THE URBAN CONSORTIUM

PTI's Urban Consortium is a partnership for changes. With leaders from 50 of the nation's largest cities and counties, the Urban Consortium is dedicated to all urban areas that are the foundation of America's economic and social health. Top elected and appointed officials join together in a Consortium that seeks new partnerships to ensure that the obstacles to a secure, healthy and safe life are removed for citizens as well as businesses to flourish. Established in 1974 to explore the application of technology to pressing problems in large urban jurisdictions, the Urban Consortium (UC) has pioneered the development of many groundbreaking management systems and technologies for communities. Many of these solutions enforce and support the concept of Public Enterprise; a term coined by PTI to describe an entrepreneurial approach to improving services to citizens while generating non-tax revenues.

The Urban Consortium Energy Task Force (UCETF)

For over ten years, the UCETF has been a leader in developing local strategies responsive to the national energy situation and critical environmental concerns. The mission of the Task Force is to:

- improve energy efficiency, cut costs and develop revenue from local energy assets
- develop innovative yet practical approaches in energy management
- create sustainable programs that balance the economic vitality of local governments with energy, environment and quality of life issues
- provide a stimulating arena where local government officials can share experiences and gain valuable perspectives on energy technologies
- address the overlap between energy and environmental policy issues

UCETF membership includes elected officials, management and technical professionals from urban cities and counties. Its links to national organizations, such as the National Association of State Energy Officials (NASEO), the National League of Cities, National Association of Counties, and the International City/County Management Association assures the wide-spread exchange of information and technology. The UCETF applied research and development program, funded in part by the US Department of Energy, has successfully addressed diverse energy problems, identifying solutions for our nation's largest urban cities and counties. Some of the UCETF's achievements include:

- saving local governments and citizens millions of dollars by lowering energy bills
- developing and implementing sustainable energy planning methods and programs for cities and counties
- testing environmentally sound alternative fuels and means for fuel distribution in municipal fleets
- making existing and new buildings more energy efficient by using new technologies and education programs
- creating joint utility and local government programs to offer residential, commercial and industrial sector incentives for sound energy management practices
- evaluating and combining project results for replication in other cities and counties
- building the capability of local government staff and leveraging public funds with private investments

Public Technology, Inc.

PTI is a non-profit institution created in 1971 by the major national associations of local and state governments. Our mandate is to create and disseminate new technology in society, responsive to the needs of local governments. Today, the National League of Cities, the National Association of Counties, and the International City/County Management Association provide policy leadership and sponsor the efforts of PTI.

PTI uses a consortium of entrepreneurial and innovative cities and counties to provide an effective and coordinated urban laboratory in the technology research, development and commercialization cycle. PTI also seeks to involve local government in technology standard setting processes. PTI's work is conducted through 3 task forces, Energy, Environment and Telecommunications and Information.

PUBLIC TECHNOLOGY, INC.

1301 Pennsylvania Ave., NW
Washington, DC 20004-1793
202.626-2400
800.852.4934
FAX 202.626-2498

DOE/CE/27504-.T7

June 1993

MINORITY MARKETING FOR RESOURCE CONSERVATION

**A Research Project to Study Methods of Outreach in Hispanic Minority
Communities Regarding Issues of Energy and Resource Conservation**

**Energy Task Force
of the Urban Consortium
for Technology Initiatives**

**CITY OF TUCSON
City Manager's Office
Office of Energy and Environment**

MASTER

rp
REPLICATION OF THIS DOCUMENT IS UNLIMITED

PREFACE

1992 Urban Consortium Energy Task Force Publications

With staff, management, and business services provided by PTI, the Urban Consortium (UC) addresses the critical needs of large local governments through 3 task forces: Energy, Environment, and Telecommunications and Information. The Urban Consortium Energy Task (UCETF) was set up with the main objective to improve urban energy management and decision-making through applied research and technology transfer.

The UCETF focuses on developing and sharing new approaches and innovative solutions to energy management problems with local governments. Projects are organized in thematic units and co-managed by a member of the Task Force.

A description of the Units and projects included in the 1992 program are as follows:

ENERGY, ENVIRONMENT, ECONOMIC AND SOCIAL DEVELOPMENT

"Sustainability" is a planning goal to provide an integrative systems approach to meeting all our needs for today and tomorrow. Evaluating the needs of citizens and developing effective and efficient ways to meet those needs is a primary responsibility of local governments. Cities and counties are currently beset by a wide range of problems that in fact are symptoms of some common and pervasive ills. Our problems with energy, environment, economic and social development are related in a complex and interdependent way. These problems, therefore, cannot be effectively solved through a piecemeal approach without recognizing and addressing the interdependent relationships between these areas. The 1992 Energy, Environment, Economic and Social Development consist of:

Dade County, FL — A Long Term Urban Carbon Dioxide Emission Reduction Program

Pima County, AZ — Sustainable Community Implementation Partnership

Portland, OR — Sustainable Business Development Program

San Jose, CA — Negotiating a Demand Side Bid: The City of San Jose Case Study

San Jose, CA — "Green Aisle" Research Program

Santa Clara, CA — Fuel Cell Demonstration Partnership Program

Austin, TX — Sustainable Building Sourcebook

Chicago, IL — Downtown District Cooling: A 21st Century Approach

Chicago, IL — Role of Municipal Governments in the Design and Implementation of Energy Efficiency Codes and Standards Designed to Capture Lost Efficiency Opportunities

Seattle, WA — Coordination of Energy and Air Quality (CEAM)

St. Louis, MO — Earthways Home Project: An Educational Center for Sustainable Urban Development

Tucson, AZ — Minority Marketing for Resource Conservation

Washington, DC — Energy Auditor Training Course for High School Students

ENERGY EFFICIENT FACILITIES

Activities involving energy efficient facilities are part of a national effort to achieve maximum cost-effective energy productivity in the building sector. New technologies and management/administration practices to advance energy efficiency in facilities require major partnership efforts and transfer programs. Multifamily housing that has a large concentration of low-income families presents a unique challenge to lowering energy costs and maintaining energy efficient facilities. Both existing building stock and near-term new construction need to be made much more energy efficient if we are to meet local, state, and national objectives related to energy security, energy supply, and energy affordability. Space heating and cooling, lighting, water heating, refrigeration, cooking, ventilation, building envelope, energy efficient codes implementation, operation and maintenance (O&M), education, etc. are areas where opportunities exist to improve energy efficiency. The 1992 Energy Efficient Facilities Unit consists of:

Boston, MA — Energy Efficiency Outreach Partnership

Columbus, OH — Integrating Operations and Maintenance (O&M) for Energy Efficiency with O&M for Improving Indoor Air Quality

Hennepin County, MN — Integrated Rehab and Weatherization Program for Low Income Suburban Homeowners

Memphis, TN — Upgrade Energy Building Standards and Develop Rating System for Existing Low-Income Housing

New Orleans, LA — Utilization of Energy Efficiency to Support Homeownership Affordability

Detroit, MI — Energy Optimization of Water Distribution System

Montgomery County, MD — CFC Maintenance and Conversions in Chillers: The Commercial Building Response to the 1990 Clean Air Act

New York City, NY — Development of an Energy Services Corporation

Phoenix, AZ — Solar Cooling Demonstration Project

San Francisco — Energy Management Action Plan (EMAP)

TRANSPORTATION

It is frequently said that the goal of transportation strategies should be moving people, not vehicles. But in the day and age of satellite networks, cellular phones, and personal computers, we can redefine transportation as access to goods, services, and information to meet the needs of local governments and their citizens. Alternative transportation fuels are still a major piece in a very large and complex puzzle facing local governments that includes wide-reaching concerns about transportation. There are many factors related to transportation that affect local governments: increasing congestion, crumbling infrastructure of roads and bridges, unchecked urban/suburban sprawl, and the increased "paving over" of our communities that leads to urban heat islands. Federal, state, and urban governments each share in the responsibility and must play a role in providing a sustainable and multi-faceted transportation system that is based on comprehensive and integrated planning at all levels. The 1992 Transportation unit consists of:

Houston, TX — Public/Private Partnership to Identify Barriers & Provide Solutions to Implement Large Scale Fleet Natural Gas Vehicle Utilization

in Ozone Non-attainment Areas

New York City, NY — Energy and Economic Implications of Transportation Demand Management Strategies

Pittsburgh, PA — Natural Gas Infrastructure Development

Seattle, WA — Telecommuting for City Employees

Albuquerque, NM — A Fully Integrated Multi-Fuels Service Stations

Denver, CO — Technical Comparison Between Hythane (H₂/CNG) and CNG Fueled Vehicles

Las Vegas, NV — Reduction of Diesel Exhaust Emissions in Urban Mass Transit Vehicles with Alcohol Injection Systems

San Diego City, CA — California Clean Air Act - A Compliance Strategy for the City of San Diego's Non-Emergency Fleet

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

**Energy R,D&C Program
Public Technology, Inc.
1301 Pennsylvania Avenue, NW
Suite 800
Washington, DC 20004**

**Tel: 1-800/852-4934 or
202/626-2400**

Fax: 202/626-2498

ACKNOWLEDGEMENTS

The originator of this project was Karen J. Heidel, Resource Manager for the Office of Energy and Environment, City of Tucson, and Director for this project. Ms. Heidel was selected to head the Maricopa County Department of Environmental Quality in March 1993 and Mr. Jerry Anderson, as Interim Manager, directed the last quarter of this grant project. Cecilia A. Vindiola, Resource Conservation Coordinator, Office of Energy and Environment, City of Tucson, was the project manager and principle staff responsible for all aspects of the project.

This grant project included a grant partner with additional research duties. Chicanos Por La Causa (CPLC), graciously accepted this partnership responsibility. This office wishes to thank Ms. Lorraine Lee, Vice President Tucson Office, Mr. Lautaro Diaz, Director of Resource-Economic Development, and Mr. James A. Robles, CPLC University of Arizona (U of A) Intern. Their participation and dedicated efforts were a major contribution to the success of this grant project. CPLC also assisted in establishing a community based Advisory Board of seven individuals who also devoted a significant number of hours studying and developing recommendations related to the most effective outreach methods in minority and low-income communities. See page 48 for a list of those participants.

Project staff wish to express their appreciation to all who helped bring this project to a successful conclusion. This includes the City of Tucson Operations Department Recycling Office, Tucson Clean and Beautiful, Metropolitan Waste Reduction Task Force, Tucson Environmental Council, City/County Household Hazardous Waste Program, Pima County Solid Waste Division, Pima County Department of Environmental Quality, Pima Association of Governments Travel Reduction Program, Arizona State Department of Water Resources, Pima Community College Recycling Program, Tucson Unified School District Resource Conservation Program and special thanks are due to Dr. Edwin H. Carpenter, Research Methodologist, University of Arizona, Agricultural Economics Department. Dr. Carpenter devoted many hours beyond those contractually required to ensure the quality of the statistical results of the telephone and mail-out survey. The Metropolitan Energy Commission (MEC) and the City of Tucson Water Conservation Office provided additional funding for the mail-out survey. Special thanks go to their representatives, Vivian Swearingen (MEC), Fernando Molina and Thomas W. Arnold (Water Conservation) who devoted many hours planning for future use of this data.

Staff wishes to express our sincere thanks to the U.S. Department of Energy, the Energy Task Force of the Urban Consortium, and the City of Chicago for the administration of the Minority Marketing Grant.

Project Staff

Cecilia A. Vindiola, Project Manager
Gerald C. Anderson, Project Director

CONTENTS

CHAPTER 1 - OVERVIEW	Page
Abstract	1
Project Purpose	2
Report Organization	4
CHAPTER 2 - GENERAL BACKGROUND AND DESCRIPTIONS ("CONCEPT")	
Introduction	5
CHAPTER 3 - PROJECT DESCRIPTION ("CONDUCT")	
"FUTURE DIRECTIONS" Survey Results	8
A Resource Conservation, Attitude and Behavioral Survey With a Focus on Recycling, Water, Transportation and Energy	
Tables A Through W - Mail-Out Survey Results	26
Tables AA Through OO - Telephone Survey Results	38
"AN EVALUATION OF MINORITY AND LOW INCOME POPULATION	44
PARTICIPATION IN RESOURCE CONSERVATION PROGRAMS"	
Appendix A, B, and C	58
Tables 1, 2, and 3	64
CHAPTER 4 - SUMMARY AND SUGGESTIONS FOR APPLICATION ("LESSONS LEARNED")	
Lessons Learned	67
Suggestions For Application	67
APPENDIX	
"FUTURE DIRECTIONS" Mail-Out Survey	68
REPORT AND INFORMATION SOURCES	71

CHAPTER 1 - OVERVIEW

ABSTRACT

The Minority Marketing Program established baseline environmental informational data related to City of Tucson minority communities. The data is intended to be used to further develop the energy conservation, environmental education and neighborhood outreach programs. The goal of these new programs is to positively affect the participation rates of all City sponsored community environmental programs with a special emphasis on minority communities.

The Minority Marketing Program developed a survey, in conjunction with the University of Arizona, to establish a database of environmental awareness information City-wide but with a special emphasis on an area composed of 10 census tracts within a primarily Hispanic community. This survey was constructed using federal non-proprietary software entitled Questionnaire Programming Language (QPL) and was administered as a computer assisted telephone interview (CATI), as well as a total design method mail-out survey. This approach produced data that is reliable within $\pm 5\%$. It will also establish a database against which future data can be compared.

The survey questionnaire was pre-tested in the Hispanic community in a bilingual format at the September 16th Independence Day Celebrations at Kennedy Park. A

second pre-test was undertaken at the Biosphere First Year Closing Anniversary September 26 and 27, 1992. Preliminary results from these pre-tests showed that differences in environmental awareness between large minority populated areas and the community as a whole were generally found to be more dependent on education and income than they were on ethnic background.

The Minority Marketing Advisory Board was developed with the help of the grant partner, Chicanos Por La Causa (CPLC). The Board members were recruited from various community minority organizations and met on a monthly basis. Their goal was to conduct sufficient relevant research in order to develop targeted marketing techniques for resource conservation programs within minority communities. In addition to the regularly used information medium of Spanish speaking radio and television, the Board recommended targeting distribution of information in the Hispanic community through churches, neighborhood centers, schools and minority owned businesses. The Board has made other innovative recommendations related to educational concepts that work in ethnic/cultural communities. In addition they have emphasized the importance of joint partnerships with public utilities and social service agencies.

This grant project provides information that is transferable to other local jurisdictions wishing to increase resource conservation participation rates. A generic set of scientifically developed questions is provided. A computerized non-proprietary data analysis program is available through the Office of Energy and Environment as well as the City of Tucson Water Conservation Office. A readily transferable survey instrument is included which can be modified to respond to any local jurisdiction wishing to use a large bank of pre-tested environmental awareness questions in statistically useful public sector software (QPL).

PROJECT PURPOSE

A significant amount of scientifically valid research was conducted to determine the differences, if any, in ethnic minority opinions and behaviors regarding resource conservation. This research was designed to address a need for specific outreach from

Community Energy and Environmental Programs into the minority communities of urban areas. The project purpose was to research new, targeted methods of outreach, and to demonstrate the new methods through the implementation of specific opinion surveys and recommendations from representatives of community based social service agencies, utility companies and small minority owned business. Participation of all sectors of the population in programs which assure and enhance the sustainability of the community and its energy and environmental resources is critical to the success of that community and its local jurisdictional resource conservation goals. This need for participation calls for the specific targeting of minority issues and concerns as they relate to resource conservation and the development of targeted marketing of resource conservation programs for those groups. Although the City of Tucson Office of Energy and Environment has managed and documented this project, the non-governmental partner in this project is the Chicanos Por La Causa organization. CPLC has provided incomparable expertise and community linkages in meeting the goals of the project. The Office of Energy and Environment and CPLC are together addressing the remaining problems and planning the next steps. Together they are recruiting additional representatives to the Advisory Board from local utility companies, public institutions, community service agencies and privately owned recycling companies. The purpose of an expanded Advisory Board will be to continue to seek effective methods to increase participation rates in resource conservation programs among minority and low-income communities.

REPORT ORGANIZATION

Chapter 1 -- An abstract and overview of the document

Chapter 2 -- General background and description of the minority marketing concept and its application to future resource conservation planning

Chapter 3 -- Project description, how the Advisory Board and the mail-out survey were developed, how the mail-out survey was conducted and reports of the results and future plans

Chapter 4 -- Lessons learned

Appendix -- Complete copy of mail-out survey appended

CHAPTER 2 - GENERAL BACKGROUND AND DESCRIPTIONS ("CONCEPT")

INTRODUCTION

Two major projects of the grant concept will be discussed in this section. The first is the year-long resource conservation survey that was developed and implemented to capture a database for the local metropolitan Tucson area that currently does not exist. This database includes a specially targeted 10-census tract minority community in the southwest side of Tucson comprised of an average of 85% Hispanic residents. The objective of the survey was to discover attitudes and behaviors about resource conservation of local residents and compare them to a targeted minority community. The final objective of this research was to develop a more accurate set of conclusions that would give local governmental agencies, social service agencies and local utility companies the ability to plan more effective outreach methods for conservation education programs in minority neighborhoods.

The second major project of this grant involved recruiting and establishing an Advisory Board comprised of local minority representatives. The function of this Board was to determine how effectively the resource conservation message was reaching minority communities, to research additional methods to reach minority communities with the resource conservation message and to make recommendations concerning needed

partnerships between local government and the private sector.

These two reports are presented in their totality in this section. This was done because it was felt that the results needed to be presented in stand-alone formats for separate distribution. The two research projects were conducted separately for different audiences.

It is important to note the recommendations reached by the Minority Marketing Advisory Committee emphasize partnerships between local government, social service agencies and public utilities for the purpose of capitalizing on infrastructures already built by social service agencies and on existing advertising budgets of the utility companies. The Advisory Committee concluded that a great deal of partnership building needs to occur. However, their report is a major first step.

CHAPTER 3 - PROJECT DESCRIPTION ("CONDUCT")

- ▶ "FUTURE DIRECTIONS" Survey Results
A Resource Conservation Attitude and Behavioral
Survey With a Focus on Recycling, Water,
Transportation and Energy

- ▶ An Evaluation of Minority and Low Income Population
Participation in Resource Conservation Programs

"FUTURE DIRECTIONS"

Survey Results

**A Research Conservation, Attitude and Behavioral Survey
With a Focus on Recycling, Water, Transportation and
Energy**

**A Total Design Method Survey Developed For
The City of Tucson
Office of Energy and Environment
The Minority Marketing Program**

**By
The University of Arizona
Department of Agricultural and Resource Economics
Edwin H. Carpenter, Ph.D.**

Project Manager: Cecilia A. Vindiola

July 1, 1993

TABLE OF CONTENTS

"FUTURE DIRECTIONS" - Survey Results

<u>SECTION</u>	<u>PAGE</u>
Introduction	10
Methodology	11
Survey Response Results	11
Survey Data Summary	12
Recycling	13
Water Conservation	14
Transportation	16
Energy Use in Homes	17
Attitudes About Energy Conservation	19
Conclusions	21
Tables A through W	26
Tables AA through OO	38

FUTURE DIRECTIONS - SURVEY RESULTS

INTRODUCTION

This project addresses a well-defined need for specific outreach from energy, resource conservation and environmental programs into the minority communities of urban areas. Many studies have recognized the historic lack of participation of minority communities in current energy and resource conservation programs. For example, in the Tucson community, pilot recycling programs experienced 80% levels of participation rates in areas characterized by middle income predominantly white residents. Areas with larger Hispanic or other minority populations evidenced much lower participation rates, approximately half that of other areas. Participation of all sectors of the population in programs which assure and enhance the sustainability of the community and its energy and environmental resources is critical to the success of that community. This critical need for participation calls for the specific targeting of minority issues and concerns as they relate to resource conservation and the development of resource conservation marketing programs directed toward those groups. Tucson has a Hispanic population of approximately 35.12% which is a tractable size.

METHODOLOGY

This survey was conducted in the most random manner possible, and to increase its effectiveness, the survey used the total design method. The University of Arizona Survey Research Center conducted a telephone survey with a purchased list of randomly selected telephone numbers. A total of 5,607 calls were made in order to complete 1,776 interviews. From that number, a mail-out survey was conducted from the Office of Energy and Environment to 1,254 geographically targeted households, all of whom agreed to complete the survey at the time they were contacted by phone. The Tucson metropolitan area was divided into two parts. The target area was a 10-census tract area that ranges from 65 % to 92.3 % Hispanic residents with the average for the 10-tract area being 85 %. The non-target area was the remainder of the Tucson area.

SURVEY RESPONSE RESULTS

About 1,776 households responded to the telephone survey for a response rate of 56%. The telephone numbers that were called were randomly generated and roughly equal numbers of households were interviewed in the target and non-target areas. Of the 1,776 individuals interviewed, 1,254 agreed to answer a mail-out questionnaire with additional questions. A total of 65% responded after three mailings and one reminder postcard. The 819 respondents represent an overall response rate of 23% of the individuals interviewed by telephone. The telephone and mail survey results required merging in order to link the education and ethnicity data from the telephone survey with the income data collected in the mail survey. The telephone and mail surveys were merged using the SPSS statistical software package.

The target Hispanic geographic area was oversampled in relationship to the non-target area, 44 % to 56%. The target Hispanic population, however, was not reached in the proportions expected. Hence, due to the low overall response rate, the numbers were not weighted by ethnicity to try and bring them into line with the proportions found in the 1990 population census. The result is that the data are best viewed as advisory.

The response rate of 23% indicates that it is not known how 77% of the people in the survey group feel about the topics covered in the survey. Their ages, income, ethnicity and education are as set forth in Tables A, B, C, D and E. Those who answered are not necessarily representative of those who did not respond. If they are similar in attitude toward energy and water conservation, recycling and transportation, then the reported results are indicative of how all the adults in Tucson feel. If, however, the non-respondents did not respond because they have no interest or concern for these subjects, then the reported results overestimate the percentage of the adults in Tucson who are concerned or have interest in the topics studied. Perhaps they did not respond because they were too busy, regardless of how they felt toward the topics in question.

There were relatively few instances in the data where ethnicity was a statistically significant factor. Additionally, among those that were significant, there were no patterns that would lead us to conclude that ethnicity was related in any systematic way to the topics studied. This finding is not consistent with other studies related to participation rates which show that participation was not occurring in minority neighborhoods to the same extent as the community at large. Other studies are based on participation rates in geographical areas, and the conclusion has been that these lower participation rates are the result of ethnicity. Our data indicates that income is a more important factor than ethnicity in determining attitudes and participation behaviors in the environmental questions surveyed; however, income differences showed no overriding pattern as well. These findings indicate that additional research is needed before summary conclusions can be reached regarding the hypothesis that low participation rates are related to ethnicity.

SURVEY DATA SUMMARY

More questions were asked in the mail survey than on the telephone survey. The majority of statistics recorded in this report are from the mail survey unless specifically noted as being from the telephone survey.

RECYCLING

When asked how they feel about recycling, most respondents (67.9%) said that it seems to save natural resources and is worth the time it takes, 18.9% said it's a way to save money, that it takes more time than it is worth, or that it is a complicated issue and they haven't decided how they feel.

The majority of respondents indicated that they recycle aluminum cans (78.1%) and newspapers (65.4%) at the curbside, recycling companies, collection bins and once a month outreach centers. More respondents take their aluminum cans to recycling centers to sell, and more respondents donate their newspapers at collection bins than do not. Although not a majority, a large percentage of respondents recycle their plastic containers (48.6%), glass containers (41.3%), steel cans (34.6%) and cardboard (36.4%) (See Table F). These four products are recycled most often at the curbside.

Recycling household hazardous waste is not as commonly practiced as recycling non-hazardous waste. Only 20% of the respondents indicated that they usually take old house paint to household hazardous waste collection sites, 15.1% take old plant and bug spray to these sites, and 12.5% take old household cleaners to these sites, and 9.6% said they take their old flashlight batteries to these sites. A much larger percentage of respondents (38.7%) indicated they took their old motor oil to hazardous waste collection sites, and many commented it was their mechanic or auto repair shop that actually did this. The majority of the respondents (55.5% to 84.9%) replied they either put these products, other than motor oil, in the trash or poured them on the ground.

When asked the main reason why they did not use 1) outreach recycling centers and 2) the household hazardous waste collection sites, the largest percentage response to both questions (36.3% and 34.8%, respectively) indicated that it was because they did not know they were available. Other significant reasons given were that it didn't save the respondents enough money (15.4% and 17.2%, respectively) and it was too much trouble (10.9% and 11%, respectively). It is important to note that there were more comments on recycling written by respondents in the space provided on the last page of the survey than on any other topic, and the respondents indicated a strong desire for

curbside recycling services throughout the Tucson area. Many respondents noted that they would recycle all these products if recycling bins were more convenient.

WATER CONSERVATION

A slight majority of the respondents indicated that their primary source of drinking water in their homes is straight from the tap (57.4%). Of the other sources of drinking water, most (22.1%) buy bottled water, 11% use filtered tap water, 5.1% use reverse osmosis purified water, and 1.1% use distilled purified tap water. Of the respondents using water other than tap water, 26.8% said that smell and taste played a part in their decision to use another source of drinking water in their home, 22.7% said it was because of chemicals that seep down through the ground, 22.1% named chlorine as their reason, 20.2% named salts and minerals, 21.4% named chloramine, and 11.1% named fluoride (See Table G).

Only 10.7% of the respondents indicated they have a water softener in their home, and 85.8% do not. About 1/3 of the respondents (36.9%) said they are receiving CAP water at their home, a third (33.7%) are not, and the other third (28.6%) do not know.

The great majority of respondents (84.7%) denoted that none of their toilets leak or water faucets drip in their home. Conversely, 13.3% of the respondents admitted having these plumbing problems. Only 17.8% of the respondents indicated reasons for not fixing the leaks. Most, 8.4%, indicated the responsibility belonged to their landlord, 3.1% said it was too hard to fix, 3.1% said they did not know how to fix their leaks, 2.2% said it was too expensive to have it done and .5% said they did not save enough water to make it worth their effort.

In the telephone survey, 70.2% of the interviewees reported that they have taken steps to save water around their home (See Table H). In the mail-out survey, when asked which water saving features are in their homes, 63.1% of the respondents said that flow restrictors on a showerhead were already installed or planned to be installed, 55.8% have installed or plan to install low flow showerheads, 45.2% have installed or plan to

install toilet dams, water displacement devices such as bags, bottles or bricks in their toilet tanks, 43.7% have installed or plan to install flow restrictors on their sink faucets, 36.7% have installed or plan to install drip irrigation for plants, and 38.6% have a water saving low flow toilet or plan to install one (See Table I). Most respondents indicated that if they did not have these water-saving devices, it was because they did not work the way they wanted or they were too much trouble.

Almost a majority (49.4%) of the respondents felt there was either a high potential or very high potential to reduce water use in the Tucson area, but only about a quarter felt there was a high or very high potential to reduce water use in their homes for domestic use (26.5%) or outside their home in their yard (24.1%).

Over half the respondents (51.4%) have not heard of Tucson Water Department's rebate program for low flow toilets, and 5.4% have already received a rebate. Of those who have heard of the program but have not participated, 39.9% responded it was because they did not need a new toilet, 19.9% felt the toilets are too expensive, 11% felt they don't flush completely each time, 5.2% said they have not thought about it, and 4% said it was too much trouble. Many respondents filled in the open-ended part of this question by relating that they are renters and cannot purchase a toilet for their apartments or homes.

When asked about cooling systems, 68.1% of the respondents indicated they had an evaporative cooler, 39.2% indicated they had air conditioning and approximately 7% indicated they had both. Concerning other water using amenities, 17% indicated that they have a swimming pool, 8.9% said they have a spa or jacuzzi, 3.9% have a decorative pool or fountain and 2.4% have misting system in their yards.

The importance of maintaining the yard to a respondents Tucson lifestyle or quality of life is 67.5%, a combination of two response categories, "somewhat important" or "very important". 76.9% of the respondents have seen, heard or read information or a slogan about water conservation in the past twelve months.

Many respondents, (24.4%) indicated they are planting trees, grass or other plants more now than a year ago. Concerning landscaping in their yards, low water using plants and grass were the most popular among respondents (21.7%), and low water using

plants and no grass was the next most popular (17.2%). A significant percentage, 35.2% of the respondents plant flower beds, 32.1% have fruit trees and 7.7% plant a winter rye lawn. Watering methods for outdoor landscaping vary. The most common method was by hand with a water hose (53.1%), drip irrigation is the next most common (20.1%), a sprinkler on a garden hose ranked third (17.6%), in-ground sprinkler rated 15.8, and 15.5% of the respondents claim that they do not water at all. Of those respondents that have an in-ground sprinkler system or drip irrigation, 18.6% have their system on a timer, while 26.3% do not.

TRANSPORTATION

The great majority of respondents (79.6%) use their car to go to work or school. The next most popular form of transportation is the bus (4.8%). Additionally, 3.8% of the respondents bicycle to work or school, 2.8% carpool, 2.6% walk to work or school, and .7% ride their motorcycles.

A very high percentage of the respondents (90.4%) have a car. By contrast, a fairly small number (25.9%) want more information on alternative modes of transportation.

Some energy conserving actions in transportation are popular with the respondents indicating that they combine several local automobile trips (33.3%), reduce the number of automobile trips taken locally (22.9%), drive less in general (22.4%), keep their car tuned (21.6%), and reduce excessive idling of their cars (17.5%) more now than a year ago (See Table J). Willingness to give up driving one day a week, was fairly unpopular with 57.5% of the respondents indicating that they have never done this or have no plans to do this. Similarly, except for walking on short trips or errands, using or planning to use alternative modes of transportation were not common with the respondents. Respondents indicated they have never taken the action or do not plan to do so as follows (See Table K):

bike to work or school	- 60.7%
ride in a carpool	- 59.2%

walk to work or school	- 56.2%
bike on short trips or errands	- 54.3%
ride the bus	- 47.6%
moved closer to work	- 43.7%

ENERGY USE IN HOMES

Most respondents indicate that they use energy saving lighting options in their homes. The greatest number of respondents (82.8%) use lower wattage incandescent light bulbs to replace higher wattage bulbs, and those who do not give their reason as a need for brighter light. The next greater number of respondents (68%) indicate they use energy saving incandescent light bulbs, and those who do not most often cite that energy saving incandescent bulbs are too expensive. The next greatest number of respondents (56.7%) indicate they use florescent bulbs in place of incandescent light bulbs in some locations, and the reason they cite for not using florescent light bulbs is that they have to alter fixtures to use them (See Table L).

When respondents purchase appliances or equipment, most indicate they will buy the higher priced item that costs less to run as opposed to the lower priced item that costs more to run (55.8% to 3.2%).

When asked how important energy efficiency is to them when purchasing appliances, such as refrigerators, freezers, air conditioners, heaters, furnaces, dishwashers, clothes washers, clothes dryers and hot water heaters, the respondents indicated that they considered energy efficiency somewhat important to very important ranging from 84% to 94.9%. Respondents were most concerned about energy efficiency with refrigerators and hot water heaters. They were least concerned about energy efficiency with dishwashers.

The answer to a series of questions regarding energy saving technology in and around the home, the respondents answers varied from yes to no to don't know. More respondents stated there was insulation in or on the exterior walls of their homes and above the ceiling or in the attic (45.2% and 58.5%, respectively) than said there was not

(23.6% and 11.8%, respectively). However, approximately one-quarter of the respondents noted they did not know anything about the insulation of their home.

Almost 70% of the respondents have weatherstripping around most of their doors and caulking around most of their windows, and only a small number don't know if they do. Over 60% of the respondents have a white or light colored coating on their roofs to reflect the sun's heat and have trees shading their house or windows. Only a slight majority of the respondents (53.6%) said they have reflective film, shade screen or awnings to block direct sunlight. The only energy saving home technology for interior lighting that most respondents indicated they do not have was skylights. Only 32.7% of the respondents noted they have skylights in their homes. When the interviewees of the telephone survey were asked if they manually reset their thermostat to save energy, 75.3% answered affirmatively (See Table M).

The mail-out survey contained questions regarding solar technology for producing electricity. While most respondents (62.1%) replied that they would be interested in more information, only 12.3% signified they were interested and would be willing to be one of the first to try this technology and over one-quarter said they didn't know enough to respond to the question (See Table N). Only 3.5% of the respondents have a solar hot water heater in their home, and the majority of those indicated they are pleased overall with the system (See Tables O and P).

Compared to what they have already done to save energy in and around their homes, a great majority (86.2%) feel there are a few more ways or many more ways to save energy. And if energy conservation information were available to them, most (70%) would use it, although 23.3% don't know whether they would or not. The respondents felt that utility companies and magazines, newspapers, and television were the most credible sources of energy conservation information (60.9% and 55.8%, respectively). The next most credible source of energy conservation information was city and county government agencies (49%), and the least credible were state and federal government agencies (44.4%) and manufacturers (41.1%). This is supported by the fact that 53.7% of the respondents stated that they would read features in a local newspaper on energy conservation or environmental issues all or some of the time.

ATTITUDES ABOUT ENERGY CONSERVATION

When asked who would bear the greatest cost of increased energy conservation, 47.3% of the respondents stated that individuals and families would and 24.2% stated that the costs would be shared by individuals and families, businesses, local governments and utilities. When asked 1) who will benefit the most from increased energy conservation, 2) who the majority of conservation methods favor, and 3) who should bear the major responsibility for implementing energy conservation efforts in Tucson; more respondents felt that these benefits should all be shared by individuals and families, businesses, local governments and utilities than by any one of these by themselves. The respondents also thought that if any one group would benefit the most and would be favored by conservation methods, it would be individuals and families. Many respondents (19.2%) felt that local governments should bear much of the responsibility for implementing energy conservation efforts in Tucson.

As a result of increased energy conserving efforts by society as a whole, more respondents (40.3% to 70.1%) indicated that their employment opportunities and wages, respectively, will not change both in the short term and long term than will increase or decrease. However, a significant percentage of respondents did feel that their employment opportunities (27.6%) and wages (28.6%) would increase in the long run because of increased energy conserving efforts.

When asked whether they favor or oppose various energy resource alternatives, the respondents answered as follows (percentages reflect replies of all who favored and all who opposed) (See Table Q):

Most favored:

Increased energy conservation	88.1%
Increased use of solar energy	79.4%
Increased use of natural gas	53.5%
Increased oil exploration in the U.S.	43.9%

Most opposed:

Increased use of nuclear power	45.4%
Increased use of coal	54.3%
Increased oil imports	60.9%

When asked how they feel about incentives and penalties to encourage energy conservation and other attitudes about energy, the respondents indicated as follows the percentages are a sum of the replies of agreed or strongly agreed, and disagreed or strongly disagreed (See Tables R and S).

Most agreed with:

The City and County should encourage home designers to take advantage of the sun for heating living space	86.1%
Provide tax credits for improving home energy efficiency	79.7%
The City and County should be required to implement energy conscious building codes	78.6%
Provide tax credits for improving business energy efficiency	75.9%
Provide tax credits for solar home heating or cooling	73.4%
Gas and electric utilities should be encouraged to charge lower rates to low energy users and vice versa	60.2%
The gas and electric utilities are trying to make too much money at my expense	59.7%
Change mortgage requirements so that people who want to buy energy conserving homes can qualify for larger mortgages	54.1%
The electric utilities should provide time keeping electric meters on homes	51.6%

Most disagreed with:

Residents of Tucson should request a city/county tax on gasoline . . .	47.8%
The environmentalists have created a problem where none exists . . .	73.3%

More respondents answered that the amount of current involvement in energy education and information programs and in setting energy policy at the local, state and federal government levels is too little than about right or too much (See Tables T and U). Similarly, more respondents answered that the level of energy conservation incentives

offered by these three governmental levels is too low as compared to about right or too high (See Table V). It is important to note that on all these questions about government involvement in energy education and policy, a high percentage of respondents (in the 30% range) answered that they did not know.

When they think about energy conservation, more respondents think about saving money (35.9%) than saving the environment (35.7%) or conserving natural resources (26.5%) (See Table W). When they think about energy conservation, the respondents identify personally saving money about evenly between thinking about it every time (26.6%), half the time (29.7%) and never (30%). But when thinking about energy conservation and the economy as a whole, the majority (51%) never think of it that way, 22.3% think of it half the time, and only 12.1% think of it every time.

CONCLUSIONS

The respondents to this survey seemed to be fairly aware of the issues they were questioned about and to have definite attitudes and behavior practices that reflected this awareness.

Most respondents felt that recycling saved natural resources, and they exhibited this attitude by recycling aluminum cans and newspapers. Convenience is an important consideration with recycling, and many respondents indicated they would recycle more products if curbside recycling was available in their neighborhood.

Similarly, while the respondents were less active in recycling household hazardous waste, the reason given by most was that they did not know centers for collecting this waste were available.

It is important then that government agencies responsible for recycling make efforts in two directions: 1) expanding the area in which curbside recycling is utilized, and 2) advertising to the public the availability of household hazardous waste collection sites.

The respondents in the survey seem to have conflicting attitudes concerning water use. While about half feel there is a high potential to reduce water use in the Tucson

area, only about a quarter felt there was a high potential to reduce water use in their own yards or homes. Perhaps they want others to save water and do not want to do so themselves. Water used in Tucsonan's yards and gardens accounts for over half of the water consumed by urban residential users. According to our survey, most respondents felt that this water use is important to their quality of life here. They are somewhat willing, however, to plant low water using landscaping in order to save water. In their homes, many respondents are using water reducing devices, mostly in their showers and less so in their toilets and sinks. If they have leaking sinks or toilets, most do not fix them because they are renting. Most respondents had not heard of Tucson Water Department's rebate program for low flow toilets. For those who had heard of the program and were not participating, most cited not needing toilets or being renters as their reason for not participating in the program.

In order to encourage water saving measures, government programs could do the following: 1) emphasize replacing water-hungry plants with desert landscaping or low water using plants, and 2) make Tucson residents more aware of the rebate program for low flow toilets.

A very high percentage of our respondents use a car for their transportation, and even though increased use of imported oil is very unpopular with our respondents, they are not as interested in making changes in this area as in other areas of energy conservation. The energy conservation practices that seem to be most attractive to people are those related to reducing the number of trips they take by combining the stops they have to make and keeping their car in good mechanical shape. These are measures that cut energy use and still allow our respondents to stay in their cars.

Riding the bus, biking, walking, and carpooling are fairly unpopular with our respondents, and measures in these areas may not be as effective as encouraging those that people are already doing. Until cars using cleaner fuel and/or less fuel becomes available on the market, more Car Care Clinics that educate people on the condition of their cars involving emissions and energy use may be an effective way to reduce energy use as well as operating the traffic lights in such a way that traffic is accelerated.

Our respondents looked favorably at increased use of energy conservation practices, solar energy and natural gas, and they disapproved of increased use of coal and nuclear power. These attitudes are somewhat reflected in their practices. Most respondents are using light bulbs that save energy as well as energy saving materials in their homes such as weatherstripping, caulking and window reflection devices. Even with this, most feel that there are more ways to save energy, and if energy information were available to them, most would use it.

Our respondents are not, however, as ready to use the only renewable resource available in the Tucson area, solar energy. Only approximately 5% have a solar hot water heater, although the great majority who have one are pleased with the system. In addition, less respondents indicated they have a skylight in their home than any other energy conservation material mentioned in the survey. While over half the respondents said they would be interested in more information on solar technology for producing electricity, only about one-tenth of them said they would be willing to be one of the first to try this technology.

In replying to questions regarding the amount of current government involvement in energy matters, a clear pattern is evident. Most of the respondents felt that government at all levels offers too little energy education and information programs and the incentives offered for energy conservation are too low.

The responsibility of government becomes clearer when indicating their reactions to specific policy statements. The most popular policy suggestion was that the city and county should encourage home designers to take advantage of the sun for heating living space. They agreed with tax credits for improving business and home energy efficiency, but disagreed with a tax on gasoline. They felt that the city and county should be required to implement energy conscious building codes. The utility companies should be involved in encouraging energy conservation by charging lower rates to low energy users and higher rates to high energy users, and electric utilities should provide time keeping electric meters on homes. The respondents felt that banks could have an effect on energy conservation by changing mortgage requirements so that people who want to buy energy conserving homes can qualify for larger mortgages.

Overall, the respondents of this survey show a meaningful concern for resource conservation. However, the statistics indicate that a great deal of resource conservation planning and education still need to occur in both the larger Tucson area as well as targeted minority communities.

TABLES: BAR CHARTS AND PIE CHARTS

TABLES

A THROUGH W

Correlated to the mail-out survey

TABLES

AA THROUGH OO

Developed with information collected from the telephone survey and is presented here for information only.

Age of respondents

Table A

Respondent's reported income categories.

Table B

To which ethnic group do you belong?

#78-Telephone N=1685

Table C

Respondent's education level

#77-Telephone N=1685

Table D

Respondent's sex

#75-Telephone

Table E

Percent of respondents who recycle the following materials.

#2-Mailout N=819

Table F

The following factors played a part in the decision to not drink water from tap

#9AF-Mallout N=639

Table G

Have you taken steps to save water around your home?

#38-Telephone N=1685

Table H

Respondents with the following water saving devices installed or planned.

#14AF-Mallout N=819

Table I

Number who would NOT or HAVE NEVER done the following to preserve the air.

#7AG-Mallout N=741

Table J

Percent of respondents who would NOT consider the following to preserve air.

#7HN-Mallout N=819

Table K

Respondents that use the following energy saving devices.

#24AC-Mallout N=819

Table L

Do you manually reset your thermostat to save energy?

#42-Telephone N=1685

Table M

Respondent's feelings about owning solar electric panels

#29-Mailout N=819

Table N

Respondents that own solar water heaters.

#30-Mallout N=819

Table O

Solar water heater owner's experiences with the apparatus.

#30B-Mallout N=29

Table P

Respondents who favor the increased use of the following for energy needs.

#37-Mallout N-819

Table Q

Tax credits should be offered on the following to affect energy policy.

#38BEFG-Mallout N-819

Table R

Respondents who believe the following policies should be encouraged.

#38ACDHK-Mallout N=819

Table S

The amount of energy education programs at the local level is...

#39A-Mallout N=819

Table T

The local government's level of involvement in setting energy policy is:

#41A-Mallout N=819

Table U

The level of energy conservation incentives by the local government is...

#40A-Mallout N=819

Table V

Respondents' attitude, regarding energy conservation.

#42-Mailout N=819

Table W

Number of years respondents have lived in Tucson.

Number of years Tucsonans have lived in present residences.

Do you rent or own your home?

#72-Telephone N=1685

Table CC

Description of buildings in which respondents live.

#50-Mallout N=819

Table DD

Number of people living at respondent's home.

Number of bathrooms in respondent's home.

Do you or your family pay the following utility bills?

#73,74-Telephone N=1685

Table GG

When you think of energy conservation, which comes to mind first?

#49-Telephone N=1685

Table HH

Where the public receives conservation information from.

#51-Telephone N=1262

Tabel II

Where the public tries to find conservation information

#54-Telephone N=187

42 Table JJ

Have you taken steps to reduce the amount of energy used for lighting?

#41-Telephone N=1685

Table MM

Do you have an automatically resetting thermostat?

#43-Telephone N=1685

Table NN

You use windows as an alternative to
the cooler or heater...of the time?

#44-Telephone N=1681

Table OO

**An Evaluation of Minority and Low-Income Population Participation
in Resource Conservation Programs**

by

The Minority Marketing Advisory Committee

Developed For:

City of Tucson, Office of Energy and Environment
The Minority Marketing Program
and
Chicanos Por La Causa

July 1, 1993

Project Manager- Cecilia A. Vindiola

TABLE OF CONTENTS

I.	History and Formation of the Committee	47
II.	Scope of Work and Methodology	48
III.	Results and Findings of the Committee	49
IV.	Conclusions and Recommendations	
A.	Recommendations	52
B.	Proposed Future Roles of the Committee	56
Appendix A- Mission Statement		58
Appendix B- Statistics Regarding the Hispanic Community in Tucson		61
Appendix C- Proposed Budget		63
Table 1- Summary and Ranking of Marketing Methods		64
Table 2- Summary of Home Rehabilitation Programs		65
Table 3- Resource Conservation Programs Offered by Utilities		66

ADVISORY COMMITTEE FOR INCREASED MINORITY AND LOW-INCOME PARTICIPATION IN RESOURCE CONSERVATION

FINDINGS AND RECOMMENDATIONS OF THE COMMITTEE

History and Formation of the Committee

Participation of all sectors of the population in programs which assure and enhance the sustainability of the community and its energy and environmental resources is critical to the success of that community. Minority populations possess the same interests in community viability as do all community residents. However, many studies indicate that there is a lack of participation among minority communities in resource conservation programs. For example, in the Tucson area, pilot recycling programs experienced 80% levels of participation rates in areas characterized by middle income, predominantly white residents. Areas with a larger Hispanic or minority populations evidenced much lower participation rates, approximately half that of all other areas.

The Advisory Committee was developed as a part of a two-year grant program whose purpose was to target the integration of energy and environmental information into the cultural perspective and ethics of the large Hispanic population of the Tucson area. The purpose of the committee was to identify issues that were to be addressed by the Minority Marketing grant program. The committee consists of a cross-section of community energy and environment stakeholders that include community and private

service providers, recycling companies, utility companies, and neighborhood and cultural representatives. Seven individuals have been identified that represent the above categories. They are:

Albert R. Canez	C & R Recycling Center
Floyd Flores	Hia-Ced O'Odham Program
Olga H. Gallego	Recyco, Inc.
Don Gin	Tucson Electric Power Co., Inc.
Cindy Gabusi-Martinez	Chicanos Por La Causa
Hector F. Martinez	City Dept. of Transportation, Real Estate Division
Fernando Molina	Tucson Water Conservation Office
Staff support was provided to the Advisory Committee by:	
Lautaro Diaz	Chicanos Por La Causa
James Robles	Chicanos Por La Causa
Cecilia Vindiola	City of Tucson, Office of Energy and Environment

Scope of Work and Methodology

The mission of the committee was to identify strategies to increase minority and low-income population participation in appropriate existing natural resource conservation programs and/or to identify new-program directions and address other resource issues not currently considered that will promote energy conservation in the minority and low-income communities.

The strategies that the committee employed to realize its goals included gathering an inventory of existing energy conservation programs provided by social service agencies and utilities. Presentations from representatives of these programs were invited to speak with the committee in an open forum to provide information regarding implementation of these programs and provide answers regarding market penetration and effective marketing methods. Once the inventory was completed of the programs and marketing methods, the committee analyzed the marketing and outreach techniques utilized by the existing conservation programs and evaluated their appropriateness in the minority and low-income community. The graphs and matrices that reflect the results

of these presentations are included in the appendix.

The final task of the committee was to recommend adjustments/expansion/strategies to increase participation of minority and low-income families in existing conservation programs and/or to propose new program areas that would better encourage these families to actively pursue an energy conservation agenda.

Results and Findings of the Committee

The results and findings of the committee are as follows:

- A) Discussion among committee members, utility representatives and public and private community service agency representatives revealed that for any program that is aimed at and implemented in the minority community, it is essential that person-to-person contact be utilized in all phases of the program. The committee has found that person-to-person contact is much more effective than Spanish-language publications and flyers. Person-to-person contact will allow the potential client to ask any question regarding the application procedure, which if too complex may intimidate people and keep them from participating in the program. Additionally, person-to-person contact will allow a representative of the social service agency to teach the potential client some basic fact of resource conservation. A comfort zone is created when a client consistently maintains contact with a representative of a social service agency and therefore the client will be more likely to participate in, and ask questions about the programs than if there is no consistent personal contact.
- B) The financial situation and certain cultural factors present developers of resource conservation programs with unique circumstances to consider when developing education programs that target minority or low-income communities for increased resource conservation awareness. Low-income families are more present-time oriented and are concerned with basic survival needs. It is more likely that families in this position will respond positively to a financial gain program rather than community betterment programs. Representatives of public and private social-service agencies have said that Spanish-language radio is also a culturally

effective medium for communicating messages to the Hispanic community. (Please see Appendix B.)

- C) Discussion in committee meetings disclosed that the high cost of refurbishing and retrofitting to more resource efficient equipment and appliances is prohibitive to low-income families that are aware of resource conservation and are attempting to become more resource efficient. Additionally, in some cases it may be possible that energy and water use may increase as a consequence of repairing items which were not used previously. However, the repair of these appliances or fixtures in question may improve the quality of life of the individual beyond the cost of the higher energy consumption.
- D) Discussion among committee members and public social service agencies revealed that loans are not a suitable remedy for any problems the family has with home rehabilitation and modernization in this segment of the community. The low-income families often have difficulties making payments on items that are beyond the absolutely necessary for survival.
- E) Discussions with representatives from utility companies revealed that resource conservation education designed to change individual consumption habits has not occurred to the extent necessary to make a difference in future resource consumption. This education can teach people the value of our natural resources, both in terms of personal finances and the gains that will benefit the entire community. An important factor to consider is that of increasing participation. An incentive could be created which would compel people to follow resource consumption behavior more habitually.
- F) Discussion among committee members has revealed that a greater emphasis on education programs at the grade school level are necessary to affect greater long-term gains. This would expose young people to a resource conservation agenda early in their learning period.
- G) Through discussions with public and private social service agencies, the committee has learned that community-based organizations and utilities are more effective than bureaucratic entities in disseminating information in the low-income

and minority communities. The general population has a low opinion of any bureaucratic agency at this point in time. Additionally, social service agencies appear to be able to relate to the problems of the target community more easily. Outreach into the community is being done by social service agencies at locations that are familiar to the residents of the target community i.e. churches, schools, and neighborhood centers (Please see Table #1 for complete graph of methods used by community service agencies.)

- H) Utilities and social service agencies that have ties to the low-income and minority communities are currently working together to develop resource conservation education programs, but are not working together to the fullest extent possible to fully utilize each others resources. If utilities and social service agencies worked together to a higher degree to design and develop resource conservation education programs, those programs could have more continuity and be more effective public wide. Additionally, this type of partnership could lead to more efficient use of funds for those agencies that do cooperate. This was discovered through discussion with public and private community service agencies and public utilities. (Tables 2 and 3 reflect cooperative programs.)
- I) From discussion with social service agency representatives, public and private entities that distribute resource conservation information are visible parts of the community. If these entities strive to set the standard for resource conservation, people would be more likely to emulate that behavior. This prevents negative responses to the education or training should people observe an agency not recycling or conserving resources.
- J) It was learned that low-income and minority people are discouraged from applying to participate in home rehabilitation programs because of the long waiting lists that are created by the limited amount of funds available to agencies providing these services.
- K) Through discussions among the committee and community service agencies, it is apparent that the same solution that may remedy problems for families who own their home, may not necessarily be appropriate for families that rent their home

from another party. Several financial and philosophical complications regarding renters make the solutions insufficient to address the needs of low-income and minority renters.

Conclusion & Recommendations

A) The following are recommendations of program steps that the Minority Marketing Advisory Committee proposes be followed:

- 1) Incentive to recipients of home rehabilitation and resource conservation programs could be created if more agencies are funded according to their ability to network in, and reach the low-income and minority community markets. Once an agency has been funded to distribute money in targeted neighborhoods for home rehabilitation purposes, those agencies should notify residents of the neighborhood that their community has been selected to receive funds and services, then the residents will be more likely to be active in seeking funds/services.

Included in the rehabilitation program should be person-to-person education programs in which resource conservation techniques will be taught. This process, which should include person-to-person service with the incentive funding to the social service agencies providing the services, should be effective because low-income people will receive services which increase energy conservation that they normally would not be able to afford. Additionally, the person-to-person approach allows the education element in this program to be delivered in a way that low-income and minority families will feel comfortable in receiving the information and will ask questions and have interest in the subject matter. The personal interaction should also be useful in assisting the client in the initial application procedure.

The marketing of this program would be relatively inexpensive and

trouble-free since the target community will only consist of a limited number of neighborhoods, depending on the amount of funding the agency or agencies have received. Another appealing trait of this program is that it depends on networking with other community agencies to provide services which the first agency may not have the funds for, or the knowledge required to complete the repairs. This would allow agencies to specialize on certain types of repair, and attain a certain level knowledge on the subject which will then lower the costs to the agency providing the service. Finally, interaction during the entire process is limited to the client and social service agencies. No government entity should be required to interface between the client and the agency, which would make the program more appealing to potential clients.

- 2) In response to Finding #J, the problem of long waiting lists could, in part, be alleviated if more families are given services which would begin the home rehabilitation process with the current amount of funds that social service agencies allocate to these programs. The agencies would offer a limited amount of repairs to a larger amount of low-income and minority families. A second component of this program is the resource conservation education. The repairs would be preceded by education programs which will be given to the family at a personal level and stress the importance of continuing with resource conservation habits to achieve the most benefit from the rehabilitation process. The repair work should only be done upon completion of a resource conservation seminar.

Because of the reduced scope of repair work and higher level of education being delivered, this method can have a greater effect on an individual's personal resource consumption habits than on the rehabilitation of their home. The effect of this is that in the long-term, resource consumption will decrease because the client that received the service will be knowledgeable enough and motivated to increase resource conservation.

In this program networking between the agencies will be important so that no client will be alienated by bureaucratic behavior. Also, it is important that the agency perform the amount of work which will allow the client to be encouraged by the work and eager to continue conservation habits. If shoddy work is performed or only part of the job is completed, the client will be turned off to the social service agency providing the work, and therefore be turned off to any message the agency is disseminating. As there currently exists a waiting list for home rehabilitation services (some agencies with a two year backlog) marketing requirements will be minimal. Since education precedes the rehabilitation service, the market exists for the education programs.

- 3a) A public education and information program should be developed which can disseminate the resource conservation message to the low-income and minority communities. Two concepts that will encourage conservation are personal financial gain and community betterment. Each of these messages contains a fallacy. The fallacy of personal financial gain is that the gains are not large enough to sell an entire conservation agenda. In the case of community betterment, a family may be in such dire financial straits that their only concern is survival in which case the community betterment message will be disregarded.
- 3b) In response to Finding F, education and information programs should be developed for children at the grade school level. To the extent possible, the children's program should be in coordination with the general public programs listed in 3a. If the programs are coordinated, then the conservation concepts will be learned at school and then be reinforced by the general education programs which children can hear at several points i.e. television, radio, billboards, marketing flyers, etc.. The same process could occur vice-versa, with the child/children reinforcing and reminding the parents that they learned resource conservation techniques in school. From the committee's point of view, this method could be the most

effective to maximize the effect on all segments of the low-income, minority and general population.

In order to achieve more efficient use of financial resources for all agencies and to maintain a clear and concise message, the various utilities and public and private social service agencies should cooperate in developing and disseminating well coordinated and well-planned resource conservation concepts to complete Recommendations 3a and 3b. In order to receive the benefit of both aspects of resource conservation, listed in 3a, the community betterment approach may be used by community-based organizations and the financial gain approach could be used by the utilities. This way the target market will receive both messages in a uniform theme, and the public will have no reason to suspect that the message is produced by a self-interested entity with other motives besides community betterment or personal financial gain. It has been found that public messages that deal with monetary savings are more believable and trusted if the message explains why it is recommending the personal financial gain.

This would be a more efficient use of funds because the resources and experiences used to develop the message are shared. Additionally, the same message should be developed for both children and adults, therefore the message could be received by a larger portion of the community. A wider audience could also be facilitated by a uniform theme that is widely disseminated by utilities, social service agencies and public institutions.

- 4) The Advisory Committee recommends that the home rehabilitation services currently provided by utilities and private and public social service agencies continue to be provided to home owners.
- 5) A separate committee should be formed to study the unique needs and

circumstances of the low-income and minority community who rent their home from another party who may have interests that do not benefit the tenant. After studying the needs of this segment of the population, the committee should compare their findings and conclusions with those contained within these pages and recommend programs that will work in conjunction with the above listed programs or, if necessary, recommend programs which will work solely to the benefit of the low-income and minority renter community. Until solutions are found that remedy the problems of this segment of the community , only information and education is an appropriate remedy-not service or rehabilitation programs.

- 6) An expanded group of interested parties and organizations should be convened to examine these recommendations and develop a strategy to implement them.
- 7) In response to Finding I, to the extent possible, participating agencies should lead resource conservation efforts by example. This should be achieved by openly displaying and utilizing recyclable collection bins in areas that the general public is exposed to i.e. lobbies, waiting areas, near displays etc.. Additionally, the entity should tout its participation in the program with enthusiasm and advertise its participation in the program concurrently when advertising other programs or services. This could be done by having each entity develop their own internal resource conservation program.

B. The following are proposed future roles of the Advisory Committee if it is determined that the Advisory Committee's work should continue and if the response from the community indicates that the committee should continue to exist and pursue the recommendations included in these pages:

- 1) Funding should be secured in order to insure the future of this committee and the development and implementation of some or all of the preceding recommendations.
- 2) A task force should be formed to find an entity for the committee to

become affiliated with. Office space and clerical support will be needed in order for the committee to complete its work. (Please see proposed budget, appendix C.)

- 3) Facilitate recruiting of additional entities to contribute to the Advisory Committee's recommendations.
- 4) A representative from city or county community services, or both, should be recruited to join the committee in order to have the input and experience of people in those agencies on a continuous basis.
- 5) The Advisory Committee will facilitate implementation of the recommendations contained within this proposal.

APPENDIX A: ADVISORY COMMITTEE FOR INCREASED MINORITY AND LOW-INCOME PARTICIPATION IN ENERGY CONSERVATION

MISSION:

This committee recognizes that conserving natural resources is essential for the long term health of the Tucson community. This committee is cognizant of the many efforts to establish energy conservation programs and realizes that participation of the low-income and minority communities in these programs needs to be encouraged and focused steps taken.

The committee believes that there are important ethical, economic, environmental and cultural issues that need to be recognized when evaluating how current conservation programs are performing. These same factors should be considered when new programs or adjustments to existing programs are proposed.

The committee seeks to identify strategies to increase minority and low-income participation in appropriate existing resource conservation programs and/or to identify new program directions and address other resource issues not currently considered that will promote energy conservation in the minority and low-income communities.

GOALS:

- 1) Develop a statement that defines the importance of energy conservation as it relates to the communities that minority and low-income families reside in.

Strategies

- * Committee will be provided information that highlight problems that the lack of energy conservation creates; they will be asked to think about these problems and offer additional problems not mentioned in the context of their community; and develop, as a group, a statement that defines the importance of energy conservation programs and how these programs can assist the lives and neighborhoods in minority and low-income communities.

- 2) Analyze and review the energy conservation programs currently available. The analysis should focus on the following: the impact the program has in energy conservation; the participation rates the program has experienced; perception/issues that have encouraged or prevented individuals and families from participating in the programs; and any data/experience in conducting or promoting the program in the minority and low-income communities.

Strategies

- * An inventory of existing programs can be put together from existing information and research by the intern (working for the committee).
 - * Include presentations by representatives from these programs to provide essential information concerning the implementation of their programs and to provide a forum for questions from the committee.
 - * Develop a detailed list of why programs have not been working noting if impediments are critical to participation in minority and low-income communities.
- 3) Analyze the marketing/outreach techniques utilized thus far and evaluate the appropriateness in minority and low-income communities.

Strategies

- * List separately outreach techniques used in marketing programs.
 - * List why/why not the message did/did not effect the minority and low-income communities.
 - * List strategies to improve outreach in the minority and low-income communities.
- 4) Recommend adjustments/expansion/strategies to increase the participation of the minority and low-income communities in existing energy programs and/or propose new program areas that would better encourage these communities to actively pursue energy conservation. Provide forum for economic development program discussions. The committee seeks to identify major obstacles that prevent these communities from participating in existing energy conservation programs; the committee will conclude if there are any new program directions

that should be pursued.

Strategies

- * Committee decisions regarding recommendations on a program by program basis or general strategies that would be appropriate for a broad range of products.
- * Minutes will be taken during meetings especially as applies to review which will be mailed out prior to the following meeting. The minutes should include any conclusions and action statements by the committee as to the benefit of particular programs in minority and low-income communities and reasons why participation in the program has/has not occurred.

APPENDIX B: STATISTICS REGARDING THE HISPANIC COMMUNITY IN TUCSON

Section A-Statistics regarding Spanish language media in Pima County.

Television-

86% of Spanish-speaking adults watch Spanish language TV an average of 15 hours/week.

93% of Spanish-dependent people watch Spanish language TV.

Radio-

37% of Hispanics listen to Spanish-only radio stations.

11% of Hispanics listen to English-only radio stations.

36% of Hispanics listen to both English and Spanish radio stations.

73% of Hispanics who listen to Spanish radio listen for a minimum of 12 hours/week.

Written-

75% of Hispanics read the Spanish language very well.

Section B-Table of where Hispanics receive information versus General Population.

<u>Source</u>	<u>Hispanic(%)</u>	<u>General Public(%)</u>
Television	48	28
Radio	35	5
Word of Mouth	15	3
Newspaper	14	18
Hospital/Clinic/Doctor's Office	11	11
Direct Mail	6	9
Outdoor Billboards	2	7
Employer	1	8

Magazines	0	3
Miscellaneous	3	8
Don't Know/No Where/None	9	26

Section C-Household Income According To Education and Language

	Median (\$)	Average (\$)
Spanish-dependant	13,240	18,589
Bi-lingual	19,375	22,909
Grade school or less	12,127	18,661
High school or more	19,762	22,273

SOURCE: "Hispanic Track", Fall 1992. Behavior Research Corp., Phoenix, AZ.

APPENDIX C: PROPOSED BUDGET

Staff Support-

Administrative-to provide general coordination.	5 hrs./wk
@ In-Kind donation	\$ 0.00/month
Recorder-minutes and coordination of committee.	20 hrs./wk
@ intern cost \$5.50/hr	\$440.00/month
@ In-Kind donation	\$ 0.00/month

General Office Support-

Office space	In-Kind
Computer w/word processing software	"
Telephone	"
Fax Machine	"
Copier	"
15 each/month-Envelopes	"
" " Letterhead	"
" " Postage	"

SUMMARY AND RANKING OF MARKETING METHODS

The following were indicated as effective locations and methods of outreach by these social and community service agencies. They are listed in order according to their effectiveness, by category. Each were ranked by representatives of the social service agencies.

METHOD	CCS	CNCS	CPLC	PPEP	TUL
---------------	------------	-------------	-------------	-------------	------------

Outreach Methods:

Word of Mouth	Yes	Yes	Yes	Yes	Yes
Door-to-Door	Yes	No	Yes	Yes	Yes
Public Service Announcements	No	No	Yes	Yes	No
Spanish Radio Station	Yes	No	Yes	Yes	No
Rural Newsletter/Newspaper	No	Yes	Yes	No	Yes
ESN ¹	No	Yes	Yes	Yes	No
Translate Material into Spanish	No	Yes	Yes	Yes	Yes
Marketing Inserts w/DES Checks	No	No	No	Yes	No

Location:

Social Service Agencies	Yes	No	Yes	Yes	Yes
Neighborhood Center	Yes	No	Yes	No	No
Commodity Distribution Programs	No	No	No	Yes	Yes
Church	Yes	No	Yes	Yes	Yes
Utilities	No	No	No	Yes	Yes
Schools	Yes	No	No	Yes	No
Rural Community Functions	No	Yes	Yes	No	Yes

KEY

CCS=City Community Services
 CNCS=County Community Services
 CPLC=Chicanos Por La Causa
 PPEP=Project PPEP
 TUL=Tucson Urban League

NOTES

1) Emergency Services Network computer marketing service run by Pima County.

SUMMARY OF HOME REHABILITATION PROGRAMS

Offered by:

Social Service Agencies:

Utilities:

PROGRAM	CCS	CNCS	CPLC	PEEP	TUL	SWG	TEP	TWD
Home Rehabilitation	Yes	Yes	Yes	Yes	Yes	No	No	No
Utility/ Home Payment Assistance	Yes	Yes	Yes	No	Yes	No	Yes	No
Weatherization ¹	Yes	Yes	Yes	No	Yes	Yes ²	Yes ³	Yes ²

KEY

CCS=City Community Services

CNCS=County Community Services

CPLC=Chicanos Por La Causa

PPEP=Project PPEP

SWG=Southwest Gas Co.

TEP=Tucson Electric Power Co., Inc.

TUL=Tucson Urban League

TWD=Tucson Water Department

NOTES

1-Weatherization includes repair work and energy audit and/or counseling.

2-SWG & TWD participate in Seniors Helping Seniors program.

3-TEP's weatherization program is in conjunction with CNCS and TUL. TEP will perform an energy audit and CNCS or TUL will complete the weatherization service.

RESOURCE CONSERVATION PROGRAMS OFFERED BY UTILITIES

PROGRAM	TEP	SWG	TWD	HHW	CRP
Counseling/Education	Yes	Yes	Yes	Yes ¹	Yes ¹
Desert House	Yes	Yes	Yes	No	No
Energy Audit:					
by Personnel	Yes	Yes ²	No	N/A	N/A
by Questionnaire	Yes	No	No	N/A	N/A
High Bill Investigation	Yes	Yes	Yes	N/A	N/A
Low-Flow Toilet Rebate	N/A	N/A	Yes	N/A	N/A
Low-Income Discount	Yes	Yes	Yes ³	N/A	N/A
Outreach Program ⁴	N/A	N/A	N/A	Yes	Yes
Public Seminars	Yes	Yes	Yes	Yes	Yes
Telephone Info Line	Yes	Yes	Yes	Yes	Yes
Weatherization	Yes ⁵	Yes ⁶	Yes ⁷	N/A	N/A

KEY

TEP=Tucson Electric Power Co.

SWG=Southwest Gas Inc.

TWD=Tucson Water Department

HHW=Household Hazardous Waste

CRP=City Recycling Program

NOTES

1-Volunteers advise and answer questions when accepting waste. CRP advises at outreach sites only.

2-Only available to low-income senior citizens who use the Senior Weatherization Program.

3-TWD customers receive subsidies through social service agencies.

4-Satellite collection points.

5-Low-income customers only. This program is in conjunction with Tucson Urban League and Pima County Community Services.

6-For senior-citizens only. Weatherization consists of an energy audit and counseling.

7-Seniors Helping Seniors program in conjunction with SWG.

CHAPTER 4 - LESSONS LEARNED

The Office of Energy and Environment Minority Marketing Program, in partnership with Chicanos Por La Causa, developed a program involving conducting energy audits in the homes of local minority community residents. A number of assumptions were made that caused this part of the project to fail. An analysis of the failure is provided by Chicanos Por La Causa in the attached Memorandum.

SUGGESTIONS FOR APPLICATION

If an in-home energy audit should become necessary to conduct, the criteria for selecting participant families needs to be reviewed carefully to include as many families as possible. Privacy issues of the home need to be considered and perhaps researched more extensively. The final reward for invading home privacy additionally needs to be reconsidered and increased significantly.

Memorandum

PETE C. GARCIA
President CEO

CPLC TUCSON

LORRAINE LEE
Vice President

TUCSON BOARD

PAT LOPEZ
Chair Of The Board

CATHY HOLLINGSWORTH
Vice Chair

RAUL AGUIRRE
RICHARD BARKER
BARBARA BENTON
ANDY COUMIDES
IRENE DELGADO
GEORGE FAVELA
MARIO GREGORY
LINDA MAZON-GUTIERREZ
DR. ROSALIA KAME
RICHARD M. MARTINEZ
GEORGE MIRABEN
DANIEL PEREZ
TIM RECKART
ANNA SANCHEZ
MARTA ARACELI SILVA
NANCY DARU Yaeli
SOLEDAD ZUZUARREGUI

To: Cecilia Vindiola, Minority Marketing Program
Energy & Environment, City of Tucson

From: Lautaro Diaz, Chicanos Por La Causa

Date: June 15, 1993

Subject: Performance of Energy Audit in Target Area

This letter is to report Chicanos Por La Causa's (CPLC) experience in recruiting participation in the in-home energy audit being done for the project. This letter will have three parts that will summarize a) methodology; b) results and problems; and c) conclusions based on our experience.

Methodology

A target area comprised of 10 census tracts within the Tucson area was selected to conduct the research. These 10 tracts contain the largest percentage of hispanics in the Tucson metropolitan area. Since CPLC conducts programs that are many times focused on this clientele, all CPLC counselors (6 in total) were asked to search recent client lists to see if they could identify individuals that lived in the target area. Each counselor then would contact these individuals to see if they were willing to participate in the program. Each counselor was briefed on the intent and procedure of the audit conducted. Those families who were willing to participate were referred to you for actual completion of the audit.

Page 1 of 2

CHICANOS POR LA CAUSA

TUCSON OFFICE

1525 North Oracle, Suite101 Tucson, Arizona 85705 (602) 882-0018 FAX (602) 884-9007

Results & Problems

Our counselors found it very difficult to get families to participate for a variety of reasons. The first set of problems were process related. That is the time given to search out all the participants was too short given the work load of the counselors. This on top of the limited geographic area given in which the participants could be selected constrained our ability to find families. The constraints on the families participating in the audit also limited the participation. The families had to be living in the house for two years; no new improvements that would change the energy consumption (i.e. pools, room addition, etc.); and no new family members in the last year. Many times families had to be rejected because they did not fit these parameters.

The second set of problems was related to perceived benefits of participation. Many families saw the audit process as an intrusion of their privacy. Auditors were required to investigate their past utility bills and many times families would have delinquencies that they felt was only their business. This combined with the fact that a stranger was in their house for an extensive period made sense only if the families have some perceived real benefits for participating in the audit. Other than the written and verbal information provided at the audit no other "economic" benefit could be perceived which reduced their willingness to participate.

Conclusions

- 1) If families are contacted to participate in such an audit, real economic benefit needs to be perceived from their perspective. The most appropriate incentive would be guaranteed participation in a home rehabilitation or weatherization program. Stipends have been used in the past, but there are many ways to provide this incentive.
- 2) The privacy issues need to be addressed head on. That is, to explain what the nature of the information that is going to be collected and how detailed the information is needs to be relayed.
- 3) The persons who are recruiting participants need to be prepared to answer aggressively the families concerns about participation, who will benefit from their participation, and describe effectively the importance of the information.
- 4) More time needs to be given for the selection process. Searching for participants and subsequently contacting them is time intensive, particularly if the geographic area targeted is small.

APPENDIX

"FUTURE DIRECTIONS" MAIL-OUT SURVEY

A complete survey is provided here in a pull-out format for convenient re-use

FINAL NOTES

The telephone and mail-out survey were developed on non-proprietary software entitled Questionnaire Programming Language (QPL) which is available to all public jurisdictions at no charge. A set of QPL disks and a manual is available upon request through the City of Tucson Office of Energy and Environment as well as the City of Tucson of Water Conservation Office. A complete code book as well as a complete set of statistical frequencies are also available upon request. These three documents are of significant length and are therefore not appended to this report. The Office of Water Conservation can duplicate survey data on disk on either SPSS, Lotus or Dos as needed by the requesting jurisdiction.

FUTURE DIRECTIONS:
-RECYCLING-
-WATER-
-TRANSPORTATION-
AND
-ENERGY-

OFFICE OF ENERGY AND ENVIRONMENT
CITY OF TUCSON

Your help with this effort is greatly appreciated! Please use the back page to answer any questions in more detail. Thank you!

QUESTIONS ABOUT RECYCLING

Q-1 Some people feel that recycling products like cans, glass, paper and cardboard is a serious problem in the Tucson area, but other people feel it is not. We would like to know how you feel. Which of the following best describes how you feel about recycling?

(Please circle one number)

1. IT'S A WAY TO SAVE MONEY FOR ME
2. IT TAKES MORE TIME THAN IT IS WORTH FOR ME
3. IT SEEMS TO SAVE NATURAL RESOURCES AND IS WORTH THE TIME IT TAKES
4. IT IS A COMPLICATED ISSUE AND I HAVE NOT DECIDED HOW I FEEL

Q-2 At your home, please indicate what you generally do with the items listed below.

	(Circle your answer for each statement)				
	I almost never recycle this item	I usually put it at curbside for recycling	I usually take it to recycling companies or stores that pay	I usually put it in collection bins around town	I usually take it to OUTREACH RECYCLE SITES
A. Aluminum cans....	ALMOST NEVER RECYCLE	USUALLY PUT AT CURBSIDE FOR RECYCLING	USUALLY TAKE TO RECYCLING COMPANIES	USUALLY PUT IN COLLECTION BINS	USUALLY TAKE TO OUTREACH RECYCLE SITES
B. Steel cans.....	ALMOST NEVER RECYCLE	USUALLY PUT AT CURBSIDE FOR RECYCLING	USUALLY TAKE TO RECYCLING COMPANIES	USUALLY PUT IN COLLECTION BINS	USUALLY TAKE TO OUTREACH RECYCLE SITES
C. Newspapers.....	ALMOST NEVER RECYCLE	USUALLY PUT AT CURBSIDE FOR RECYCLING	USUALLY TAKE TO RECYCLING COMPANIES	USUALLY PUT IN COLLECTION BINS	USUALLY TAKE TO OUTREACH RECYCLE SITES
D. Cardboard.....	ALMOST NEVER RECYCLE	USUALLY PUT AT CURBSIDE FOR RECYCLING	USUALLY TAKE TO RECYCLING COMPANIES	USUALLY PUT IN COLLECTION BINS	USUALLY TAKE TO OUTREACH RECYCLE SITES
E. Glass containers...	ALMOST NEVER RECYCLE	USUALLY PUT AT CURBSIDE FOR RECYCLING	USUALLY TAKE TO RECYCLING COMPANIES	USUALLY PUT IN COLLECTION BINS	USUALLY TAKE TO OUTREACH RECYCLE SITES
F. Plastic containers..	ALMOST NEVER RECYCLE	USUALLY PUT AT CURBSIDE FOR RECYCLING	USUALLY TAKE TO RECYCLING COMPANIES	USUALLY PUT IN COLLECTION BINS	USUALLY TAKE TO OUTREACH RECYCLE SITES

Q-3 If you do not use the OUTREACH RECYCLE CENTERS, what is the main reason why don't you use them?

(Please circle one number)

1. DID NOT KNOW THEY WERE AVAILABLE
2. I WOULD RATHER SELL THE RECYCLABLE
3. TOO MUCH TROUBLE
4. THE HOURS IT IS OPEN DO NOT FIT MY SCHEDULE
5. JUST FORGET ABOUT DOING SO
6. DON'T SAVE ENOUGH TO BE WORTHWHILE

Q-4 At your home, please indicate what you generally do with the items listed below.

(Circle your answer for each statement)			
	I usually put it in the trash can	I usually pour it on the ground	I usually take it to a HOUSEHOLD HAZARDOUS WASTE COLLECTION SITE
A. Old house paint.....	USUALLY PUT IN TRASH CAN	USUALLY POUR ON THE GROUND	USUALLY TAKE TO HOUSEHOLD HAZARDOUS WASTE COLLECTION SITES
B. Old plant and bug spray.....	USUALLY PUT IN TRASH CAN	USUALLY POUR ON THE GROUND	USUALLY TAKE TO HOUSEHOLD HAZARDOUS WASTE COLLECTION SITES
C. Old flashlight batteries.....	USUALLY PUT IN TRASH CAN	USUALLY THROW ON THE GROUND	USUALLY TAKE TO HOUSEHOLD HAZARDOUS WASTE COLLECTION SITES
D. Old motor oil from your car	USUALLY PUT IN TRASH CAN	USUALLY POUR ON THE GROUND	USUALLY TAKE TO HOUSEHOLD HAZARDOUS WASTE COLLECTION SITES
E. Old household cleaners.....	USUALLY PUT IN TRASH CAN	USUALLY POUR ON THE GROUND	USUALLY TAKE TO HOUSEHOLD HAZARDOUS WASTE COLLECTION SITES

Q-5 If you do not use the HOUSEHOLD HAZARDOUS WASTE COLLECTION SITE, what is the main reason why don't you use them?

(Please circle one number)

1. DID NOT KNOW THEY WERE AVAILABLE
2. I WOULD RATHER SELL THE RECYCLABLE
3. TOO MUCH TROUBLE
4. THE HOURS IT IS OPEN DO NOT FIT MY SCHEDULE
5. JUST FORGET ABOUT DOING SO
6. DON'T SAVE ENOUGH TO BE WORTHWHILE

QUESTIONS ABOUT TRANSPORTATION

Q-6 What type of transportation do you generally use to travel to work or school?

(Please circle one number)

1. CAR
2. CAR POOL
3. BUS
4. BICYCLE
5. MOTORCYCLE
6. WALK
7. OTHER

Q-7 There are many actions that can help preserve air quality. For each action listed below please indicate the response that best describes you.

		(Circle your answer for each statement)					
		I have never done this	I have no plans to take this action in the future	I do this more now than a year ago	I do this about the same as a year ago	I do this less now than a year ago	I don't know
First, if you DO NOT have a car, then check here _____ and SKIP to item H below.							
A. Choose one day a week to not drive		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
B. Drive less in general.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
C. Reduce excessive idling of car.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
D. Reduce the number of automobile trips taken locally.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
E. Combine several local auto trips into one.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
F. Keep my car tuned.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
G. Purchased a more fuel efficient car..		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
H. Ride in a carpool.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
I. Bike to work or school.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
J. Walk to work or school.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
K. Bike on short trips or errands.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
L. Walk on short trips or errands.....		I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW

Q-7 continued

	I have never done this	I have no plans to take this action in the future	I do this more now than a year ago	I do this about the same as a year ago	I do this less now than a year ago	I don't know
M. Ride the bus.....	I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
N. Moved closer to work.....	I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW
O. Planted trees, grass, or other plants..	I HAVE NEVER DONE THIS	NO PLANS TO TAKE THIS ACTION	MORE NOW THAN A YEAR AGO	ABOUT THE SAME AS A YEAR AGO	LESS NOW THAN A YEAR AGO	I DON'T KNOW

WATER TO DRINK AND USE

Q-8 What is the primary source of drinking water in your home?

1. STRAIGHT FROM THE TAP
2. BOTTLED WATER
3. FILTERED TAP WATER
4. DISTILLED TAP WATER
5. REVERSE OSMOSIS
6. OTHER _____

Q-9 If you usually DO NOT drink water straight from the tap, which of the following items , if any, played a part in your decision to use another source of drinking water in your home?

	(Circle one for each item)		
A. Fluoride?.....	PLAYED A PART IN MY DECISION TO SWITCH	DID NOT PLAY A PART IN MY DECISION TO SWITCH	DON'T KNOW
B. Chemicals that seep down through the ground?...	PLAYED A PART IN MY DECISION TO SWITCH	DID NOT PLAY A PART IN MY DECISION TO SWITCH	DON'T KNOW
C. Chlorine?.....	PLAYED A PART IN MY DECISION TO SWITCH	DID NOT PLAY A PART IN MY DECISION TO SWITCH	DON'T KNOW
D. Chloramine?.....	PLAYED A PART IN MY DECISION TO SWITCH	DID NOT PLAY A PART IN MY DECISION TO SWITCH	DON'T KNOW
E. Salts and minerals?	PLAYED A PART IN MY DECISION TO SWITCH	DID NOT PLAY A PART IN MY DECISION TO SWITCH	DON'T KNOW
F. Smell and taste?.....	PLAYED A PART IN MY DECISION TO SWITCH	DID NOT PLAY A PART IN MY DECISION TO SWITCH	DON'T KNOW

Q-10 Do you have a water softener in your home?

(Please circle one number)

1. YES
2. NO
3. DON'T KNOW

Q-11 Are you currently receiving CAP water at your home?

(Please circle one number)

1. YES
2. NO
3. DON'T KNOW

Q-12 Do any of your water faucets drip or toilets leak when off?

(Please circle one number)

1. YES
2. NO
3. DON'T KNOW

Q-13 Below is a list of the reasons why some people don't fix the leaks. If you have leaks, please indicate why you don't fix the leaks. (Please circle one number)

1. DON'T HAVE ANY LEAKS
1. TOO HARD TO FIX
2. TOO EXPENSIVE TO HAVE IT DONE
3. DON'T SAVE ENOUGH WATER TO BE WORTH FIXING
4. DON'T SAVE ENOUGH MONEY TO BE WORTH FIXING
5. DON'T KNOW HOW TO FIX THEM
6. THE LANDLORD IS RESPONSIBLE

Q-14 Listed below are certain water saving features that might be found in and around your home. For each item, please circle the one best answer.

	Do not plan to install because...						
A. Flow restrictor on any shower head.....	ALREADY INSTALLED	PLAN TO INSTALL SOON	TOO HARD TO INSTALL	TOO MUCH TROUBLE	DON'T SAVE ENOUGH WATER	DON'T SAVE ENOUGH MONEY	DON'T WORK THE WAY I WANT
B. Low flow shower heads on any shower.....	ALREADY INSTALLED	PLAN TO INSTALL SOON	TOO HARD TO INSTALL	TOO MUCH TROUBLE	DON'T SAVE ENOUGH WATER	DON'T SAVE ENOUGH MONEY	DON'T WORK THE WAY I WANT
C. Flow restrictors on any sink faucet.....	ALREADY INSTALLED	PLAN TO INSTALL SOON	TOO HARD TO INSTALL	TOO MUCH TROUBLE	DON'T SAVE ENOUGH WATER	DON'T SAVE ENOUGH MONEY	DON'T WORK THE WAY I WANT
D. Toilet dams, displacement bags or bottles, or bricks in any toilet tanks.....	ALREADY INSTALLED	PLAN TO INSTALL SOON	TOO HARD TO INSTALL	TOO MUCH TROUBLE	DON'T SAVE ENOUGH WATER	DON'T SAVE ENOUGH MONEY	DON'T WORK THE WAY I WANT
E. Water saving low flow toilet (they use less water to flush, 1.6 gallons, than toilets built a few years ago).....	ALREADY INSTALLED	PLAN TO INSTALL SOON	TOO HARD TO INSTALL	TOO MUCH TROUBLE	DON'T SAVE ENOUGH WATER	DON'T SAVE ENOUGH MONEY	DON'T WORK THE WAY I WANT
F. Drip irrigation for plants.....	ALREADY INSTALLED	PLAN TO INSTALL SOON	TOO HARD TO INSTALL	TOO MUCH TROUBLE	DON'T SAVE ENOUGH WATER	DON'T SAVE ENOUGH MONEY	DON'T WORK THE WAY I WANT
G. Do you use any other type of water conserving methods? (specify)	ALREADY INSTALLED	PLAN TO INSTALL SOON	TOO HARD TO INSTALL	TOO MUCH TROUBLE	DON'T SAVE ENOUGH WATER	DON'T SAVE ENOUGH MONEY	DON'T WORK THE WAY I WANT

Q-15 In general, how much potential is there to reduce water use...

	(Circle your answer for each statement)					
A. in the whole Tucson area?.....	VERY HIGH POTENTIAL	HIGH POTENTIAL	MODERATE POTENTIAL	LOW POTENTIAL	VERY LOW POTENTIAL	DON'T KNOW
B. inside your home for domestic uses?...	VERY HIGH POTENTIAL	HIGH POTENTIAL	MODERATE POTENTIAL	LOW POTENTIAL	VERY LOW POTENTIAL	DON'T KNOW
C. outside your home in your yard?.....	VERY HIGH POTENTIAL	HIGH POTENTIAL	MODERATE POTENTIAL	LOW POTENTIAL	VERY LOW POTENTIAL	DON'T KNOW

Q-16 The Tucson Water Department has a rebate program where you get money back if you buy a low flow toilet. Concerning this program...

(Please circle one number)

1. I HAVE NOT HEARD OF THE PROGRAM
2. I HAVE ALREADY RECEIVED A REBATE THROUGH THE PROGRAM
3. I HAVE HEARD OF THE REBATE PROGRAM BUT HAVE NOT PARTICIPATED BECAUSE...

→ (Please circle all letters that apply)

- A. TOILETS ARE TOO EXPENSIVE
- B. DON'T NEED A NEW TOILET
- C. HAVE NOT THOUGHT ABOUT IT
- D. TOO MUCH HASSLE
- E. THEY DON'T FLUSH COMPLETELY EACH TIME
- F. OTHER REASONS _____

Q-17 Concerning the landscaping in your yard, would you describe it as mostly..

(Please circle one number)

1. DON'T HAVE A YARD
2. MOSTLY GRASS THAT IS WATERED
3. MOSTLY TREES, SHRUBS OR HEDGES WITH SOME GRASS
4. LOW WATER USING PLANTS AND TREES WITH SOME GRASS
5. LOW WATER USING PLANTS AND TREES AND NO GRASS
6. GRAVEL WITH SOME DESERT LANDSCAPING
7. YARD NOT LANDSCAPED

Q-18 Do you...

(Please circle all that apply)

1. PLANT A WINTER RYE LAWN?
2. PLANT FLOWER BEDS?
3. HAVE FRUIT TREES?

Q-19 Do you water the landscaping and or gardens with any of the following?

(Please circle all the numbers that apply)

1. IN-GROUND SPRINKLER
2. A SPRINKLER ON A GARDEN HOSE
3. DRIP IRRIGATION
4. BY HAND WITH A WATER HOSE
5. DON'T WATER

Q-20 If you have an in-ground sprinkler system or drip irrigation, is it on a timer

(Please circle one number)

1. YES
2. NO
3. DON'T KNOW

Q-21 Do you have any of the following? (Please circle all the numbers that apply)

(Please circle one number)

1. A SWIMMING POOL
2. A DECORATIVE POOL OR FOUNTAIN
3. A SPA OR JACUZZI
4. A MISTING SYSTEM
5. AN EVAPORATIVE COOLER
6. AN AIR CONDITIONER

Q-22 How important is maintaining your yard to your lifestyle or quality of life in Tucson?

(Please circle one number)

1. VERY IMPORTANT
2. SOMEWHAT IMPORTANT
3. NEITHER IMPORTANT NOR UNIMPORTANT
4. NOT VERY IMPORTANT
5. NOT AT ALL IMPORTANT

Q-23 In the past twelve months, have you seen, heard, or read any information or slogans about water conservation?

(Please circle one number)

1. YES
2. NO
3. DON'T KNOW

ABOUT ENERGY IN YOUR HOME

Q-24 In your home, do you currently use energy saving lighting options like the ones listed below?

	(Circle your answer for each statement)						
	I use them in some locations	Don't use, I need the brighter light	Don't use, I would have to alter the lighting fixtures	Don't use, too expensive to buy or have installed	Don't use, they don't save enough electricity	Don't use, they don't save enough money	Use to replace old bulbs as they burn out
A. Use energy saving incandescent light bulbs	I USE THEM IN SOME LOCATIONS	DON'T USE, NEED THE BRIGHT LIGHT	DON'T USE, HAVE TO ALTER THE FIXTURES	DON'T USE, TOO EXPENSIVE	DON'T USE, THEY DON'T SAVE ENOUGH ELECTRICITY	DON'T USE, DON'T SAVE ENOUGH MONEY	REPLACE OLD BULBS AS THEY BURN OUT
B. Use lower wattage light bulbs to replace brighter higher wattage bulbs.....	I USE THEM IN SOME LOCATIONS	DON'T USE, NEED THE BRIGHT LIGHT	DON'T USE, HAVE TO ALTER THE FIXTURES	DON'T USE, TOO EXPENSIVE	DON'T USE, THEY DON'T SAVE ENOUGH ELECTRICITY	DON'T USE, DON'T SAVE ENOUGH MONEY	REPLACE OLD BULBS AS THEY BURN OUT
C. Use florescent bulbs in place of incandescent bulbs.....	I USE THEM IN SOME LOCATIONS	DON'T USE, NEED THE BRIGHT LIGHT	DON'T USE, HAVE TO ALTER THE FIXTURES	DON'T USE, TOO EXPENSIVE	DON'T USE, THEY DON'T SAVE ENOUGH ELECTRICITY	DON'T USE, DON'T SAVE ENOUGH MONEY	REPLACE OLD BULBS AS THEY BURN OUT

Q-25 Energy efficient equipment costs more initially but costs less to run. Over a two year period the savings may be larger than the initial price difference. When you purchase appliances or equipment, which of the two options below indicate your thinking?

(Please circle one number)

1. BUY THE LOWER PRICED ITEM, AND PAY MORE TO RUN IT
2. BUY THE HIGHER PRICED ITEM, AND PAY LESS TO RUN IT
3. NEITHER OF THE ABOVE
4. DON'T KNOW

Q-26 If today, you had to go out and purchase any of the appliances listed below, would the energy efficiency of the appliance be a VERY IMPORTANT, SOMEWHAT IMPORTANT, or NOT IMPORTANT part of the decision about which one to buy?

	(Circle your answer for each statement)			
A. Refrigerator.....	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW
B. Freezer.....	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW
C. Air conditioner.....	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW
D. Heater/furnace.....	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW
E. Dishwasher.....	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW
F. Clothes washer	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW
G. Clothes dryer.....	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW
H. Hot water heater.....	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	DON'T KNOW

Q-27 In your home, do you have any of the following...

	(Circle one)		
A. Insulation in or on the exterior walls?.....	YES	NO	DON'T KNOW
B. Insulation above the ceiling or in the attic?.....	YES	NO	DON'T KNOW
C. Weather stripping around most of the doors?.....	YES	NO	DON'T KNOW
D. Caulking around most of the windows?.....	YES	NO	DON'T KNOW
E. On most of the windows that allow direct sunlight to enter, is there either reflective film, shade screen, or awnings.....	YES	NO	DON'T KNOW
F. White or light colored coating on your roof?.....	YES	NO	DON'T KNOW
G. Trees shading your house or windows?.....	YES	NO	DON'T KNOW
H. Skylights in your home?.....	YES	NO	DON'T KNOW

Q-28 How often do you open and close windows as an alternative to running your cooler, your air conditioner or your heater? Do you do this...

(Please circle one number)

1. NONE OF THE TIME
2. SOME OF THE TIME
3. ALMOST ALL OF THE TIME
4. NEVER THOUGHT ABOUT IT

Q-29 In a few years, generating electricity from SOLAR ELECTRIC PANELS on your roof may be a way to save you money. Which one of the following statements best describes your feelings about solar electric on your roof.

(Please circle one number)

1. I WOULD BE INTERESTED IN MORE INFORMATION WHEN THE TIME COMES.
2. I FEEL IT WILL BE MORE TROUBLE THAN IT IS WORTH.
3. I DEFINITELY AM INTERESTED AND WILL BE ONE OF THE FIRST TO TRY THEM.
4. I DON'T KNOW ENOUGH TO RESPOND TO THIS QUESTION.

Q-30 Do you have a solar hot water heater in your home?

(Please circle one number)

- A. YES(skip to Q-30b, below)
- B. NO (go to Q-30a)

Q-30a Solar hot water systems can often pay for themselves in a few years. How short a period, in years, would the pay back have to be before you would be likely to purchase one?

(Please circle one number)

1. 5 YEARS
2. 4 YEARS
3. 3 YEARS
4. 2 YEARS
5. 1 YEAR
6. I WOULD NOT PURCHASE ONE REGARDLESS OF THE NUMBER OF YEARS
7. I DON'T KNOW

Q-30b How would you describe your experience with the system?

(Please circle one number)

1. OVERALL, YOU ARE PLEASED WITH THE SYSTEM
2. IT SEEMS TO SAVE ME MONEY
3. IT BREAKS ALL THE TIME
4. IT DOES NOT SEEM TO WORK VERY WELL
5. I REALLY DON'T KNOW WHAT TO THINK ABOUT IT
6. NONE OF THE ABOVE

Q-30c If you moved, would you install one at the new house?

(Please circle one number)

1. YES
2. NO
3. DON'T KNOW

Q-31 Compared to what you have already done to save energy in and around your home, do you think there are...

(Please circle one number)

1. MANY MORE WAYS TO SAVE ENERGY
2. A FEW MORE WAYS TO SAVE ENERGY
3. NO MORE WAYS TO SAVE ENERGY
4. I DON'T KNOW

Q-32 If energy conservation information were available to you, what would your reaction be?

(Please circle one number)

1. I WOULD USE IT
2. ITS NOT WORTH MY TIME
3. I'M NOT REALLY INTERESTED IN ENERGY CONSERVATION
4. I HAVE TRIED ENERGY CONSERVATION BEFORE AND IT DID NOT PAY OFF
- D. I DON'T KNOW

Q-33 Which of the following do you feel are credible sources of energy conservation information?

(Please circle all that apply)

1. MAGAZINES, NEWSPAPERS, TV
2. CITY AND COUNTY GOVERNMENT AGENCIES
3. UTILITY COMPANIES
4. STATE AND FEDERAL GOVERNMENT AGENCIES
5. MANUFACTURERS
6. OTHER PLACES NOT MENTIONED ABOVE

Q-34 If there were a local newspaper feature every month on energy conservation and environmental issues as they relate to you as a local resident, would you read it--

(Please circle one number)

1. ALL THE TIME
2. SOME OF THE TIME
3. NONE OF THE TIME
4. THERE IS ONE ALREADY AND I READ IT
5. THERE IS ONE ALREADY AND I DO NOT READ IT
6. I DON'T KNOW

ABOUT ENERGY CONSERVATION

Q-35 How do you personally feel about the following statements?

	(Circle your answer for each statement)				
A. Who do you feel will bear the greatest cost of increased energy conservation?.....	INDIVIDUALS AND FAMILIES	BUSINESSES	LOCAL AREA GOVERNMENT	UTILITIES	SHARED BY ALL
B. Who will benefit the most from increased energy conservation efforts?.....	INDIVIDUALS AND FAMILIES	BUSINESSES	LOCAL AREA GOVERNMENT	UTILITIES	SHARED BY ALL
C. Who do you feel the majority of conservation methods favors?.....	INDIVIDUALS AND FAMILIES	BUSINESSES	LOCAL AREA GOVERNMENT	UTILITIES	SHARED BY ALL
D. Who do you feel should bear the major responsibility for implementing energy conserving measures in the Tucson area?.....	INDIVIDUALS AND FAMILIES	BUSINESSES	LOCAL AREA GOVERNMENT	UTILITIES	SHARED BY ALL

Q-36 As a result of increased energy conserving efforts by society as a whole, do you believe that..

	(Circle your answer for each statement)		
A. in the <u>short run</u> (1 year) employment opportunities will.....	DECREASE	NOT CHANGE	INCREASE
B. in the <u>long run</u> (3 years) employment opportunities will.....	DECREASE	NOT CHANGE	INCREASE
C. in the <u>short run</u> (1 year) your wages will.....	DECREASE	NOT CHANGE	INCREASE
C. in the <u>long run</u> (3 years) your wages will.....	DECREASE	NOT CHANGE	INCREASE

Q-37 Regarding our community's future energy needs, how much do you favor or oppose the items below .

	(Circle your answer for each statement)				
A. Increased use of solar energy.....	STRONGLY OPPOSE	OPPOSE	NEUTRAL	FAVOR	STRONGLY FAVOR
B. Increased use of nuclear power.....	STRONGLY OPPOSE	OPPOSE	NEUTRAL	FAVOR	STRONGLY FAVOR
C. Increased use of coal.....	STRONGLY OPPOSE	OPPOSE	NEUTRAL	FAVOR	STRONGLY FAVOR
D. Increased use of natural gas.....	STRONGLY OPPOSE	OPPOSE	NEUTRAL	FAVOR	STRONGLY FAVOR
E. Increased oil imports.....	STRONGLY OPPOSE	OPPOSE	NEUTRAL	FAVOR	STRONGLY FAVOR
F. Increased oil exploration in the U.S.....	STRONGLY OPPOSE	OPPOSE	NEUTRAL	FAVOR	STRONGLY FAVOR
G. Increased energy conservation	STRONGLY OPPOSE	OPPOSE	NEUTRAL	FAVOR	STRONGLY FAVOR

Q-38 For the statements below please indicate whether you STRONGLY AGREE, AGREE, are NEUTRAL DISAGREE, or STRONGLY DISAGREE with each one.

(Circle your answer for each statement)

A. So that new homes meet energy conservation requirements, the City and County should be required to implement energy conscious building codes.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
B. Residents of the Tucson community should request that a city/county tax be placed on gasoline to raise funds so we can increase other types of transportation as an alternative to cars.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
C. The electric utilities should provide time keeping electric meters on homes so they can charge customers lower rates during times of the day when energy is plentiful (off peak) and higher rates when there is a lot of demand and energy is scarce (on peak).....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
D. Gas and electric utilities should be encouraged to charge <u>lower</u> rates to low energy users and <u>higher</u> rates to high energy users.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
E. Provide tax credits for home <u>solar</u> heating or cooling.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
F. Provide tax credits for improving home energy efficiency.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
G. Provide tax credits for improving business energy efficiency.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
H. The City and County should encourage home designers to take advantage of the sun for heating living spaces.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
I. The gas and electric utilities are trying to make too much money at my expense.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
J. There really is no energy problem: The environmentalists have created a problem where none exists.....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
K. Change mortgage requirements so that people who want to buy energy conserving homes can qualify for larger mortgages (since the money they don't have to spend on energy can be put toward the mortgage payment).....	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE

Q-39 The amount of current involvement in energy education and information programs at--

(Circle your answer for each statement)

A. the local government level is.....	TOO LITTLE	ABOUT RIGHT	TOO MUCH	DON'T KNOW
B. the state government level is.....	TOO LITTLE	ABOUT RIGHT	TOO MUCH	DON'T KNOW
C. the federal government level is.....	TOO LITTLE	ABOUT RIGHT	TOO MUCH	DON'T KNOW

Q-40 The level of energy conservation incentives offered by--

(Circle your answer for each statement)

A. the local government level is.....	TOO LOW	ABOUT RIGHT	TOO HIGH	DON'T KNOW
B. the state government level is.....	TOO LOW	ABOUT RIGHT	TOO HIGH	DON'T KNOW
C. the federal government level is.....	TOO LOW	ABOUT RIGHT	TOO HIGH	DON'T KNOW

Q-41 The amount of current involvement in setting energy policy at--

(Circle your answer for each statement)

A. the local government level is.....	TOO LITTLE	ABOUT RIGHT	TOO MUCH	DON'T KNOW
B. the state government level is.....	TOO LITTLE	ABOUT RIGHT	TOO MUCH	DON'T KNOW
C. the federal government level is.....	TOO LITTLE	ABOUT RIGHT	TOO MUCH	DON'T KNOW

Q-42 When you think of energy conservation as it applies to you personally, which one of the following three comes to mind first?

(Please circle one number)

1. SAVING MONEY FOR YOU
2. SAVING THE ENVIRONMENT
3. CONSERVING NATURAL RESOURCES

Q-43 For every dollar you save through energy conservation, that dollar could be saved or spent on something else. When you think of energy conservation do you tend to think of the savings...

(Please circle one number)

1. EVERY TIME YOU THINK ABOUT IT
2. HALF THE TIME
3. ONE TIME IN TEN
4. NEVER THINK OF IT THAT WAY

Q-44 For every dollar you spend on energy, 70 to 80 cents is paid to people outside the Tucson area. If you saved a dollar on energy, then you might spend that money to bolster the Tucson economy. When you think of energy conservation do you tend to think of the economy...

(Please circle one number)

1. EVERY TIME YOU THINK ABOUT IT
2. HALF THE TIME
3. ONE TIME IN TEN
4. NEVER THINK OF IT THAT WAY

QUESTIONS ABOUT YOU

Q-45 Do you or your family pay the natural gas bill?

1. YES
2. NO
3. DON'T KNOW

Q-46 How long have you lived in the Tucson area?

_____ YEARS

Q-47 How long have you lived in your present residence?

_____ YEARS

Q-48 How many bathrooms do you have in your home?

_____ NUMBER

Q-49 How many people live in your home?

_____ NUMBER

Q-50 Which of the following best describes the building in which you live?

(Please circle number of your answer)

1. A MOBILE HOME OR TRAILER
2. A ONE FAMILY HOUSE DETACHED FROM ANY OTHER HOUSE
3. A BUILDING FOR TWO TO FOUR HOUSEHOLDS (FAMILIES)
4. A BUILDING FOR FIVE OR MORE HOUSEHOLDS (FAMILIES)

Q-51 Into which of the following categories does your total annual household income fall:

(Please circle one number)

1. LESS THAN \$15,000
2. \$15,000 TO \$24,999
3. \$25,000 TO \$39,999
4. \$40,000 TO \$59,999
5. \$60,000 TO \$79,999
6. \$80,000 OR MORE

Q-52 Would you like information mailed to you about any of the topics listed below?

	(Circle one for each topic)		
A. Household energy conservation?.....	YES	NO	DON'T KNOW
B. Household water conservation?.....	YES	NO	DON'T KNOW
C. Household recycling?.....	YES	NO	DON'T KNOW
D. Personal transportation?.....	YES	NO	DON'T KNOW
E. Household Hazardous Waste Recycling Centers?.....	YES	NO	DON'T KNOW
F. Solar energy?.....	YES	NO	DON'T KNOW
G. A representative from the City of Tucson office of Energy and Environment will be happy to discuss with you ways to save money in and around your home in the conservation areas discussed above. Would you like someone to call and discuss this with you?.....			
	YES	NO	DON'T KNOW

Is there anything we may have overlooked? Please use this space for any additional comments you would like to make about water, energy, transportation, and recycling.

Your contribution to this effort is greatly appreciated. Thank you again!

REPORT AND INFORMATION SOURCES

Additional copies of this report, "Minority Marketing For Resource Conservation: A Research Project to Study Methods of Outreach in Hispanic Minority Communities Regarding Issues of Energy and Resource Conservation," are available from:

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

For additional information on the process and the results of the work described in this report or for more information, please contact:

Jerry Anderson
City of Tucson
Office of Energy and Environment
P.O. Box 27210
Tucson, AZ 85726-7210
(602) 791-5414

DG/92-319
10/93-150

Order No.

Publications Price List--UCETF Reports

ITEM #	TITLE	PRICE
90-331	Hydraulic Waste Energy Recovery: A Technical Report	15.00
90-318	A Regulatory Framework for Alternative Fuels and Transportation Management Service	15.00
90-316	Alternative Vehicle Fuels: A Demonstration Project	15.00
90-314	Energy Efficiency in Public Housing	15.00
89-330	Analysis of Programmatic Fleet Conversion to Ethanol Blends	15.00
89-325	An Alternative Fuels Evaluation System for Fleet Vehicles	15.00
89-323	Dual Fuel Conversion Demonstration and Technology Transfer Project	10.00
89-321	Summary of Low and Moderate Income Residential Energy Conservation Programs	15.00
89-315	A Case Study in the Pursuit of Urban Energy Efficiency	15.00
89-314	Communicating with the Public About Environmental Health Risks: A Case Study	13.00
89-313	Evaluation and Comparison of Selected Household Hazardous Waste Collection Facilities	15.00
89-311	Yard Waste Recycling Study: A Pilot Study	15.00
89-310	Sludge Storage Lagoon Biogas Recovery and Use, Volume 1	15.00
89-307	Proceeding: 1989 Electric Utility Franchise Conference	20.00
89-306	Reducing Electricity Demand Through Energy-Related Efficient Construction	15.00
89-304	Modernization of Lighting in Municipal Auditoriums	15.00
89-303	Wastewater Treatment Process Energy Optimization	13.00
89-301	Implementation of Alternative Technologies through the Assessment of Energy Markets	14.00
88-322	Marketing Energy Efficiency Programs to Commercial and Industrial Firms: Lighting Incentives and	15.00
88-321	Urban Energy Management Today: Ten Year Compendium of UCETF Programs	10.00
88-319	Integrating Energy Efficiency Into Municipal Purchasing Decisions: Computerizing Procurement	15.00
88-318	Household Hazardous Waste: Implementation of a Permanent Collection Facility	20.00
88-317	Hazardous Waste as an Energy Manager's Issue	15.00
88-316	Household Hazardous Waste Management Planning	15.00
88-312	Summary of Small Business Energy Conservation Programs	15.00
88-310	The Earth-Coupled Heat Pump: Utilizing Innovative Technology in Single Family Rehabilitation	15.00
88-309	Energy Planning for Economic Development	18.00
88-308	Conversion of Resource Recovery Steam to Hot and Chilled Water Systems	10.00
88-306	HVAC Equipment Replacement for Best Size and Efficiency, Transfer Report	15.00
88-305	Cogeneration and Cooling in Small Scale Applications	15.00
88-304	Energy Master Planning: Innovative Design and Energy Analysis Services for New Commercial	22.00
88-303	Energy Efficient Building Design: Guidelines for Local Government	15.00
88-302	Direct Digital Control of Air Washer Cooling System	15.00
88-301	Feasibility Study of Transportation Management Strategies in the Poplar Corridor, Memphis, Tennessee	18.00
87-327	Energy Efficient Urban Cooling Technologies: 1st National Conf.	20.00
87-324	Memphis Area Rideshare	15.00
87-317	Joint City Government/Utility Partnerships to Reduce Business Costs	15.00
87-314	The Impact of Budgetary Incentives on Energy Management	15.00

Publications Price List--UCETF Reports

ITEM #	TITLE	PRICE
87-313	Computer Assisted Control for Municipal Water Systems, Phase II	20.00
87-312	Economic Development Through Energy Technology Transfer	15.00
87-311	Electric Utility Franchise Guide	20.00
87-310	Hidden Link: The Energy and Economic Development, Phase II	15.00
87-307	Municipal Underground Storage Tanks: An Energy Manager's Guide	18.00
87-306	Integrating Energy Efficiency into Mun. Purchasing Decisions	20.00
87-305	Energy Enhancement in New Residential Construction	40.00
87-302	Thermal Energy Storage: Application Guide for Local Governments	20.00
87-301	HVAC Equipment Replacement for Best Size & Efficiency	20.00
86-315	Balancing Single Pipe Steam Heating Systems	20.00
86-314	Inhibition of Respiration in Activated Sludge by High Carbon Dioxide Concentration	7.50
86-313	Water Supply System Energy Conservation Through Computer Control	18.00
86-312	Energy Cost Reduction Through Wastewater Flow Equalization	20.00
86-311	High Efficiency Gas Furnace Modification in Low Income Housing	15.00
86-310	Hidden Link: Energy and Economic Development, Phase I	15.00
86-307	Disposal Techniques with Energy Recovery for Scrapped Vehicle Tires	20.00
86-306	District Heating Marketing: Analysis of a Twelve City Survey	20.00
86-305	Technology Transfer for Residential Energy Programs in New Construction and Existing Housing	15.00
86-304	Technology Transfer for Residential Energy Efficiency	15.00
86-302	Neighborhood Energy Efficiency & Reinvestment	15.00
86-301	On-Site Municipal Fuel Cell Power Plan: Feasibility and Application Guide	15.00
85-326	Resource Recovery for Urban Yard Waste	18.00
85-323	Energy Monitoring and Controlling in Municipal Facilities	10.00
85-320	Transportation Management for Business Relocation	15.00
85-319	District Heating in Denmark	10.00
85-318	Computer-Assisted Control for Municipal Water Systems, Phase I	18.00
85-317	Financing Energy Efficient Housing as a Community Economic Development Tool	15.00
85-316	Modular District Heating Planning as a Development Tool	15.00
85-314	Alternative Techniques for Dev. of Energy Efficient Residences	15.00
85-312	Shared Savings and Low Income Homeowners	18.00
85-311	Measures and Investment Options for Community Energy Conservation	18.00
85-310	Planning for Energy Efficiency in New Commercial Buildings	15.00
85-308	Residential Space Heating with Wood	15.00
85-307	Thermal Storage Strategies for Energy Cost Reduction	18.00
84-325	Shared Savings in the Residential Market	
84-324	Methanol Use in Vehicle Fleet Operations: Barriers	20.00
84-322	Energy Management and Technology for Urban Governments	15.00
84-321	Hydrate Process for Waste Water Treatment Plant Sludge Dewatering	15.00

Publications Price List--UCETF Reports

ITEM #	TITLE	PRICE
84-320	Development of Computerized Inventory and Maintenance System for Municipal Street Lights	15.00
84-315	Facilities Energy Monitoring System	15.00
84-314	Application of Mini-Van Technology to Vanpool Services	18.00
84-312	Implementation Methods for an Integrated Energy System	10.00
84-311	Feasibility of Water-Based District Heating and Cooling	15.00
84-310	Budgetary Incentives for Municipal Energy Management	22.00
84-309	Central Energy Systems Applications to Economic Development	20.00
84-308	On-Site Cogeneration for Office Buildings	15.00
84-306	Analysis of Municipal Bus Operations for the Advancement of Fuel Cell Technology	15.00
84-305	Computer Based Maintenance	15.00
84-304	Innovative Finance Plans for Privately Owned Waste/Vol. 2	15.00
84-303	Innovative Finance Plans for Privately Owned Waste/ Vol. 1	15.00
84-301	Coordinating Preventive Maintenance with Energy Management	15.00
83-319	The Rehabilitation and Retrofit of Older Houses to Superinsulated Standards	15.00
83-318	Developing Sources and Techniques for Alternative Financing of Energy Conservation	20.00
83-316	Hydrate Process for Dewatering Sewage Sludge	10.00
83-315	Financial Planning for District Heating: Brooklyn Navy Yard	15.00
83-314	Memphis Area Rideshare On-Line Information System	18.00
83-313	Renovation Opportunities for Steam District Heating Systems	18.00
83-312	Initial Assessment of District Heating and Cooling	20.00
83-311	Energy Conservation Through Computerized Automation	18.00
83-309	Development of an Energy Park: Issues and Implementation Options	15.00
83-308	Alternative Uses for Digester Methane Gas	25.00
83-307	Innovative Financing and Incentive Package to Reduce Energy	15.00
83-305	Multi-Jurisdictional Planning for District Heating and Cooling	10.00
83-303	Improving Energy Management and Accountability in Municipal Operations	15.00
82-320	Utilization of Felled City Trees as Supplemental Boiler Fuel	7.50
82-319	Methanol Use in Vehicle Fleet Operations: Comparisons	15.00
82-317	Microcomputer Tools for Trans. and Residential Energy Conservation	20.00
82-316	Reduction of Impediments to Alternative Energy Use	20.00
82-315	Reducing Regulatory and Financial Impediments to Energy Conservation	20.00
82-314	Integrating Energy Management with Economic Development	20.00
82-313	Energy Conservation and Economic Development	10.00
82-310	Municipal Technologies	20.00
82-307	Strategies to Improve Community Energy Use Practices	10.00
82-306	Energy Conservation In Water Treatment	
82-305	Development of an Energy Action Plan: Participating Approach	15.00
82-303	Energy Economic Development	20.00

Publications Price List--UCETF Reports

ITEM #	TITLE	PRICE
82-302	Public Housing Energy Efficiency Through Private Financing	10.00
82-300	Developing an Energy Management Tracking System	
81-328	Matching End Use Energy Needs to Source Possibilities	20.00
81-327	Development of a Hydrogen-Fueled Mass Transit Vehicle s	15.00
81-326	Operational and Maintenance Guidelines for Reducing Energy Consumption	
81-324	Energy Management for Small Business	10.00
81-320	Energy Data Gathering, Analysis, and Review System	20.00
81-318	Fuel Management and Planning System for Local Government	25.00
81-316	Production of Ethanol from Cellulosic Fraction	
81-313	Metro-Dade County Comprehensive Energy Emergency Plan	
81-311	Developing Energy Emergency Preparedness	15.00
81-310	Simplified Methodology for Community Energy Management	20.00
81-309	Energy Management: The Public Sector	15.00
81-307	Municipal Technical Assistance-Energy Monitoring	6.00
81-306	New Technology Demonstration	10.00
81-305	Technology Transfer: Unit Report from the Energy Task Force	15.00
81-304	Development of Local Energy Management Preparedness	10.00
81-303	Municipal Energy Management	10.00
80-314	Methodology for Energy Impact Analysis of Urban Development Projects	15.00
80-313	Evaluation of Landfill Gas as an Energy Source	15.00
80-309	Decision Process for the Retrofit of Municipal Buildings	20.00
80-308	Primary Urban Energy Management Planning Methodology	7.50
80-306	Local Government Use of Thermography for Energy	15.00
79-300	Planning for and Purchasing Computer Technology	6.50

END

**DATE
FILMED**

31 9 194