to \$9,999
- \$10,000 to \$12,499
- \$12,500 to \$14,999
- \$15,000 to \$19,999
- greater than \$20,000

30. That's all the questions I have. Thank you for your help. To close this interview, is there anything else you would like to say about energy conservation?

Interviewer Comments:

LOW-INCOME ENERGY CONSERVATION SURVEY (revised)
 (used in northwestern suburbs)

Questionnaire # _____

Phone _____

In-Person _____

Date ___/___/___

Introduction:

Hello, may I speak to Mr./Ms. _____. My name is _____; I'm working for Hennepin County and we are doing research on energy conservation. This interview will take only about 10 minutes of your time.

We're not selling anything. We just want to find out what has been done in your neighborhood in terms of energy conservation. Anything you say during this interview will be kept completely confidential. May I ask you a few questions?

Not willing. Is there another time we could call when it would be more convenient? _____ (If NO, then--Well, thanks anyway. Sorry to bother you. End.)

Cooperative. Continue.

1. Fine. May I ask, what type of dwelling are you currently living in? (read list)

freestanding home
 town house
 condominium
 apartment
 duplex
 other

2. Do you own your residence or rent? own rent

(For renters, go to question 13.)

3. About how much living space do you have? (Include only heated areas.) (read list)

less than 500 sq. ft.
 500-749 sq. ft.
 750-1249 sq. ft.
 1250-1699 sq. ft.
 1700-2249 sq. ft.
 more than 2250 sq. ft.

4. Are any energy-saving improvements needed in your home now?

no, all needed improvements have been made
 some improvements probably needed
 don't know

5. Let me mention some specific things. Do you need? (read list)

	<u>Yes</u>	<u>No</u>	<u>Don't Know</u>
attic insulation and venting	____	____	____
wall insulation	____	____	____
sealing, caulking, weatherstripping	____	____	____
new storm windows, doors	____	____	____
new thermostat	____	____	____
new furnace	____	____	____

Is there anything else you think you need? _____

6. Assuming you were going to have the improvements you mentioned installed. How would you finance them? (Read the improvements they said they need and record how they plan to finance them.)

	I'd get help from the government	finance themselves	can't afford	don't know
attic insulation and venting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wall insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sealing, caulking, weatherstripping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
new storm windows, doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
new thermostat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
new furnace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. I'm going to read a list of improvements you said you do not need. I want to know if you yourself had these improvements installed, and if so, I would like to know how you financed them.

	public program	financed myself	don't know
attic insulation and venting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wall insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sealing, caulking, weatherstripping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
new storm windows, doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
new thermostat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
new furnace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. If you spent \$100 on home energy improvements, how much would you expect to save on your utility bill annually? _____ (\$ amount/year)

9. What kind of services might be helpful to you in getting the right energy saving improvements done? (read list)

	Yes	No	Public	Private	No opinion Depends
financial assistance	<input type="checkbox"/>				
financial arrangements that allow you to pay for improvements over time	<input type="checkbox"/>				
list of reliable contractors, their services, prices, etc.	<input type="checkbox"/>				
energy audit, home diagnosis, thermograph, etc.	<input type="checkbox"/>				
a public service which puts in improvements free	<input type="checkbox"/>				
Other _____	<input type="checkbox"/>				

10. Do you think public agencies or private organizations should provide these services? (read list again) _____

11. What role, if any, do you think local governments should play in helping residents make energy improvements? (probe--who, what, how)

12. Which of these programs for homeowners are you aware of? Have you heard of?

- Energy (Fuel) Assistance Program
- Weatherization Program
- Neighborhood Energy Workshops
- Richfield House Doctor Program
- Hennepin County Shared Savings Program

13. Now, I'd like to get your opinion about a particular energy conservation program. First, let me describe it, then I'll ask you some questions about it.

In the first step of this program an energy conservation specialist examines your home. This specialist may then find improvements which can be put in your home to save energy. If you want them installed, you can sign a five year contract with the company and they will install them.

Now, here is the unique part. You are guaranteed to be able to pay for these improvements out of the energy savings. What this means is that the combined total of your energy bills and the payments to this company after the improvements are installed will be less than your energy bills would have been without the improvements. This is guaranteed. If savings don't result or are very small, the company loses out. Of course, after the five-year contract is over you get the full benefit of all energy savings.

Do you get the idea? Underline specific concerns. If a concern cannot be related to the above paragraph, record the problem area below.

What do you think about this program? (probe)

If this program were available in your neighborhood, do you think you would try it? Why or why not? (probe)

14. How many people are there in your household? _____

15. What is your age? _____

16. Sex? Male Female

17. And what was your total family income last year? (Do not read categories. Mark the appropriate category.)

- less than \$2,500
- \$2,500 to \$4,999
- \$5,000 to \$7,499
- \$7,500 to \$9,999
- \$10,000 to \$12,499
- \$12,500 to \$14,999
- \$15,000 to \$19,999
- greater than \$20,000

18. That's all the questions I have. Thank you for your help. To close this interview, is there anything else you would like to say about energy conservation? _____

NAMES OF PARTICIPANTS IN THE PROJECT

Robert D. Miller	Planning Supervisor Office of Planning and Development Hennepin County	Project Director
James M. Ford	Senior Planner Office of Planning and Development Hennepin County	Project Manager
Brian B. Huling	Program Analyst Office of Planning and Development Hennepin County	Project Staff
Richard M. Esteves	President Sentinel Energy of Minnesota	
Richard Hammond	General Manager Sentinel Energy of Minnesota	
James Maitilasso	Operations Supervisor Sentinel Energy of Minnesota	

REPORT AND INFORMATION SOURCES

Additional copies of this report, *Shared Savings and Low Income Homeowners: Results of a Demonstration Project in Hennepin County*," are available from:

Publications and Distribution
Public Technology, Inc.
1301 Pennsylvania Avenue Northwest
Washington, DC 20004

Further information on the procedures, progress and evaluation of Hennepin County's Residential Shared Savings Demonstration Program is available through:

Robert D. Miller, Project Director
Office of Planning and Development
A-2308 Government Center
Minneapolis, MN 55487-0238

DG/85-312
05/86-100