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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.



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NEIGHBORHOOD ENERGY/ECONOMIC DEVELOPMENT PROJECT

Energy Task Force of the Urban Consortium for Technology Initiatives 1991

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NEIGHBORHOOD ENERGY/ECONOMIC DEVELOPMENT PROJECT



PUC/Bureau of Energy Conservation
City & County of San Francisco

PREFACE

1991 URBAN CONSORTIUM ENERGY TASK FORCE RESEARCH

THE URBAN CONSORTIUM (UC) is a special network of the Nation's largest cities and urban counties brought together by PTI to find new solutions to their common concerns. The UC provides a creative forum where elected and appointed officials can identify, test, and validate practical ways to improve the provision of public services while generating new revenue opportunities. With staff, management, and business services provided by PTI, the UC addresses the critical needs of large local governments through its three task forces: Energy, Environment, and Telecommunications and Information.

The Urban Consortium Energy Task (UCETF) has 20 members and was established 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 1991 program Units and projects are:

ALTERNATIVE VEHICLE FUELS AND TECHNOLOGIES (AVF)

Alternative vehicle fuels offer a very strong potential to aid in the reduction of U.S. dependence on foreign oil supplies, with the resulting benefits of decreased air pollution in urban areas. Local governments can play an instrumental role in realizing this potential through practical applied research and highly visible demonstrations of alternative fuels and technologies. Issues addressed this year include identifying (a) intensive and credible market development efforts based on an applied research and demonstration program that combines reliable technology with experience-tested applications, (b) environmental and energy diversity benefits, and (c) institutional and infrastructure barriers. The 1991 AVF unit consists of:

Broward County, FL -- *Dual-Fuel Conversion Demonstration and Technology Transfer Project*

New York City, NY -- *Alternative Fuel Vehicle: Financing Issues*

Denver, CO -- *Technical and Market Comparison Between H₂/CNG (Hythane), Electric Hybrid, and CNG Fueled Vehicles*

Denver, CO -- *An Alternative Fuels Fleet Evaluation System -- A Transfer Project*

Detroit, MI -- *Analysis of Institutional and International Limitations for Alternative Fuel Vehicles*

Washington, DC -- *Comparison of Energy Consumption, Energy Savings, and Environmental Effects of EV/PV vs. Conventional Gasoline Vehicle*

ELECTRICITY MANAGEMENT

Urban interests for electricity management focus on means to maintain stable, secure and reasonably priced supplies of electric energy. Approaches include procedures for better demand management, application of "least cost" planning concepts, appropriate use of decentralized and/or small power production facilities, improved end-use efficiency, and developing sound structures for cooperative action among municipalities and energy utilities. Urban strategies include support for decentralized "small" power production, along with better demand management and improved end-use energy efficiency. The successful development and implementation of such strategies will require close cooperation with the utility industry and will address topics in areas of institutional relations, source flexibility, and demand-side management. The 1991 Electricity Management Unit consists of:

Albuquerque, NM -- *Alternatives to Traditional Rate Setting*

Chicago, IL -- *Integrating Innovative Supply and Efficiency Techniques*

Chicago, IL -- *The Chicago Energy Management Cooperative*

Dade County, FL -- *Energy Cost Reduction Through Resource Recovery*

Detroit, MI -- *Hydraulic Waste Energy Recovery (Phase II) City of Detroit Water Distribution System*

San Jose, CA -- *Utility/Local Government Partnership to Increase Energy Conservation in New Construction*

ENERGY EFFICIENT FACILITIES

Activities involving energy efficient facilities are at present, part of a national effort to achieve maximum cost-effective energy productivity in the building sector. There exists a need for collaboration between local government officials responsible for energy and environmental programs and other local government officials responsible for facilities, as well as the Federal officials and private sector groups, e.g. utilities. New technologies and management/administration practices to advance energy efficiency in facilities require major partnership efforts and transfer programs. Multi-family housing that has a large concentration of low-income families presents a unique challenge to lowering energy costs and maintaining energy efficient facilities. Projects in this unit are:

Boston, MA -- *Neighborhood Energy Efficiency Outreach Partnership*

Columbus, OH -- *Energy Efficiency and Indoor Air Quality: Solutions for Fire Stations*

Louisville, KY -- *Partnership Approach to Energy Efficiency in Non-Profit Facilities*

Montgomery County, MD -- *Technology Transfer of Building Energy Design Guidelines*

New Orleans, LA -- *Residential Utility Costs Comparative Study*

Phoenix, AZ -- *Variable Frequency Drive Applications Guide*

Portland, OR -- *Energy Savings Through Operation and Maintenance Training in the Low-Income Multi-Family Sector*

Washington, DC -- *Comparison of Two Techniques for Identifying Energy Conservation Measures in Low Income Homes*

ENERGY, ENVIRONMENT and ECONOMIC DEVELOPMENT

This an area that has both visionary and immediate practical emphases on the definition and evaluation of realistic strategies and actions to support energy-sustainable and

environmentally responsible communities. Emphases include uses for renewable energy, practical domestic supply and conservation alternatives, and the synthesis of energy concerns with wider local government interests in economic development, environmental quality, and internal cost control. Urban strategies to improve energy-sustainability require attention to both broad based institutional changes, as well as specific projects designed to encourage the application of appropriate technology and community development practices. The "Sustainable Communities" project has involved three municipalities with State agency, Lawrence Berkeley National Laboratory, and a formal advisory committee with broad national representation. Projects under this unit are:

Austin, TX -- *Energy Star Sustainable Rating Program*

Phoenix, AZ -- *Impact of Heat Island on Cooling and Environment: A Demonstration Project*

Pima County, AZ -- *Tucson Solar Village - Project Management*

Portland, OR -- *Sustainable City Transfer Project*

San Francisco, CA -- *Neighborhood Energy/Economic Development at South Bayshore*

San Francisco, CA -- *Sustainable City Transfer Project*

San Jose, CA -- *Sustainable City Transfer Project*

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

Seattle, WA -- *Bicycle Program -- Urban Trails System*

Tucson, AZ -- *Local Government Involvement in Long Term Resource Planning for Community Energy Services*

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 any additional reports or further information about the Urban Consortium Energy Task Force and the Urban Consortium should contact:

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CHAPTER 1: PROJECT OVERVIEW

ABSTRACT

Most inner city residents would not consider energy or environmental issues as among their primary concerns. Yet, energy costs impact low income communities more than anyone else. Low income residents pay a larger percentage of their incomes for energy costs. In addition, they generally have far less discretionary energy use to eliminate in response to increasing energy prices. Furthermore, with less discretionary income, home energy efficiency improvements are often too expensive. Small neighborhood businesses are in the same situation. They too see a higher proportion of their operating costs going to energy purchases.

Improved efficiency in the use of energy can improve this situation by reducing energy costs for residents and local businesses. More importantly, energy management programs can increase the demand for local goods and services and lead to the creation of new job training and employment opportunities. In this way, neighborhood based energy efficiency programs can support community economic development.

The present project, undertaken with the support of the Urban Consortium Energy Task Force, was intended to serve as a demonstration of energy/economic programming at the neighborhood level. The most common economic development activities in cities, from city-wide boosterism to major redevelopment projects, tend to focus on business attraction and retention. New businesses generally employ workers, pay taxes to local governments, and spend money in the local economy. Low income neighborhoods are assumed to receive the "trickle down" benefits of new employment opportunities, improved city services, and increased spending for neighborhood businesses.

Neighborhood economic development advocates, however, would argue that such broad based boosterism and business attraction have failed to provide meaningful benefits for low income communities and communities of color. Furthermore, despite being the areas of greatest need, disadvantaged communities are usually not involved in developing local economic development strategies and are therefore, unable to influence future development plans.

The relationship of energy use to economic viability has been well demonstrated (see for example "The Hidden Link: Energy and Economic Development," PTI/ U.S.HUD, 1987). Generally, however, past studies have focused on the City-wide benefits of for example: the local economic multiplier of retained energy costs; business attraction through local energy advantages; and the projected employment impacts of energy retrofit activities. Such demonstrations are far more relevant to policymakers than they are to residents of low-income, disadvantaged communities.

Neighborhood-based energy/economic development, in contrast, means making direct linkages between energy management initiatives and their resultant local community benefits. Key features are: a low income community versus a citywide focus; an import substitution strategy instead of business attraction; a participatory process and an emphasis on integrated programs. The results of these programs are tangible because they are felt directly in the neighborhood. The programs alleviate the energy burden of local low-income families; they increase the profitability of neighborhood businesses; they employ local businesses and residents; and they support community organizations. Obviously energy efficiency by itself cannot break the grip of unemployment, crime and neighborhood deterioration. Nevertheless, the disproportionate burden of energy costs borne by low income and minority communities does contribute to the cycle of poverty. Similarly, programs to relieve the unequal cost burden can contribute to efforts to break that cycle.

The San Francisco Neighborhood Energy/Economic Development (NEED) project, was designed to be a visible demonstration of bringing the economic development benefits of energy management home to low-income community members who need it most. Bayview Hunters Point is a low-income, predominantly African American neighborhood in San Francisco. The mixed-use district is approximately 3000 acres in area and has a population of 21,000. Bayview residents pay residential energy bills 40% higher than the city average, although the median family income is almost 30% lower.

In Bayview annual energy expenditures currently average \$24 million, with residents spending approximately \$6.5 million a year on housing energy costs alone. Since the community imports all of its energy supplies, every dollar spent on energy leaves the community, constituting an enormous drain on the local economy. Energy efficiency can help retain dollars in the community that would otherwise leave in the form of energy purchases. Furthermore, the dollars retained in the community will recirculate and generate additional local economic activity.

The Bureau of Energy Conservation of the City of San Francisco worked in partnership with the Bayview community and with the assistance of the local utility, The Pacific Gas and Electric Company (PG&E) to design appropriate inner city energy conservation programs. The project grew out of previous energy planning efforts in 1988 in which the Bureau worked with the Bayview community, and with the Department of City Planning to identify ways in which energy efficiency might serve the needs of the community. As a result of those efforts, the Bureau developed an energy plan which formed part of the Bayview community Master Plan. The energy plan provides a menu of strategies that use energy management as a local economic development tool.

To begin, a Community Advisory Committee was established to guide the design of the programs to best meet the needs of the community. Subsequently three neighborhood energy/economic development programs were developed:

The Small Business Energy Assistance Program. Marketing strategies and educational programs were developed to assist small businesses to take advantage of the technical and financial opportunities being provided by PG&E and others to cut business energy costs. The program included a series of energy seminars tailored for small businesses in Bayview. Program design paid particular attention to utilizing local businesses and resources wherever possible. In addition, in an effort to develop local expertise within the energy management field and to address local small business development needs; a training workshop was conducted for local minority/women owned electrical and general contractors interested in expanding their business into the energy management field.

The Youth Training and Weatherization Program. In order to use local resources to address local needs, a program was developed to link youth training to residential weatherization and minor home repair services for seniors in the neighborhood. Project staff worked with community organizations and PG&E to determine how weatherization programs and services can best address job training and employment for youth. A youth Advisory Committee provided input and direction on the program development. The main objective of this program was to work with the community to develop a workable program design and initiate a search for funding. It did not include operating the program. However, project staff were successful in securing ample funding for the program and providing significant program start up assistance to the neighborhood non-profit organization that operated the program. Please see the Epilogue (p. 107) for program status at 1993.

The Energy Review of Proposed Housing Development Projects. An important element of community and economic development is affordable housing. Affordability has increasingly come to include the energy costs of housing. This project component provided information on housing energy issues and prepared appropriate energy efficient design and construction guidelines to lower energy costs in new housing construction projects.

The development of these programs provided the focus for the project described in this report. Discussions on successful neighborhood energy/economic development programming, energy and social justice issues, and important lessons learned are also included.

The idea that energy efficiency can contribute to the local economy is still not a popular one. The perception seems to be that since there is apparently no longer an "energy crisis" and energy prices are relatively low, energy issues in general, need no longer be a high priority. Attention has turned to other problems. However, through appropriate responses to energy, economic and community development issues in low-income neighborhoods, this project shows that local governments can play a role in building a consensus for efficient energy use and make a contribution towards breaking the cycle of poverty.

REPORT ORGANIZATION

This report is organized as follows:

Chapter 1 - Overview

Contains a brief overall summary of the project, its objectives, how it was developed, and the results which were achieved.

Chapter 2 - Background

Chapter 2 provides a background description of the origins of the project, a description of the community, and the energy and economic development issues in Bayview Hunters Point. The chapter also provides a description of the general approach to energy/economic development programming at the neighborhood level.

Chapter 3 - Project Description

Chapter 3 begins with a description of the process by which a project team and Community Advisory Committee were established. This is followed by a detailed program description of each program area: Small Business Energy Assistance; Youth Training and Weatherization; and Energy Efficient Housing Construction. Each program description discusses program development and the strategies for strengthening the linkages between energy programs and economic development at a neighborhood level.

Chapter 4 - Lessons Learned/Future Work

Chapter 4 describes the lessons learned during the project, outlines future work which San Francisco intends to undertake, and provides recommendations for others wishing to conduct similar work.

Appendices

- Appendix A - Small Business Energy Seminar Materials
- Appendix B - PG&E Direct Installed Small Business Program Description
- Appendix C - Youth Training/Weatherization Program Proposal
- Appendix D - Energy Design Recommendations for New Housing
- Appendix E - Article from the "Race, Poverty and Environment Justice" Newsletter.
- Epilogue - Youth Training/Weatherization Program Update (Summer 1993)

Bibliography

CHAPTER 2: BACKGROUND AND PROJECT HISTORY

INTRODUCTION

For an understanding of the project it is necessary for the reader to understand the impetus for the project as well as the theoretical connections between energy and economic development.

This chapter provides background information on the project and introduces the major concepts upon which this project was based. The chapter begins with an introduction to the origins of the project including a description of San Francisco's earlier work in this area. Following this, the major themes that link energy and economic development are presented; followed by a general discussion of energy economic development programming at the neighborhood level. These provide the theoretical context for the project. Additionally, a brief Bayview Hunters Point neighborhood profile is provided.

ORIGINS OF THE PROJECT

The Neighborhood Energy/Economic Development project grew out of earlier energy planning efforts in San Francisco. In recent years the City has conducted a number of major energy management programs. Many of these programs have in common the idea that efficiency improvements in energy use by the community will lead to wider economic benefits. The notion that energy efficiency can serve as a tool to foster economic development drew increasing support from energy and resource planners during the 1980's. The premise is that a city's ability to retain or attract businesses, to create jobs, to enhance its tax base, and to remain economically competitive, is to some degree contingent upon its ability to manage energy costs and availability.

Generally, it is claimed that these benefits can be achieved through energy policy initiatives which contribute to the local economy in one or more of the following ways:

- Retaining dollars in the local community which then recirculate and generate new economic activity.
- Reducing the impact of energy costs on local business.
- Creating jobs through weatherization programs and other energy activities.
- Contributing to business attraction and retention.

The idea that energy efficiency can contribute to the local economy is not at present a popular one outside of energy management circles. The perception seems to be that

since there is apparently no longer an "energy crisis" and energy prices are relatively low, changing equipment, or lifestyle and business practices to reduce energy use need no longer be a high priority. Attention has turned to other issues. However, given the growing need to justify policies with the promise of local economic benefits, it became desirable to quantify these benefits for San Francisco -- and to obtain a more definitive understanding of the actual connections between energy consumption, energy conservation and its impact on the local economy.

In 1988 the Bureau of Energy Conservation conducted San Francisco's Year 9 Energy Task Force project entitled "Energy Planning for Economic Development". The purpose of the project was to examine the idea of economic benefit through energy management in greater depth. (PTI Report No. DG 88/309 describes San Francisco's Year 9 Project.)

The major objectives of the project were to examine this premise in detail for San Francisco, and to take advantage of any opportunities to demonstrate linkages between energy use and economic development that might be found. The findings helped shape long-term planning policy for the South Bayshore District in San Francisco, the case study area chosen for the project. Furthermore, the findings, were used to develop a methodology which could be used by other cities to establish the energy/economic connections in their communities.

The South Bayshore district is more commonly referred to by local residents as "Bayview Hunters Point" or "Bayview". The Department of City Planning (DCP), however, formally refers to the area as the South Bayshore district and therefore, documents produced by DCP refer to South Bayshore and not Bayview. Bayview Hunters Point was chosen as the case study area for the project primarily because the district was undergoing revitalization planning within the Department of City Planning. Given that area master plans are typically reviewed and revised only about every twenty years, the timing provided a unique opportunity for the Bureau to coordinate with DCP's planning effort and to inform and influence a 20 year area plan. Bayview Hunters Point is one of the largest districts in San Francisco and is a relatively economically depressed area. Any economic development resulting from this effort would be of great benefit to the community.

The earlier work at Bayview consisted of a three part methodology in which staff worked closely with the community and the Department of City Planning to:

Identify Community Interests and Needs. An environmental scan was conducted for the area, and a community social and economic profile developed. The local interests, issues and concerns were examined.

Determine the Energy/Economic Connections. A detailed community energy profile was developed. The local economic impact of energy management in the City was examined in detail through the use of local economic "multipliers"; and the connections between energy and local economic development were evaluated.

Develop a Long-term Area Energy Plan for Economic Development. The plan consists of energy/economic development goals, objectives and policies appropriate for the Bayview Hunters Point community.

The principal product from the Year 9 project was the "South Bayshore Energy Plan." The plan was tailored to the Bayview community and provides strategies that use energy management as a local economic development tool. The Energy Plan for South Bayshore was adopted by the community and the Department of City Planning as the energy element of the City's South Bayshore Master Plan.

The entire South Bayshore Master Plan will be presented for adoption by the City Planning Commission in the spring of 1992. When adopted, the energy element will be an important tool for guiding future development and further justifying energy conservation policies. It will also allow the Bureau to be more effective in the achievement of community energy efficiency.

RESEARCH OBJECTIVES

The overall objectives of this Energy Task Force Year 12 project then, were to build upon the Year 9 project, and to begin the implementation phase of the South Bayshore Energy Plan.

Specifically, the main objectives of the project were to:

- 1) Develop energy conservation program designs tailored to the Bayview Hunter's Point community within three areas found to have strong energy/economic connections: Small business energy and technical assistance; Weatherization/youth training; and Energy Efficient Housing Construction.
- 2) Develop strategies for strengthening the direct linkages between energy conservation programs and economic development at the neighborhood level.
- 3) Improve community energy efficiency and reduce energy costs.

Within each of the program areas: Small business assistance; youth training and weatherization; and efficient housing construction, the following general methodology was applied:

Identify resources and opportunities. An analysis was made within each program area to determine what resources were available to support the program and how those resources could be directed towards the Bayview Hunters Point Community.

Design a program to meet local needs. A neighborhood energy/economic development program was then developed to address local community needs. Program designs were to pay particular attention to utilizing local businesses and resources wherever possible.

ENERGY AND ECONOMIC DEVELOPMENT THEMES

Economic development means many things to many people. In general, economic development aims to increase wealth, standards of living, employment levels and business vitality through participation in a healthy local economy. The various forms that economic development take range from business attraction programs for a new processing plant; to tax incentives for new or existing businesses; to rezoning of developable land; to construction of infrastructure for business centers; to government sponsored business loans or grants; and to job training.

Along with these familiar business development activities, energy management programs are increasingly designed to promote economic development.¹ That recognition of the links between energy and economic development has occurred in the mid-to-late 1980s is no coincidence. The 80's have seen the worst economic recession in the U.S. since the Great Depression of the 1930s. Along with the national ebb and flow of the business cycle, important structural changes have become apparent. These include shifts of manufacturing between regions and, significantly, to offshore locations. The new era of international competition, and the continuing national shift from an industrial to a service and information based economy have also contributed to economic "displacement" during the 1980s.

But whereas these trends are national and global, the effects are felt locally as plant closures, unemployment and failed local businesses. The resulting losses to the local tax base occur at the time of the greatest need for local services by citizens – needs for income supplements, housing assistance and business support and retention. Is it any wonder then that the buzzword for cities in the 1980s has been "economic development"?

The role of energy management activities has evolved throughout the 1980s as well. Early in the decade much energy planning took place in a crisis environment brought on by the oil interruptions of 1974 and 1979. As the decade continued, however, energy increasingly took on a new role as an economic development activity. This shift was based on a realization, stated here by resource economist Skip Laitner, that, "managing resources is not a crisis, but a fundamental economic opportunity."²

¹ A noteworthy example is the Center for Neighborhood Technology in Chicago, IL.

² "Resource calls for shift from Crisis Mentality", Colorado Energy Talk, Colorado Office of Energy Conservation, Jan/Feb 1988.

The following sections describe some of the major energy-economic development themes that have emerged over the past several years. The discussion serves to clarify the linkages between resource management and local economies.

1) The Energy Dollar Drain/Multiplier Effect

Virtually all the energy consumed in San Francisco ultimately is purchased elsewhere. What we see is an inflow of purchased energy into the city and a corresponding outflow of money to pay for it. Energy efficiency, therefore, has as one of its principle benefits the retention of wealth in the city which would otherwise leave in the form of energy purchases. In addition to the direct benefit of dollars saved, there are also further economic benefits to the community generated by the local respending of those dollars on other goods and services. Multipliers are used to quantify the net benefit to the community of respending the energy savings.

2) Direct Impact of Energy Costs on Income and Profits

An early observation made as oil prices soared in the 1970s was that energy costs impact low income community members more than anyone else. "USDOE estimates that persons making \$35,000 or greater pay 3% of their income for heat; those making \$10,000 - \$15,000 pay 7%; and those making less than \$5,000 pay 22%." ³ The poor have less discretionary energy use to eliminate in response to rising energy prices (described by economists as "inelastic demand"). Further, with less discretionary income, the poor are less able to make energy saving home improvements. Much of the same logic applies to small businesses. Capital constraints are often severe for small enterprises, with little money available for energy retrofits.

3) Energy Costs and Business Attraction/Retention

For many policymakers, the links between energy efficiency and economic development only become apparent when energy costs are explicitly cited in business location and relocation decisions. The 1985 study by Alexander Grant and Company opened many eyes when energy costs were cited as the single most important consideration in industrial firm relocation decisions. The City of New York used this rationale to design an energy efficiency assistance program for industries who appeared at risk of moving to areas with lower utility rates.

³U.S. Department of Energy, Energy Information Administration, 1983: cited in The Hidden Link: Energy and Economic Development by Public Technology Inc., 1987, p. 3.

4) New Energy Related Business/Employment Development

An indirect, and sometimes direct, outcome of energy conservation policies by government has been job creation and new business development in the energy field. Energy management work (e.g. weatherization) is by nature labor intensive. Home weatherization programs have served the dual purpose of reducing direct energy costs for residents and job/business creation for the community.

5) Affordable Housing with Energy Efficiency

An important element of community and economic development in cities is the provision of decent and affordable housing. Accomplishing this goal stabilizes the local population and ensures the diversity of the labor force in the face of gentrification and blight alike. Affordability has increasingly come to include energy costs of housing. The City of Saint Louis's work with "Energy Addendum Financing" is one example of this connection. With this program, banks finance larger loans on energy-efficient houses than the applicant would otherwise qualify for, since lower utility costs enable the owner to make higher monthly loan payments.

6) Human Resources Development/Job Training

Another emerging theme connecting energy and economic development programs is energy related job skills development for youth or for unskilled workers. Energy conservation activities and renewable energy technologies are labor-intensive in nature, offering opportunities to address job training and employment needs.

7) Supporting Other Community/Economic Development Goals

A healthy economy involves many elements: affordability of basic human needs, jobs for residents, thriving and competitive local businesses, quality of life and a healthy environment. Energy efficiency can contribute to these and other elements of community development. Enhanced delivery of community services (such as childcare, health care etc.) within existing budget constraints may be accomplished by reducing the cost of service through energy efficiency. Similarly, retrofitting inefficient lights can increase security lighting without increasing operating costs.

8) Neighborhood Revitalization

Energy activities also have a place in neighborhood revitalization efforts. The neighborhood revitalization approach directs a variety of economic development activities into those neighborhoods which stand to benefit most. These activities use local residents and local resources as integral parts of these efforts. This approach relates to the notion of an enterprise zone where services and programs are concentrated in one area in order to create a synthesis and produce change.

NEIGHBORHOOD ENERGY/ECONOMIC DEVELOPMENT PROGRAMMING

Neighborhood-based energy/economic development programs are different from most of the previous work done in energy/economic development. Key features are: a low income community versus a citywide focus; an import substitution strategy instead one of business attraction; an emphasis on integrated strategies, and on a participatory process.

The question of neighborhood focus versus city-wide focus is being debated throughout the economic development field. The most common economic development activities in cities, from city-wide boosterism to major redevelopment projects, tend to focus on business attraction and retention. New businesses generally employ workers, pay taxes to local governments, and spend money in the local economy. Low income neighborhoods are assumed to receive the "trickle down" benefits of possible employment opportunities, improved city services, and increased spending for neighborhood businesses.

Neighborhood economic development advocates, however, would argue that such broad based boosterism and business attraction have failed to provide meaningful benefits for low income communities and communities of color. Furthermore, despite being the areas of greatest need, disadvantaged communities are usually not involved in developing local economic development strategies and are therefore, unable to influence future development plans.

Likewise, those economic development programs which have included energy efficiency as a component generally have focused on the city-wide benefits of for example: the projected local economic multiplier of retained energy costs; business attraction through local energy advantages; and the projected employment impacts of energy retrofit activities.

Such demonstrations are far more relevant to policymakers than they are to residents of low-income, disadvantaged neighborhood communities. Neighborhood-based energy/economic development, in contrast, involves making direct, tangible linkages between energy management initiatives and their resultant local community benefits. There is much more attention paid to where the energy efficiency improvements are being directed and how the improvements are implemented such that neighborhood economic development benefits are maximized.

San Francisco's Neighborhood Energy/Economic Development Project was intended to bring the economic development benefits of energy management home to low-income community members who need them most. The results of these programs are tangible because they are felt directly in the neighborhood. The programs alleviate the energy burden of local low-income families; they increase profitability of neighborhood businesses; and they employ local people.

Neighborhood energy/economic development programming is inherently an integrated approach. It attempts to save energy in such a way that jobs and training are provided for local residents; that local small businesses are enriched; and local organizations receive support. Obviously energy efficiency by itself cannot break the grip of unemployment, crime and neighborhood deterioration. Nevertheless, the disproportionate burden of energy costs borne by low income and minority communities does contribute to the cycle of poverty. Similarly, programs to relieve the unequal cost burden can contribute to efforts to break that cycle.

A central strategy used in neighborhood economic development is "import substitution". This strategy seeks to utilize neighborhood labor, services, and materials instead of imports. Import substitution aims to recirculate wealth in the community's economy, and to nurture local enterprises. Links between energy and import substitution at the city and regional level are reasonably well understood. In the 1980's, Skip Laitner and others showed that reducing energy resource imports means reducing dollar exports; and that this contributes to viable local economies. Laitner provides further description: "Whenever possible, local labor and materials should be substituted for imported products; and ways should be identified to use less energy, fewer minerals and less water and soil while achieving similar or higher levels of output." By thus stemming the outflow of dollars for resources, "more income is retained to drive other economic activities."⁴

This present project then, applies import substitution theory at the neighborhood scale by substituting local resources (labor, businesses, etc.) for the goods and services that would otherwise be imported from outside the neighborhood. Using a neighborhood electrician to install energy efficient lighting, for example, helps keep economic benefits in the local community and develops local employment skills for the future. While the application of import substitution at a neighborhood scale provides the major theoretical basis for the project, the following elements are also desirable for successful neighborhood energy/economic development programming.

Community defined local economic development. Look to the community to define what type of economic development was needed (eg. job training versus business tax breaks), and to spot the connections to possible energy conservation programs.

A structure for ongoing community participation. Strong community participation in all program development and implementation phases will foster ownership of local energy programs, while educating and empowering neighborhood residents. It also provides a check on all important decisions and keeps important community contacts, leaders and organizations well informed.

⁴Laitner, Skip. "Nebraska's Community - Oriented Energy Strategy", Strategic Planning and Energy Management, Summer 1987.

Partnerships with community organizations to implement programs.

It is important for local governments to work in partnership with local community organizations to initiate and implement inner city energy programs. Established community organizations are most in touch with the needs of the community. Local governments can help to actively marshal the necessary resources to design and develop effective neighborhood energy programs.

Development of local expertise. Energy/economic development programming with community participation will develop local expertise and infrastructure for future energy efficiency projects.

BAYVIEW HUNTERS POINT NEIGHBORHOOD PROFILE

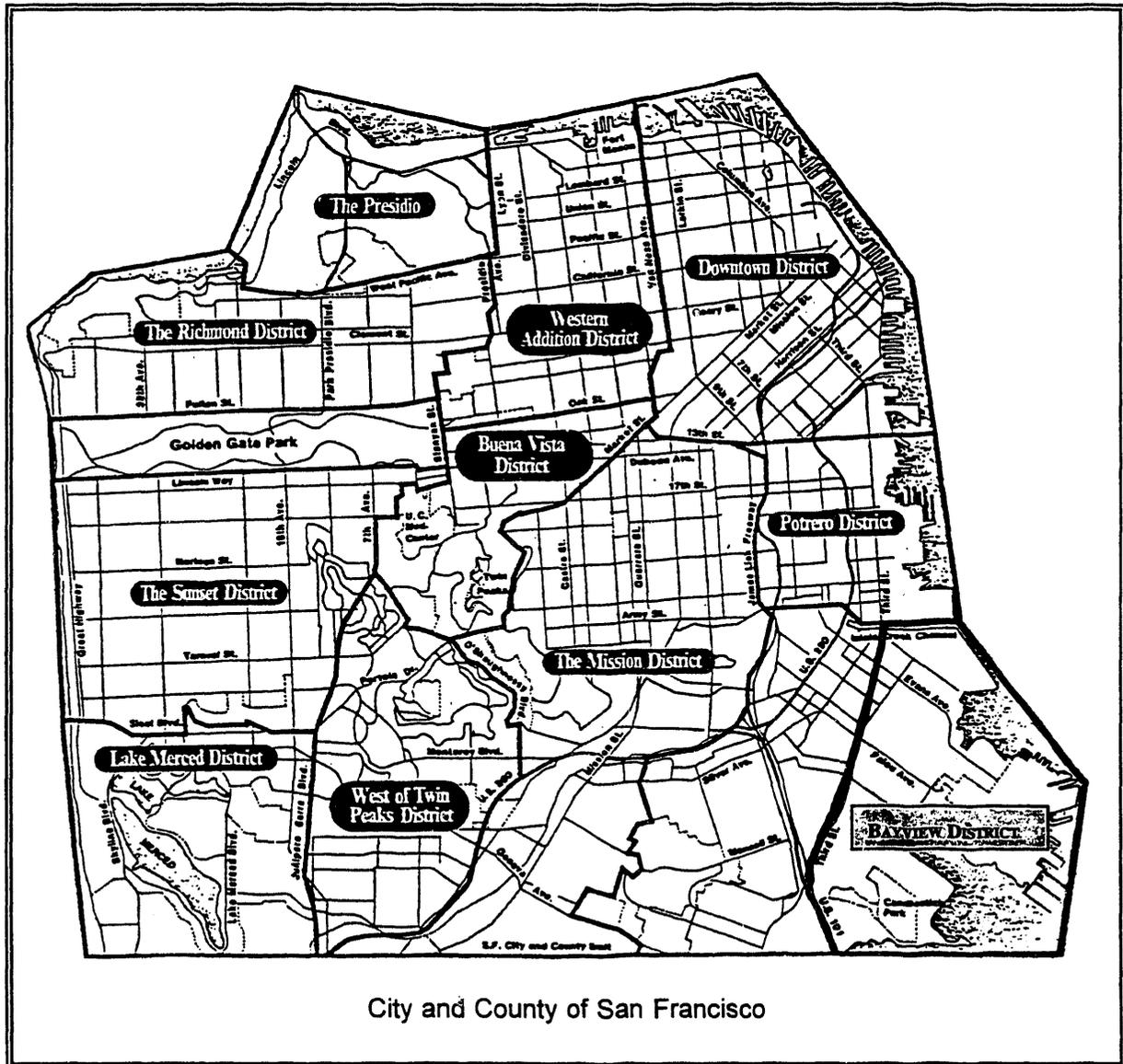
Bayview Hunters Point is a 3000 acre district located in the southeastern part of San Francisco between the Bay and Highway 101 (Figure 2-1). The district is a mix of residential, commercial and industrial uses. Historically isolated from the rest of the city, Bayview was one of the last areas to be developed in San Francisco.

World War II and the expansion of the Naval Shipyard led to the development of heavy industry in the area and a major increase in the size of the workforce and the resident population. African-Americans migrating from other parts of the United States constituted much of this increase. Many of the existing homes, factories and businesses were built at this time.

Though the war's end sharply reduced activity in the area, employment remained steady through the 1950's, 60's and early 70's with manufacturing accounted for 40% of jobs, with many filled by local residents. In 1974, the closure of the Hunters Point Naval Shipyard triggered a 44% decline in employment. Many manufacturing, commercial services, and equipment repair firms that depended heavily on shipyard business laid off workers or shut down. The decline of the workforce and resident population in Bayview triggered the demise of its retail and service sectors, particularly along Third Street. Once a bustling commercial strip, Third Street was devastated by the loss of business from shipyard employees. Indications of a possible reversal of the downward employment trend appeared in the early 1980's with a 7% increase in employment in the retail, manufacturing and wholesale trades.

Currently, the total net land area in Bayview is about 2000 acres (excluding highways, streets and tidelands under water). About one fourth of this is residential and neighborhood supporting uses such as schools and recreation facilities, over half is industrial and commercial uses including 300 acres of private uses and 700 acres for the Hunters Point Naval Shipyard. In addition, Bayview provides the sites for major public facilities serving the whole city, including the Candlestick Park Stadium. More recently, a 155 acre regional recreation area has been established in the district. Due to the

Figure 2-1 Bayview Hunters Point Area Map



diversity of land uses in the area and to the relative absence of apartment buildings, Bayview Hunters Point has a very low population density compared to other parts of San Francisco.

Bayview is receiving ever greater attention because it contains a large portion of the vacant land that remains in San Francisco. As both housing and commercial developments are being planned and built, however, this vacant land is becoming more scarce and dispersed.

Residential Profile/Demographics

Bayview is a low-income, predominantly African American neighborhood with a population of about 21,000. Blacks total about 80% of the Bayview population compared with about 15% citywide. Bayview residents show a marked degree of stability relative to the rest of the city. A much higher percentage of residents have lived in the same house for at least the past five years compared to the city as a whole.

Most of the residential areas in Bayview have a strong family orientation. The average household size in the district is more than one-third larger than that of the city as a whole. Single member households and households of unrelated individuals constitute only 8.4% of the neighborhood's population compared to 23.3% for the city as a whole.

The 1980 median average income was \$16,204 compared to \$20,911 citywide. Bayview residents have less education than is usual in San Francisco, and are primarily concentrated in the technical, sales and administrative support and service occupations. Only 11.7% of the workers have managerial or professional positions compared to 28% citywide.

Many of the statistics that characterize the black population in Bayview are similar to those characterizing the black population in most American cities -- namely large concentrations of residents with low incomes; high unemployment rates; and capital-deficient communities. This is partly a function of the large concentrations of public housing that exist in the district. It is also a function of the condition of structural unemployment that exists among much of the lower income population. Many residents lack the education and skills to obtain the kind of employment that could provide dramatic increases in income. Improving incomes and increasing rates of employment of low-income families is a primary interest of the community.

Bayview, however, has some advantages which other communities may not have. For example, there is a much higher percentage of homeowners in Bayview than in the city as a whole, and 64% of these are black. The equity acquired in houses represents a form of capital assets, which potentially gives homeowners a determining influence in the future of the district. Furthermore, there is a nucleus of black business people long

established in the community, with the potential to play a greater role in the future. Black entrepreneurs appear to be assuming an increasingly important role in economic activities in Bayview. Strengthening local entrepreneurship, particularly via black investors, is of primary concern in the community.

Housing and Affordability

Bayview contains 8155 dwelling units. Most of the housing stock, 61%, was built prior to 1949. The Bureau of Building Inspection estimates that most of the older residential buildings need upgrading. There is much interest in preserving and enhancing existing housing. About 80% of the homes in Bayview are single family, compared with 34% citywide. In addition, Bayview has 935 public housing units and over 1,000 lower income units where the rents are subsidized through the Section 8 Program. The public housing is generally in great need of maintenance and repair.

Housing affordability is the central housing issue in San Francisco. The median price of a home in San Francisco is well over \$200,000 and requires an annual income in excess of \$60,000. Less than 10% of San Franciscan's met this income requirement in 1987, and even less than that in Bayview.

A large addition of new housing is anticipated in Bayview over the next ten years. There is a strong community interest in seizing this opportunity to increase the amount of affordable housing in Bayview available to local residents.

Due to this large amount of anticipated new housing, Bayview is expected to see an increase in ethnic diversity and middle income households. Single family homes in Bayview are available at prices that are more affordable than most other areas in the city. Given San Francisco's large demand for moderate income housing, it is reasonable to expect Bayview to receive an increasing though not overwhelming number of non-black and middle income families over the coming decade. Hence, in addition to affordable housing, the neighborhood is concerned with preserving the ethnic presence and identity of the black community in Bayview.

Youth Unemployment and Community Services

There is much concern about the social outlook of young people in Bayview with most community leaders naming it as the most critical problem facing the community today. There are a large number of young people who are school dropouts and jobless, especially young black men. The San Francisco Urban League estimates that 50% of the city's young black men between the ages of 16 to 19 are unemployed, three times as high as for white teenagers. Increasing drug abuse among young people has been linked to an escalation in the level of crime and violence in the district. Problems with

youth in the area directly relate to the complex economic problems facing Bayview. Providing meaningful options for youth in this age group is vital to addressing this problem.

Environmental Concerns

Due to the industrial history of the area, lead, asbestos, and other toxic materials posed serious health hazards to the community. As a result of these conditions, residents have a growing awareness of the need for the control of toxic materials. A major area of concern is cleaning up hazardous waste at Hunters Point shipyard. After 120 years of toxic dumping by industry in the area, the Navy has begun a hazardous waste clean up and public relations program.

Commerce and Industry

Bayview is one of San Francisco's most important locations for industrial/commercial activity. The area contains approximately 11.5 million square feet of commercial/industrial building space, and nearly 1,100 firms. The district provides jobs for about 21,000 (4% of the jobs in San Francisco) of which only 5.0% live in the neighborhood. If the number of residents employed in local businesses were doubled it would eliminate most of the unemployment among residents.

The commercial sector, with more than 7.5 million square feet of building area, is dispersed throughout the district. Its greatest concentrations are along Third Street, running through the middle of the district, and Bayshore Boulevard (on the western boundary of Bayview.) Third Street is neighborhood-serving in orientation with retail firms, restaurants and banks. While accessible to the surrounding residential community, it is relatively insulated from other parts of the city and region; thus it does not attract a larger outside market.

Businesses on Bayshore Boulevard include heavy commercial outlets, such as large lumber yards and hardware stores and factory outlets. Located on the periphery of the district with direct access to the freeway, the Bayshore commercial area serves a regional market and is economically healthy. These firms serve both the Bay Area regional market as well as customers in the western United States and throughout the country.

Industry is the primary land use in four main sub-areas in Bayview. Growth of these areas is considered crucial to the economic well-being and future of Bayview, as well as to the city as a whole. Some manufacturing firms are located in Bayview to take advantage of such features as the Port, rail service, and proximity to raw materials for exporting of finished products. Commercial activity in Bayview, however, is dominated by the warehouse/distribution and transportation firms (businesses that provide storage

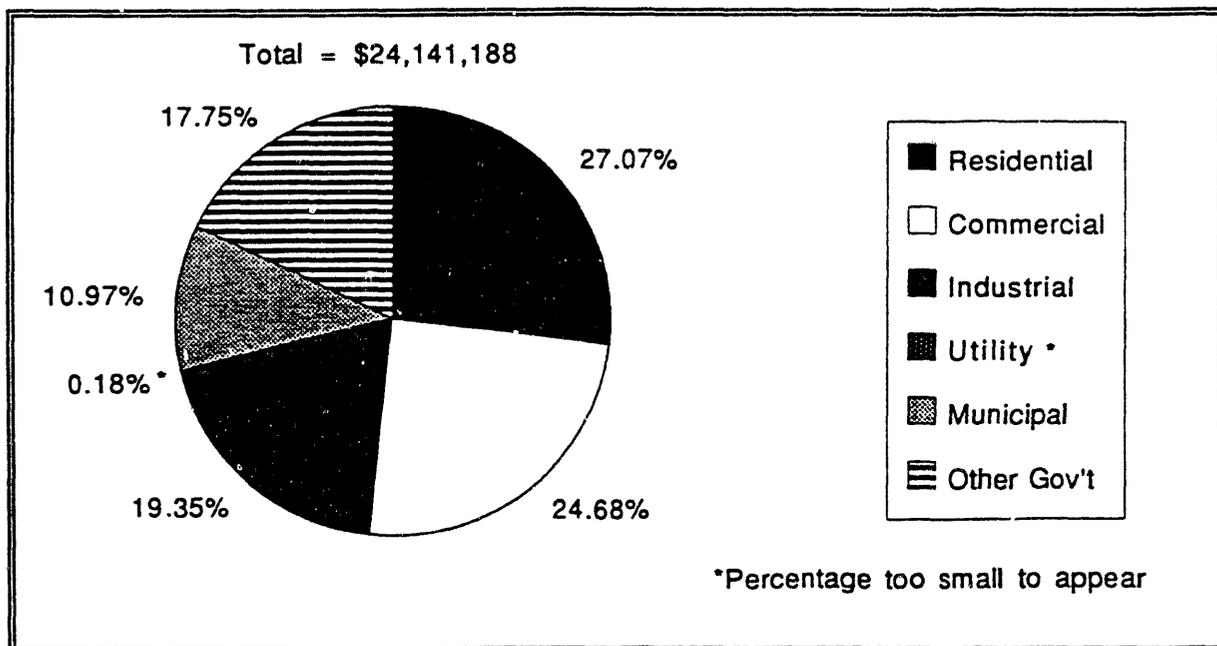
space for goods and equipment but do not engage in direct sales or production). The 700 acre Hunters Point Shipyard is the single largest industrial site in the district.

One of the primary community concerns in regard to commerce and industry in the neighborhood is revitalizing and developing the Third Street commercial strip. Many Bayview residents will not shop on Third Street, despite its central location in relation to surrounding neighborhoods. They are deterred by its unattractiveness, the lack of variety in retail uses, buildings in disrepair, empty storefronts and over-concentration of liquor stores. Plans for revitalizing the area are under negotiation. Other community interests include strengthening local entrepreneurship, particularly with participation by black investors; retaining industry in Bayview and making existing industry more competitive. Community participation can potentially retain blue collar residents and bring employment and economic benefits to the community.

Bayview Hunters Point Energy Use Profile

In Bayview Hunters Point, annual energy expenditures average \$24 million or 6.5 percent of San Francisco's total energy costs (excluding motor fuels and electric costs used for transportation). The residential sector is the single largest energy expense, followed by the commercial and the industrial sectors.

Figure 2-2 Bayview Hunters Point Energy Costs



Residential Energy Use. Residents spend approximately \$6.5 million per year to heat and illuminate their homes. With approximately 8155 dwelling units in Bayview, the average cost per dwelling unit is about \$800. Bayview's residential energy use accounts for about 4% of the city's total residential energy costs. The typical housing unit is a one story flat over a garage heated by a natural gas fired central warm air furnace. Occupants typically pay their own utility bills. 1986 statistics have shown that the average Bayview natural gas bill per occupied dwelling unit is approximately 40% higher than the city average. The electric bill is 45% higher than the city average.

These high average costs are caused by three factors. First, about 80% of the housing in Bayview is of single family homes, compared to 34% citywide. Single family homes are much more energy consuming than multifamily homes. Second, approximately 60% of the homes in Bayview were built prior to 1949, and 90% built prior to the adoption of California's building energy construction standards. Few homes have energy saving measures. Third, there are more people per household in Bayview than in the city as a whole; increased household size generally also means higher than average energy use. About 30 percent of the homes in Bayview have been weatherized, but many remain in need of weatherization. All this suggests that there is indeed potential for energy savings in the residential sector within Bayview.

Non-Residential Energy Use. Non-residential energy costs in Bayview comprise \$17.6 million, or 4.2% of the city-wide non-residential energy costs. The commercial sector accounts for the largest portion of these costs, at 34%, followed by the industrial sector, with 26% of energy costs. The largest portion of commercial energy use in Bayview is in the non-refrigerated warehouses and miscellaneous groups. The next largest energy user type is refrigerated warehouses.

The industrial sector consists of construction and manufacturing. Industry located in Bayview comprises 15.3 percent of the total electric costs (\$2.8 million) and 36 percent of the total natural gas costs (\$1.9 million) for the city-wide industrial energy. The largest portion of industrial energy use in Bayview is consumed by manufacturing firms.

CHAPTER 3: PROJECT DESCRIPTION

INTRODUCTION

Chapter 3 describes the process of developing a package of energy/economic development programs for the Bayview community. To begin, a description is given of the process by which a project team and Community Advisory Committee were established. This is followed by a detailed description of each program; the Small Business Energy Assistance Program; the Youth Training and Weatherization Program, and the Energy Efficient Housing Construction Program.

Each program description provides a description of the program development process and a discussion of the results.

ESTABLISHING A PROJECT TEAM AND COMMUNITY ADVISORY COMMITTEE

Participation by a broad range of interest groups is desirable to provide the project team with an awareness of major community issues and to encourage eventual local ownership of strategies and plans. A broad based and active project team and community advisory committee can:

- facilitate education on how energy issues impact community economic development and can thus foster local ownership of programs
- provide a reality check on program design
- provide awareness of community resources which can provide support during program implementation
- provide for broad representation important to program support and success

During the development of the South Bayshore Energy Plan the Bureau of Energy Conservation had worked very closely with the Department of City Planning and had been actively involved with important community organizations. This provided two valuable resources that the Bureau was able to build upon: a working knowledge of the community, and established coalitions with important players in the future development of Bayview. These resources were invaluable in selecting the programs for the present project, and in program development and implementation.

Project Team

Within the BEC, the project team consisted of a Project Director, a Project Manager, a

Youth Program Manager, and a Summer Intern. In addition, the project team included the Department of City Planning Project Coordinator of the South Bayshore Plan, and two representatives from the Pacific Gas and Electric Company - one for the Small Business Program and one for the Youth Training and Housing Construction Programs.

Community Advisory Committee

The program was fortunate in having an effective and enthusiastic Community Advisory Committee composed of citizens, community leaders, and representatives of a broad range of interests. The Committee provided a good foundation for community support and participation.

Originally, Bureau staff intended to keep the number of committee members to a fixed minimum in order to keep the group manageable. Further, while Bureau staff intended to kick off the project with the full Advisory Committee in order to establish a group identity, the plan was to proceed by working with independent sub-committees on the Small Business Program, The Youth Program, and the New Housing Program. In practice it was found important to keep the make up of sub-committees somewhat flexible and to not restrict any member to involvement on just one program area. Many members were interested in more than one program area. Many business leaders for example, were also interested in Youth issues, and Housing and Youth program committee members were interested in the small business program. New members were continually absorbed as needed. In this way we never turned someone away who wanted to get involved and could be an important resource.

Further, it was believed that excluding anyone might have jeopardized the program politically, as the community was divided on many issues. It was important therefore, to make sure all important community leaders were contacted so that no claims of favoritism could be made. Fortunately, as representatives of City government we were obligated to include everyone and could state that as such. The active support of all parties at Bayview helped ensure the success of the project.

The committee consisted of approximately 20 members. The final breakout of the Community Advisory Committee included 6 members primarily interested in the Small Business Program; 8 members primarily interested in the Youth Training program; and 6 members primarily interested in the Housing Program. In addition, a Youth Committee was formed to better facilitate input from neighborhood youth on the Youth Training program.

At the request of the Advisory Committee, all committee members were kept informed on developments within all three program areas (regardless of their specific program area focus). There were also several important community leaders in addition to the Advisory Committee that were kept informed on all program developments. Input from the

Advisory Committee was facilitated primarily through a series of public meetings on individual program areas held at the local Southeast Community College. The meetings were very well attended.

SMALL BUSINESS ENERGY ASSISTANCE PROGRAM

Introduction

The Small Business Energy Assistance program involved working with the Bayview community and PG&E to design appropriate marketing strategies and educational programs. The program included a series of energy educational seminars where neighborhood businesses were informed of the technical and financial opportunities being provided by PG&E and others to cut business energy costs.

In an effort to develop local expertise within the energy management field and to address local small business development and expansion needs; the Bureau also provided a training workshop for local minority/women owned electrical and general contractors interested in expanding their business into the energy management field.

The program was coordinated with a PG&E neighborhood Small Business Direct Installed Program. Information on the PG&E Small Business Direct Installed Program is provided in Appendix C.

Why A Small Business Energy Assistance Program ?

The Bureau was interested in developing a Small Business Energy Assistance Program in Bayview Hunters Point for the following reasons:

1) Community interest in revitalizing small businesses

There is much interest in revitalizing Third Street, the neighborhoods main commercial strip where most of the neighborhood serving businesses are located. Further, there is much community interest in providing more services and assistance for small businesses in the neighborhood. Once a vibrant commercial district and inviting shopping area in the 50's and 60's, the Third Street corridor has struggled to remain viable following the closing of the Hunter's Point Shipyard in the mid-70's. There are plans for development in the area but progress is slow due to understandable caution by residents and business owners who fear the plan will result in gentrification - pushing out existing residents and businesses. The community has been strongly advocating that revitalization efforts should begin by better supporting existing businesses with increased services and assistance. Energy efficiency can support existing businesses by decreasing the costs of doing business and increasing profits.

2) Importance of small businesses to local economy

Small businesses have increasingly been shown to be an important strength and the sector providing most employment growth in the San Francisco economy. The future economic success of San Francisco, therefore, depends largely on the success of its small businesses.

3) Greater need for energy assistance services

Generally small businesses see a larger percentage of their operating costs go towards energy costs than do moderate to large sized businesses. They generally also expend more dollars per square foot of occupied space on energy costs. This indicates that small businesses are in greater need of energy assistance services and potentially have more to gain from energy conservation.

Despite the potential benefits of energy conservation, however, there are a number of barriers that prevent small businesses from making energy conservation improvements in their establishments. Many small businesses have difficulty accessing information and lack the time to investigate what assistance is available. Without information there is a lack of awareness of the opportunities for energy and dollar savings and/or the assistance available. Additional barriers include limited access to financing, absence of a simple mechanism for the delivery of services, and leasing arrangements which present a disincentive for implementation of energy efficiency improvements.

4) Utility interest in small business energy conservation

PG&E, meanwhile, has a coincident interest in small businesses. Acting on regulatory changes in the State of California, PG&E has committed itself to significant additional energy conservation - 30 million kwh of new conservation in San Francisco alone. To achieve this goal the utility must focus not only on the large accounts located downtown, but must also move aggressively to the medium-to-small accounts located in the neighborhoods. Small businesses have typically had a very low of participation rate in PG&E conservation programs, small businesses in Bayview showing the lowest participation city wide. In addition, businesses in Bayview have the hardest time paying their monthly utility bills.

Program Objectives

The overall objective of the program was to work in partnership with the community and PG&E to develop and implement a pilot energy education and assistance program tailored to small businesses in Bayview. In particular, the program was designed to:

- 1) Marshall available resources for the community.

- 2) Inform businesses of the opportunities for energy savings, and the technical and financial assistance available from PG&E and elsewhere.

Businesses in Bayview have the lowest participation city wide in PG&E rebate programs (less than 1%), but continue to subsidize these programs through rates.

- 3) Determine what additional services, incentives and outreach methods are necessary to help small businesses in Bayview cut their energy costs.

The Bureau had no experience in program development for small businesses prior to this project and was interested in learning more about what services are required to effectively reduce small business energy costs, and what methods of outreach are most effective.

- 4) Provide a package of additional incentives and services (beyond what is normally available) through PG&E to enable small businesses to cut their energy costs.

To begin, the Bureau was to contribute the educational aspect of the program and provide a series of energy educational seminars to be conducted in cooperation with PG&E. PG&E had committed to providing additional services, incentives and resources for small businesses in Bayview.

Program design was to pay particular attention to utilizing local businesses and resources wherever possible in all service delivery, and for all support services required for the seminars.

- 5) Explore how the program can address the wider community economic development needs by providing training in energy management to local residents and businesses.

The Community Advisory Committee emphasized the importance of local job creation for residents and small business expansion. The Committee also emphasized developing local expertise in energy efficiency services as a way of providing more long-term sustainable economic benefits to the community.

Research Plan and Program Development Methodology

In the process of developing a neighborhood Small Business Energy Assistance program the following methodology was applied:

Investigate/identify local needs. The Bureau worked closely with the Community Advisory Committee and PG&E representatives to investigate and identify the specific needs of Bayview businesses. Of particular concern were the barriers preventing businesses from taking advantage of utility rebates and related programs.

Investigate/identify energy assistance resources. Bureau staff identified the resources, services and assistance available to neighborhood businesses from PG&E, the state and local organizations. Resources identified were utilized where possible and incorporated in the educational seminars.

Program development. Utilizing the information gathered in steps two and three, the Bureau conducted a series of energy educational seminars tailored to Bayview businesses. The seminars were coordinated with a PG&E pilot Direct Installed Program. A training workshop for local electrical contractors on energy management practices was also provided.

Program Partners

The small business program involved the efforts of the local utility Pacific Gas & Electric Company, key members of the Bayview business community, and additional community representatives.

Pacific Gas and Electric Company. Bureau staff contacted PG&E in the Summer of 1990 regarding working in partnership to develop a Small Business Energy Assistance Program tailored to Bayview businesses. A commitment to work in partnership with the City and to provide substantial in-kind resources was given at that time. PG&E then underwent substantial personnel and structural changes resulting in PG&E participating in more of an advisory role on the project. PG&E assigned a representative to the Bureau's Small Business Program who provided some assistance on coordinating the seminars. The utility representative presented important information on PG&E programs as a part of the seminars.

PG&E also (independently from San Francisco's Year 12 Project) implemented a pilot Direct Installed Program in four different neighborhoods within San Francisco, Bayview being the first neighborhood in which the pilot program began. Neither Bureau staff nor community representatives participated in developing or implementing the PG&E Direct Installed Program, but the Bureau did coordinate with PG&E's efforts and complimented the Direct Installed Program with educational seminars for Bayview businesses (something that was not included in PG&E's efforts). (For more information see Appendix C describing the PG&E Direct Installed Program.)

Community Advisory Committee. The Community Advisory Committee members involved in the development of the Small Business Program consisted of six local business leaders including the following; the President and Vice President of the local Bayview Merchants Association, three small business owners very active in the local business community (as well as other community activities) and a Bayview resident recently specializing in providing information to small businesses on business support services and assistance. Additional Advisory Committee members with expertise in other

project program areas also participated in the small business program development. The Advisory Committee provided invaluable input and direction on the following:

- Seminar design and content.
- Seminar outreach/marketing methods.
- Support services selection for the seminars.
- Important community organizations, contacts and resources.

Small Business Energy Seminars

The Bureau provided three energy educational seminars for Bayview businesses, relying heavily upon existing resources in the design and provision of the seminars. The California Energy Extension Service (CEES), an energy management action agency within the California Governor's Office of Planning and Research, runs a state wide Small Business Energy Advocate Program that provides a variety of free direct services to small businesses.

Each year the CEES provides a limited number of educational energy seminars throughout the state for which they have developed extensive literature on energy management for small businesses. The seminars are conducted by a small energy management firm in Oakland called Energy Management Services (EMS). EMS has specialized in providing energy management services for businesses for the last six years. Additional services through the CEES include walk-through audits, technical advice related to energy matters, and assistance in applying for state energy loans.

The CEES provided the first of three seminars for businesses in Bayview. Then, rather than developing a small business energy seminar in-house, the Bureau contracted with EMS to provide two additional energy seminars, building upon the CEES seminar format. The contract included time to meet with the Bureau and Advisory Committee members in order to tailor the seminars to address any special needs for Bayview businesses. Utilizing the CEES seminar allowed Advisory Committee members to view the CEES seminar prior to contracting with EMS in order to insure that it was of professional quality and appropriate for Bayview businesses.

Outreach and Marketing. Recruiting seminar participants was undoubtedly one of the project's most difficult and time consuming tasks. An outline of the outreach/marketing strategies employed by the Bureau is provided in Appendix B - Small Business Program Marketing Materials. In particular, the Advisory Committee provided much valuable input as follows:

- 1) How to target outreach.

The committee decided to extend outreach to all businesses in Bayview, but

recommended first concentrating on community serving businesses including members of the Bayview Merchant Association (BMA) and businesses located on the main Third street corridor. Although the program was intended to serve small businesses, it was pointed out that the larger businesses should also be addressed since they represent the larger energy use. In addition, committee members recognized the absence of the larger businesses participating in community affairs and a lack of responsiveness on their part to community issues. It was thought that targeting some of the larger businesses may serve two purposes. One, it may result in soliciting new BMA members and therefore provide support, visibility, and increase membership for the BMA. And two, it may increase awareness of community issues among larger non-BMA businesses.

2) Seminar scheduling

Based upon seminars conducted by the State CEES, attendance is greatly improved when providing a breakfast or lunch with an early morning breakfast resulting in the best attendance. The Advisory Committee recommended, however, that for seminars targeting very small neighborhood-serving businesses, a lunch seminar would result in more attendance. This is because for many of the very small businesses being targeted, the owners need to be available to open their businesses early in the morning, and can more easily attend a seminar later in the day when employees are available to cover for them.

Therefore, it was decided that the first two seminars would target the very small neighborhood serving businesses and include lunch. The first seminar was also scheduled in coordination with the PG&E Direct Installed Program. (The Direct Installed Program was only being offered to BMA members although one could become eligible for the program by joining the BMA.) Seminar participants were referred to PG&E.

In addition, a third seminar would be provided to target the medium-sized energy intensive businesses in Bayview not presently members of the BMA in order to solicit new BMA members and increase BMA membership. A breakfast would be included as recommended by EMS.

3) Outreach by local business person or resident.

Committee members warned that just mailing flyers for seminars targeting the small neighborhood businesses would not be effective in recruiting seminar participants. It was suggested that personal contact through a local resident or well known business person (someone from the community that could be trusted) would be more effective at recruiting seminar participants.

4) Seminar Location

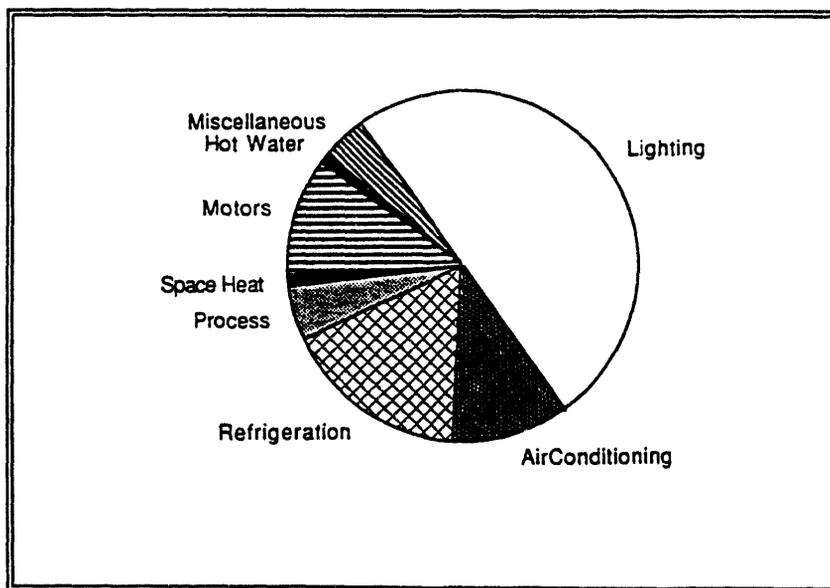
As it was essential that the seminars be conducted within the community, the Advisory Committee provided direction on possible meeting facilities. The seminars took place at

the Bayview Merchants Association meeting place with the first seminar being held in place of their regularly scheduled monthly meeting. This location had the advantage of being familiar to the BMA, and to the community at large.

Design and Format. The standard CEES seminar is two hours long, with a breakfast served 30 minutes before the seminar begins. The seminar emphasizes energy-efficient lighting technologies because 1) lighting is typically the largest energy cost for most small businesses 2) potential lighting measures are easier to assess, understand and install, and 3) financial assistance is available through utility rebates for the most common lighting retrofits.

In San Francisco, electricity accounts for an even bigger portion of business energy costs than for the remainder of PG&E's service area due to the city's weather and its concentration of large commercial buildings. And according to pre-1985 audits on commercial buildings in San Francisco, lighting accounts for 50% of the electricity consumption. See Figure 3-1.¹

Figure 3-1 San Francisco Commercial/Industrial Electricity End Use



¹ The Pacific Gas and Electric Company. 1982 Commercial Energy Use Survey. San Francisco, CA May, 1985.

The standard CEES seminar format is as follows:

- 1) Introductions/Welcome (5 minutes)
- 2) Small Business Energy Use and Lighting Basics (30 minutes)
- 3) Energy Efficient Lighting Technologies (30 minutes)
- 4) Other Energy Systems and Energy Economics (30 minutes)
- 5) Programs available to Bayview Businesses (15 minutes)
- 6) Questions and Answers/Seminar Evaluation (10 minutes)

A more extensive description of the seminar content is provided in Appendix A - Small Business Energy Seminar Materials. Input from the Advisory committee and attendees from the first seminar resulted in recommendations for improvement and adjustments to the standard CEES seminar. These are presented as part of the small business lessons learned section in Chapter Three.

Literature was provided at the seminars covering energy management practices for various business types, energy services available, and various loan programs. In addition, because so much information is presented in the seminar, the Bureau provided an easy reference guide on available resources.

Attendees were requested to complete an evaluation form after each seminar. Those participants interested in the PG&E Direct Installed Program were referred to the area representative. Participants were also referred to the Small Business Energy Advocates program and other available services in case they were not eligible for the Direct Installed program.

Seminar Support Services. As discussed earlier, neighborhood energy programming applies "import substitution" at the neighborhood level by substituting local resources (labor, businesses, etc.) for the goods and services that would otherwise be imported from outside the neighborhood. For example, using a neighborhood electrician to install energy efficient lighting helps keep economic benefits in the local community. It is also important to use local businesses for the more secondary services required for the implementation of the program (e.g. outreach, printing, and catering) in an effort to maximize the positive community economic impact.

The Bureau found that the process for selecting local businesses required careful consideration. For example, directing work towards businesses that need it the most would arguably result in the greatest economic benefit overall to the community. However, this must be weighed against the ability of the business to provide quality service and best serve the neighborhood by insuring the success of the program.

Further, selection of local businesses was a sensitive issue due to concerns that favoritism might come into play and perhaps jeopardize the project politically. Therefore, the Bureau worked with the Advisory Committee to develop a process for selecting local

support services. The resulting process may seem exhaustive for the level of services required, but proved to be worth the effort as it showed good faith on the part of the Bureau, and as a result built trust and fostered community support.

The process agreed upon is described below:

- 1) Advisory Committee chooses members to participate in a small "services selection sub-committee".
- 2) Bureau staff develops draft request-for-services for printing, catering and outreach services.
- 3) Bureau develops list of potential candidates based upon Committee suggestions, and the Human Rights Commission Directory listings for minority and women owned businesses located in the Bayview district.
- 4) The draft request-for-services and the list of candidates are reviewed by the sub-committee.
- 5) The final draft request-for-services and list of candidates is presented to the full committee for approval.
- 6) The Bureau mails out the draft request-for-services to the list of candidates.
- 7) Upon receipt of proposals, the sub-committee makes selection for printing, outreach and catering, based upon the following criteria.
 - o Quality of past or anticipated work
 - o Proposal received
 - o History of community work
 - o Level of economic need
- 8) The sub-committee presents their selections to the full Advisory Committee for their approval.

For the position of outreach coordinator, the process resulted in the selection of a local resident who had recently started a non-profit specializing in community outreach, and had already established good contacts with other small business resources. In addition, the individual selected had been a very strong supporter of the Bureau's past work in the community, and therefore could be an enthusiastic spokesperson for energy conservation. This selection resulted in valuable experience for a community resident, as well as additional outreach to the benefit of the program.

The local printer selected to print seminar announcements was a past Bayview Merchant Association president and had processed all the mailings for the BMA. This provided for better coordination when mailing the flyers to BMA members.

Three different local caterers were used, one for each seminar, resulting in benefits to more businesses. Two of the caterers were very well established. One caterer was in the process of starting a catering businesses, and therefore could gain valuable work experience.

Minority /Women Owned Contractor Training Workshop

As mentioned earlier, one of the program objectives was to explore how the program can address the wider community economic development needs by providing training in energy management to local residents and businesses. The Advisory Committee emphasized the importance of local job creation for residents and small business development and expansion. Improving small business profits and competitiveness through energy efficiency, and the retained dollars within the community due to efficiency improvements are all desirable. Jobs and business opportunities for local firms, however, are immediate, tangible economic benefits from the perspective of low income communities. Staff also recognized the importance of developing local expertise in energy efficiency services as a way of providing more sustainable economic benefits to the community beyond a one time effort to improve community energy efficiency.

It was decided to focus on the opportunities presented by the energy efficient lighting field because of the tremendous amount of growth taking place within this area. Businesses and utilities are investing more each year in energy efficient lighting. And, studies in the Northwest and other parts of the country are showing shortages of qualified personnel and contractors to provide for needed energy services. Therefore, there is some opportunity for small electrical contracting firms not presently active in energy management activities to benefit from this growth, if they knew how.

The Bureau proposed to the Advisory Committee that the program include a training workshop for local minority and women owned electrical and general contractors interested in expanding their business into the energy efficient lighting field. Through a subcontract with EMS, a workshop could be provided with an expert on energy efficient lighting who could share some of the "tricks of the trade". In this way the program could link local economic development needs to the opportunities provided by this growing field. This would improve the community's ability to provide energy services in the future, and reduce the need to bring in a contractor from outside the community. The community advisory committee approved.

To begin, staff was able to locate one small electrical contractor within Bayview known as Earth Electric that had been in business for a couple of years, and was very interested

in participating in the workshop. Bureau staff had previously informed Earth Electric about the Direct Installed program and encouraged the contractor to contact PG&E concerning contracting opportunities. This led to Earth Electric receiving a contract with PG&E to install energy efficient lighting equipment as a part of the Direct Installed Program in Bayview. Earth Electric, then, was in a particularly good place to benefit from the workshop.

In addition, the Bureau sent flyers announcing the workshop to all 18 minority and women owned electrical contractors within San Francisco. (Appendix B contains the Minority Contractor Training Workshop Announcement). The firms were also contacted by phone one week later in order to explain the benefits from attending the seminar. As a result, a total of five small minority owned electrical contractors signed up for the workshop (including Earth Electric from the Bayview Community). The workshop was 3 hours long and covered the following topics:

- 1) Energy efficient lighting technologies/design considerations
- 2) Distributors - How to buy smart
- 3) Marketing - Expanding your market
- 4) PG&E Rebates and Networking

Small Business Program Lessons Learned

The Bureau learned much about energy conservation program design for small businesses as a result of conducting the seminars and coordinating with state and utility small business programs. The following is a summary of the important lessons learned, beginning with the Advisory Committee recommendations for improving the seminars for target small business audiences.

Seminar Design. Input from the Advisory committee and attendees from the first seminar resulted in the following recommended adjustments to the standard CEES seminar. These were incorporated into the two seminars provided by the Bureau through a contract with Energy Management Services.

- 1) Keep seminars short while maintaining essential message.

Lack of time is a major barrier that prevents businesses from investigating the opportunities provided by energy conservation. In particular, it was found that for seminars targeting very small businesses it was important to keep the seminar as short as possible while still getting across the important information. It was decided that the material illustrating how energy savings can positively impact bottom line profits for small businesses was essential to the seminar. The standard CEES seminar format was therefore simplified and shortened. An outline of the resulting shortened seminar format can be found in Appendix A - Small Business Energy Seminar Materials.

2) Simplify Material as much as possible.

The main objective of the seminars is to inform businesses of the benefits of energy conservation, not to make them experts on the subject. Much material was presented in the seminars in a short amount of time. It was important, therefore, not to overload the audience with so much technical information that the basic message was lost. Technical material was de-emphasized and calculations were simplified.

3) Insure material presented is appropriate and culturally sensitive for target audience.

The standard CEES seminar includes a demonstration on color rendition in which a picture of a white woman is placed under various cool or warm lights. It was important to change the seminar presentation to insure that the lighting quality/rendition demonstration was appropriate for an African-American audience. A regular color chart was used instead.

4) Use neighborhood case studies of conservation projects.

Staff worked with PG&E to locate examples from the Bayview Direct Installed program to use as illustrations. In order to dispel the myth that energy conservation means lower lighting quality, local case studies were used where energy costs were reduced and lighting quality improved. Examples included the Boy's and Girl's Club and a neighborhood tailor.

5) Emphasize information that is most applicable to target audience.

The areas of special technical interest to Bayview businesses were security lighting (due to crime in the area), and retail display lighting (many of the businesses on Third Street are retail businesses).

CEEC Small Business Program. As mentioned earlier, the California Energy Extension Service (CEES) contracts with a small firm called Energy Management Services (EMS) to provide a variety of free direct services to small businesses. EMS shared much useful information with Bureau staff regarding small business energy programming. To summarize, EMS believes that outreach through short presentations at business organizational meetings and/or through direct personal contact at the place of business, are more effective education and outreach strategies for small businesses than providing extended energy educational seminars.

Energy efficiency seminars are by nature limited in who they can effectively reach. Those attending must already be somewhat open to the concept of energy efficiency and have the time to hear about it. This means that you can never reach those individuals who are convinced that they can not benefit from conservation, and/or are too busy to attend a seminar. By providing short 15 - 30 minute presentations during regular business

organizational meetings, one can address more of a captive audience, and individuals that would never attend a seminar on energy efficiency seminar may be reached. Further, EMS believes that direct technical assistance offered through door-to-door contact may result in more savings for the effort, than seminars providing general information. Businesses thought to have some potential for energy savings could be offered a brief on the spot walk-through audit and receive information on site-specific opportunities.

PG&E Direct Installed Program. In the spring of 1991, The Pacific Gas & Electric's San Francisco Division initiated a pilot Small Commercial Direct Installation Program within four neighborhoods, one of which was the Bayview District. The program ran concurrently with the Bureau's Small Business Program. While the first seminar provided by the Bureau was coordinated to support the PG&E Direct Installed Program, the two programs were developed and implemented independently from one another. A more complete description of the program is provided in Appendix B.

To summarize, the Direct Installed Program was implemented in order to address the low participation rate among the small commercial customer in PG&E's Rebate Programs (approximately 1%). Past conservation efforts directed towards the small commercial market have included direct rebate programs and a small commercial audit program. Marketing included radio, television and direct mail marketing. When an on-site survey is included the participation rate jumps to 10%. However, only a limited number of recommended cost-effective measures are actually installed.

The Direct Installed Program operates such that an energy survey is first conducted for eligible small businesses. Cost effective measures are identified and installed at no cost to the business owner (or to the building owner if different), following their approval.

Small Business Program Results

In addition to providing valuable experience to the Bureau in small business energy programming, the program was successful in 1) providing valuable information to the community on energy efficiency and economic development, and 2) providing additional community economic development benefits.

Seminar Attendance. The project was successful in providing energy educational information to approximately 60 small business owners and 20 important community leaders representing a variety of neighborhood organizations. Information presented at the seminars undoubtedly increased the awareness among participants of the connections between energy conservation and economic development, at the small business level and community wide.

When comparing the attendance at the seminars with those conducted previously by EMS throughout the state of California, the outreach appears to have been effective. On the average, EMS sends out 1000 flyers (first class direct mail) for each seminar through a sponsoring agent (either a City or Chamber of Commerce), and have 10 to 20 attendees or a 1% to 2% participation rate. Outreach typically includes some canvassing, occasional press releases and if initial response is low, following up with phone calls. (The largest number of attendees at any one seminar, previous to those conducted in Bayview, was 45 as a result of additional outreach by the sponsoring agent.)

In Bayview, for each of the first two seminars targeting the very small businesses, flyers were sent out to approximately 300 Bayview Merchant Association members. The number of participants was 48 and 25 respectively. The first seminar was held in place of the regularly scheduled BMA monthly meeting with a typical attendance of 10-12 members. Approximately 30 out of the 48 participants at the first seminar were BMA members giving a participation rate of 10% (30 out of 300 members that received a flyer). The remaining attendees were community leaders and representatives from community organizations that heard of the seminar through the Advisory Committee, or through word of mouth.

The majority of attendees at the second seminar were small business owners. Excluding those BMA members that attended the first seminar, and the 100 BMA members that participated in the PG&E Direct Installed program, an attendance of 25 translates into a greater than 10% participation rate. EMS attributes the good attendance at the first two seminars to utilizing a local outreach person and the personal contact either through door to door outreach or by phone.

The third seminar targeting small to medium non-BMA members resulted in an attendance of 12. PG&E provided a list of 200 businesses that were first contacted by mail, and later by phone where possible. Door to door outreach was difficult due to the businesses being so dispersed geographically. As a result, the majority of attendees were community contacts made through the local outreach person including several managers of housing developments in the community. It is believed that the low attendance was due to it being a very busy time of year (November) as indicated by many of the businesses contacted; the low number of businesses that had received notice; and the lack of personal contact during outreach.

The majority of those that completed the seminar evaluation form indicated that the seminar was of high quality and noted that the hands-on demonstrations of energy saving devices were very useful. It is unknown at this time what impact the seminars have had on participation in PG&E programs or utilization of other resources. Bureau staff is continuing to follow up on what action the seminar participants have taken based upon the material presented at the seminar. PG&E will be providing information on participants that were referred to the Direct Installed Program and those interested in rebate assistance.

Community Economic development benefits. One unexpected and important success from the first seminar was the attendance of a neighborhood electrician (Earth Electric) leading to a \$60,000 contract to install energy efficient lighting measures as part of the PG&E Direct Installed Program. (Earth Electric ended up getting paid to install free energy saving devices in its own place of business.) Earth Electric then went on, along with four others to attend the minority contractor training workshop to learn more about how to capture future opportunities in the energy efficient lighting field.

Additionally, the program was successful in supporting other community economic development activities including directing support services to neighborhood businesses; and providing support and visibility to the Bayview Merchants Association. Several participants paid their membership dues the same day of the seminar. The President was very appreciative of the quality presentation brought to the community.

YOUTH TRAINING/WEATHERIZATION PROGRAM

Introduction

This program area addresses the disproportionate energy burden on low income families in Bayview Hunters Point. Families in this neighborhood are paying higher energy bills than the city-wide average though they have significantly lower household incomes. One way of improving real income levels is to reduce operating expenses. Rent, food, clothing, medical and transportation costs are difficult to reduce beyond current levels; energy efficiency, however, is a good opportunity for reducing household costs.

Problems with youth and teenage unemployment have been identified as main issues in Bayview. Strengthening job training and employment opportunities for neighborhood youth is of great interest to the community.

In an effort to use local resources to address energy and other local needs, the project developed a program which links youth training to weatherization and minor home repair. The Bureau provided information to the community on the employment and business opportunities in the energy efficiency field. Then the Bureau worked with community representatives, community organizations and PG&E to determine how weatherization programs and services can address job training and employment for neighborhood youth. Program design paid particular attention to utilizing local organizations, businesses and resources wherever possible.

Why a Youth Training/Weatherization Program?

The Bureau had an interest in developing a youth training and home energy efficiency program in Bayview Hunters Point for the following reasons:

1) Higher energy use per household than other neighborhoods

Findings from the Bureau's earlier studies in Bayview indicate that residents could benefit from weatherization services. Bayview has the highest per household energy use of any other residential neighborhood in San Francisco. This is in part due to the type of housing, and the number of households which have yet to be weatherized. On average, families in Bayview pay energy bills 40% higher than households in other parts of San Francisco although the median family income is almost 30% lower. At the household level, energy conservation can reduce the unequal economic burden caused by disproportionate energy costs, thus increasing the amount of discretionary income an individual has available to meet other needs.

2) Community energy dollar drain

The high household energy use also has an impact on the community well being. Residents in Bayview currently spend approximately \$6.5 million a year on housing energy costs, more than any other energy using sector in the community. Since the community imports all of its energy supplies, every dollar spent on energy leaves the community, constituting an enormous drain on the local economy. Energy conservation can help retain dollars in the community that will recirculate and generate new economic activity.

3) Youth at risk

In Bayview Hunters Point as in similar communities, the unemployment rate for black teenagers between the ages of 16 and 19 exceeds 50%, three times as high as for white teenagers in other communities. The community's number one priority is saving their youth from unemployment and drug-related violence.

4) Job opportunities in the growing energy field

New opportunities in the energy efficiency field have begun to appear. Activities in this field continue to grow, providing employment for the installation, sales, marketing, manufacturing, analysis and design of products and methods. Communities of color can better position the local work force in order to exploit these opportunities. In particular, energy efficiency may be a path to employment for Bayview youth and young adults.

Neighborhoods like Bayview Hunters Point could continue being the passive recipients of new or expanded low income energy services; however, they would then be missing out on the opportunity to participate in this new economic activity. To fully participate they must have a trained work force as well as the organizations and businesses experienced in providing energy services. Establishing a locally operated energy services organization is a step toward developing those assets.

Performing full weatherization services requires some expertise as well as licensing and a considerable investment in equipment and materials. The cost and difficulty of a home weatherization service can be reduced, however, to a level manageable by a neighborhood-based community development corporation (CDC). Specialized services such as insulation of ceilings and walls can be substituted by easy to perform, yet effective, measures such as vacuuming refrigerator coils.

5) Needs of Seniors

Residents of fixed incomes are the hardest hit by rising living costs while their incomes remain fixed. For senior citizens, single parent families and their children, the physically challenged, and the psychologically challenged even small increments of savings on living expenses can make a significant difference in their quality of life.

6) Housing an important community economic asset

Sixty four percent of Bayview residents own their homes. Sixty percent of the home owners are African American. This level of home ownership provides an incentive for participation in any home improvement program because the classic split incentives between owner and tenant are eliminated. Improvements in the homes will not only improve energy efficiency, comfort and safety, but will improve the value of the homes.

7) Demonstration of how neighborhood energy efficiency programs can assist with other important community needs

Energy efficiency has meaning only within the context of other needs: environmental protection, air quality, reduced expenses, comfort, etc. In communities like Bayview Hunters Point, economic and social needs are paramount. The Bureau was interested in demonstrating how energy efficiency can make an important contribution towards addressing those needs and thereby gain widespread community attention and support. This would improve the effectiveness of any education or direct service program. A program which focuses on home repair and maintenance services with an emphasis on energy saving measures, will provide energy savings and, at the same time, meet vital community needs.

Program Objectives

In order to garner the community's support in meeting the Bureau's energy efficiency goal, the overall objective was to explore how neighborhood residential energy programs can effectively address the job training and employment needs of neighborhood youth. In particular, the program objectives were to:

- 1) Inform community leaders and organizations about the opportunities for employment in the energy efficiency field.
- 2) Elicit community input and support for a youth training/ weatherization program.
- 3) Identify an appropriate community organization to operate the youth training program. Elicit the support and full participation of that community organization. It was not the Bureau's objective to operate the program.
- 4) Elicit participation from youth members of the community.
- 5) Develop a plan for a youth training/weatherization program based upon community input.
- 6) Examine the use of financial resources from outside of the community to avoid competing with existing programs.
- 7) Initiate a search for funding, and if possible, securing funding for the program.
- 8) Provide program start up assistance as needed. (If funding search is successful.)

Program Development Methodology

The development of the youth training/weatherization component was the result of extensive community involvement. The major components of the Bureau's efforts were as follows:

Investigate similar programs: The Bureau built upon a very successful summer youth training/home improvement program in Berkeley, California managed by a local non-profit, the Community Energy Services Corp. (CESC). CESC provides energy conservation services to City facilities, residents and businesses. In 1989 San Francisco contracted with CESC to develop a summer pilot program model. The model was used as a basis for discussion with the various community groups.

Coordinate community participation: Community participation was coordinated through the establishment of the Community Advisory Committee (mentioned earlier). A variety of representatives from the community met to discuss community issues and features needed in a youth training/ weatherization program. A set of recommendations were created. A separate youth advisory committee was also established and met to create an additional set of recommendations.

Locate a sponsoring organization: Using the direction and assistance of the Advisory Committee, the next step involved locating a local organization to be fiscal agent and

operate the program. A community organization, Young Community Developers (YCD), was chosen by the Advisory Committee and solicited to be the sponsoring organization.

Design Program: Building upon the Berkeley model, the Bureau worked with a subcommittee of the YCD Board, the YCD Executive Director, two representatives of the advisory committee, and the Youth Advisory Committee to design a program to meet the local needs. The Bureau then developed a draft youth training program proposal. Several amendments to the proposal were made by the full YCD Board.

Initiate funding search: The YCD Board and Bureau staff began conducting the funding search. The Bureau prepared proposals on the community organization's letterhead which were then signed by the YCD Board President.

Program Players

Community Advisory Committee. A subcommittee of the Community Advisory Committee was formed to plan the youth training/weatherization program. The subcommittee was made up of community representatives active in youth counseling, youth employment and community activists interested in the program.

During a series of community meetings the sub-committee addressed several programmatic issues, eg. which age group should be emphasized. A list of recommendations was developed and incorporated into the draft program.

Young Community Developers (YCD). A youth employment and training program is a good match for YCD's mission. YCD was founded in 1973 by a group of African-American community leaders to provide employment and training services. Since then, YCD has developed other social and educational programs to meet the needs of the community.

They include clerical classroom training, direct placement services in construction and other industries, educational support (tutorial services), family planning and counseling services (including teen fathers counseling, AIDS prevention and awareness), and summer youth part-time employment.

To capture the jobs created by several current development projects in the neighborhood, in May 1990, YCD began a construction trades placement program to secure apprenticeship training and construction related jobs for Bayview Hunters Point residents. To provide the basic skills training needed for youth to access those jobs, YCD began working with the Bureau and the Project Advisory Committee to create a youth training and employment component of their program.

Youth Advisory Committee. While YCD and the Bureau were establishing a working

Youth Advisory Committee. While YCD and the Bureau were establishing a working process, a separate Youth Advisory Committee was developed. Providing an opportunity for youth participation in program development serves two functions. First, it provides important insights to the development of a stronger, more successful program. Second, it is an opportunity for the youth to think, discuss and develop their own leadership skills. The coordination of this effort was performed by an African-American summer intern interested in an environmental career.

Program Issues

The sub-committee and the YCD Board raised a number of issues vital to the success of the program. The Community Advisory Committee concluded the following:

- 1) The Committee expressed dissatisfaction with short term summer programs which served larger numbers of youth but left them with little in the way of transferable skills. They asked for in-depth training to make a real difference in the lives of a few youth. To provide that depth, a low supervisor-to-trainee ratio was strongly recommended.
- 2) Participants should include young women but the main focus should be on young men ages of sixteen and seventeen. This is the age when youth susceptible to involvement in violence need to have other opportunities. Eighteen years old is too late for many. Further, these youth will need to have an incentive to return to school after any summertime period.
- 3) The program must do more than provide basic job skills, it must provide a vision of a career track, skills to start their own enterprise as well as immediate employment opportunities.

The Youth Advisory Committee's key recommendations were:

- 1) Wages between \$7 and \$10 per hour are crucial. Wages lower than \$7 per hour would not meet their immediate financial needs and force them to seriously consider undesirable means of making money.
- 2) The selection criteria should not exclude potential participants from the program because of lack of skill or education. Desire is a much more important quality.
- 3) Child-care and other support services are necessary.
- 4) Linking participants with job opportunities immediately after the training process is critical. Many youth will not be able to wait more than a few weeks for a post-training placement.

Several additional issues were raised by the YCD Board:

- 1) Wage increases or bonuses need to be used as incentives towards quality work and to retain trainees through to the completion of their training. Also, the program must be designed to encourage youth to return or stay in school.
- 2) To make a career path clear to the youth, this program should provide certification of the skills attained, information and on-site exposure to potential careers in the energy field.
- 3) Providing adequate support is not only a matter of providing counseling and tutorial services or having an effective referral network. More importantly, it is establishing a relationship with the youth, developing a close understanding of their needs and providing personalized guidance.
- 4) An immediate post-training placement is critical to keeping the youth on the career track. Being left with no job for weeks or months will lead to discouragement and force them to consider less desirable tracks.
- 5) Working in people's homes requires an ability to listen to the wishes and feelings of the client; an ability to follow instructions; attention to detail and an effort to be meticulously clean. The program design includes four days of preparatory training before beginning in-home services. This was believed to be sufficient when combined with close supervision.
- 6) Building the clients' trust in the crews is critical to the programs success. Most people will have some level of fear about a group of youth entering their home. A partial solution to this problem is to have the crew leaders and/or the crew members bonded. However, anyone who has had a conviction for almost anything is usually not bondable. Given that many at-risk youth have had some brush with the criminal justice system it may be difficult to get bonding. Berkeley's CESC program does not have bonded staff and has not had any problems. Therefore, the program will attempt to bond some of the staff. Several other preventive steps can be taken; such as wearing identifying coveralls and badges, close supervision and crew appearances at senior centers.
- 7) Because this program will be going into hundreds of homes, there is undoubtedly other work that the youth could perform in addition to the energy measures. Adding additional measures would give the youth more skills, provide more service at little cost, and make the overall program more fundable. The areas which seem most appropriate are earthquake preparedness and hazardous materials identification, education and removal.

- 8) Though very interested, YCD's Board was concerned because providing direct in-home services is new territory for them. In contrast, Berkeley's CESC had the City of Berkeley's contract for low-income weatherization services and was already experienced with managing the work scheduling, procuring materials, performing the repair work, etc. After meeting with the CESC director, the Board was convinced that YCD could do it.

Youth Training/Weatherization Program Summary

While youth training and weatherization are the goals of this program, it is not a useful title for the clients receiving the in-home services. The title of "Minor Home Repair Program" will better inform seniors and other residents about the services being offered.

The Minor Home Repair Program will enhance the energy efficiency, safety, comfort and earthquake readiness of homes in the neighborhood. The program will train and employ up to 12 youth to repair 450 homes. The program is designed for two 24 week sessions, two crews each session, each crew consisting of one supervisor and three crew members. During the summer, the crews will work 30 hours per week, completing 6 to 7 houses per crew each week. Crew leaders will work an additional 10 hours performing various preparatory and accounting tasks.

When summer ends, 16 and 17 year old youths will continue working 15 hours per week in the afternoons. This will allow them to continue to draw a paycheck and attend high school or attend the morning session high school equivalency classes at the community college. In the morning, the crew leaders and 18 year old crew members will work as two-person teams.

Maintaining two working crews will keep the crew leaders fully employed so that the program can attract and retain quality crew leaders. It will also provide continuity for the in-school youth to return to their respective crews for an afternoon of work.

Training. Training will be two days in the classroom with the crew leader and two days provided by the local utility, PG&E. The last day will be in clients' homes and conclude with a one hour evaluation meeting. Subsequent skills training will be on the job site. Crew meetings, self-esteem workshops, and career awareness field trips will complete the training activities.

Work Quality and Evaluation. The quality of the program's work will be reviewed through evaluations by the clients as well as site inspections by the program manager. This will ensure a high quality of work so that senior centers and other agencies can make referrals with confidence. The energy savings will be analyzed through client interviews and analysis of energy bills to be performed by the Bureau of Energy Conservation in partnership with PG&E.

Program Funding

Likely Interested Parties. In addition to the Bureau of Energy Conservation, several parties should be interested in helping to fund this project:

- a) The Mayor's Office because of its specific interest in assisting youth in the Bayview Hunters Point neighborhood.
- b) The City's Household Hazardous Waste Program because this program will perform in-home services, a task that the City program would like to do but has insufficient funds to run its own program.
- c) The local gas and electric utility, PG&E, because:
 - i) it has a power plant in Bayview Hunters Point which is scheduled for expansion. Therefore, they are interested in building good relationships with the community.
 - ii) to manage the system wide electric demand, PG&E is interested in reducing electric use.
 - iii) water heater strapping will reduce their post-earthquake problems of restoring gas service. Earthquake related fires destroy their customer base and the sudden loss of numerous hook ups makes it difficult to maintain line pressure.
- d) Private foundations which have environmental and/or social service goals. Those foundations that have both environmental and social service goals would be especially interested in this program.
- e) In-kind donations from local businesses and industries.

Self-Supporting Potential. There are several revenue generating activities which can contribute to the financial self-reliance of this service. First, minor home repair and earthquake safety are services for which home owners and tenants are sometimes willing to pay a fee. There will be requests from those who can pay and some who can make a small contribution to defray some of the program costs. As demand for these services grows, YCD could act as a broker for handyperson services performed by program graduates providing services to neighborhoods beyond Bayview Hunters Point.

Second, a seniors accident prevention program has expressed interest in subcontracting to YCD the portion of their program's work which is in Bayview Hunters Point. The only additional training needed would be a one-day training on the installation of handrails and grab bars.

Third, the area of energy and environmental safety are growing fields with opportunities for creative partnerships. As the YCD program becomes more efficient and adds more services, not-for-profit business opportunities will begin to open. For example, by teaming with a local general contractor, YCD could get a contract for delivering one of the free weatherization programs in the neighborhood.

ENERGY EFFICIENT HOUSING CONSTRUCTION PROGRAM

Introduction

An important element of community and economic development is affordable housing. Affordability has increasingly come to include the energy costs of housing. This program area seeks to lower the operating costs of new housing through energy efficient design, and thereby contribute to the long term affordability of housing in the Bayview.

The Bureau worked with community representatives, local builders and developers, and the Department of City Planning to develop appropriate energy efficient design and construction guidelines beyond the existing state standards for housing construction projects in Bayview and to explore ways to encourage adoption of the measures in the future.

In addition, the program sought to provide information to the community on housing energy issues in general, and in so doing, provide education for inner city residents so they may serve as effective community advocates for energy efficient design in new construction.

Why an Energy Efficient Housing Construction Program

The Bureau has an interest in promoting energy efficient housing construction in Bayview for the following reasons:

- 1) Significant new housing construction anticipated

A large addition of new housing and commercial buildings is anticipated in Bayview over the next ten years. In fact, the area is really considered San Francisco's last opportunity to develop affordable housing with 1000 to 2000 new housing units expected within the coming decade.² There is a strong community interest in seizing this opportunity to

² Rachel Gordon, "Bayview Sees Renaissance," The San Francisco Independent, (April 24, 1990), p. 4.

increase the amount of affordable housing in Bayview available to local residents, many of whom have family that have lived in the community for many years.

2) Impact of energy costs on low income communities

Energy costs impact low income communities more than anyone else. Low income residents pay a larger percentage of their household incomes for energy costs (three to four times as much) and generally have far less discretionary energy use to eliminate in response to increasing energy prices.³ Further, with less discretionary income, home energy improvements are often prohibitively expensive.

3) Opportunity offered by new construction

Energy efficiency can contribute to the long term affordability of housing. New construction offers an opportunity to incorporate energy efficient technologies and design into buildings when it is easiest and most cost effective. By building in energy efficiency during initial construction, the owners and the general community will reap the benefits throughout the life of the building.

4) Available resources

Given the level of effort required for the other two program areas, the Bureau was interested in choosing a third program area where a contribution could be made without requiring large amounts of additional staff time. In San Francisco's Energy Task Force Year 8 project "Energy Plan for Mission Bay", new construction guidelines were prepared for Mission Bay, a large 300 acre mixed use development just north of Bayview. Therefore the Bureau could build upon the Mission Bay work, and hopefully provide valuable information with little additional effort.

Research Plan and Program Development Methodology

In the process of developing energy efficient guidelines for new housing construction in Bayview, the following methodology was applied:

1) Develop Technical Agenda: Project staff first built upon the success of the new construction guidelines prepared for Mission Bay, and reviewed the Mission Bay technical guidelines for applicability at Bayview. Staff then investigated possible additional guidelines.

³ U.S. Department of Energy, Energy Information Administration, 1983: cited in The Hidden Link: Energy and Economic Development by Public Technology Inc., 1987, p. 3.

2) Investigate policy options and available resources: Also building upon the Mission Bay work the Bureau worked with Department of City Planning to evaluate the best methods for incorporating the technical guidelines into the project planning and development phase.

3) Coordinate Community Review and Input: Bureau staff then solicited review of technical guidelines and obtained direction on the best methods to insure adoption of guidelines. Input was coordinated through a series of meetings with the Advisory Committee and direct mail and phone interviews with important contacts.

4) Inform community on housing energy issues: Originally this was not part of the project scope. In addition to providing energy efficient guidelines, however, the Bureau found that there was also a need to facilitate outreach to the community on general housing energy issues and assistance programs. Providing education for inner city residents may serve to foster effective community advocates for energy efficient design in new construction.

Developing the Technical Agenda

The first step in developing the technical agenda involved reviewing the recommendations prepared for the Mission Bay development as a part of San Francisco's ETF Year 8 project and evaluating them for appropriateness and transferability for the Bayview Community.

Next, three major technical resources were contacted for additional information- the Building and Services Division of Lawrence Berkeley Laboratory , the California Energy Commission and the Natural Resources Defense Council. The CEC turned out to be the most useful resource and LBL and NRDC for the most part deferred to CEC. The intent was to develop guidelines that go beyond the state building energy standards known as Title 24. Title 24 provides specific standards for efficiency of the building envelope, space heating equipment, and DHW equipment. Compliance may be through conformance with prescriptive standards or through a performance approach where energy budgets are specified on a per square foot of building space basis for space heating and on a per occupant basis for DHW. The CEC had just gone through a process of reevaluating the Title 24 residential guidelines, and provided some information on possible measures beyond Title 24. CEC input however was limited to building envelope, space heating, DHW heating equipment, and energy efficient refrigerators.

Following review by the Community, the Technical Agenda was organized under seven building energy impact elements as given below:

- 1) Efficient Equipment and Appliances
- 2) Building Envelope Improvements
- 3) Renewable Energy
- 4) Individual Metering
- 5) Natural Cooling
- 6) Recycling
- 7) Building System Operation and Maintenance

Draft recommendations were developed in each category (See Appendix E). The measures have not yet been finalized; ongoing work includes investigating additional efficiency measures and life-cycle cost analysis of the recommendations.

Reviewing Available Policy Options

The goal of this task was to identify the appropriate methods for incorporating the technical guidelines into the planning and development phase of housing construction projects in Bayview. The Bureau worked closely with the Department of City Planning (DCP) to review the various access points identified during San Francisco's earlier Energy Task Force Year 8 Mission Bay Project and determine which of these were the most promising and appropriate for projects in Bayview.

Formal Access points. Formal access points are policy options within formal city planning project development procedures and in many ways provide the most leverage. Several formal access points were considered as follows:

- 1) City Master Plan and Zoning Ordinance Amendments

Existing development policies for the Bayview community are contained within the South Bayshore area plan of the City's Master Plan, originally approved by the Planning Commission in February 1970. The principal product of San Francisco's Year 9 project was the South Bayshore Energy Plan developed with the assistance and input from the Department of City Planning and the community. The plan consists of energy/economic development goals, objectives and policies appropriate for the South Bayshore district. The plan was adopted by the community and the Department of City Planning as the energy element of the City's South Bayshore Master Plan.

Given that The South Bayshore Plan is still undergoing public review and has not yet been formally adopted by the Planning Commission there is still opportunity to incorporate design guidelines developed as a part of this project within the energy element of the South Bayshore master plan. This will increase the chances of the measures being adopted, although will not guarantee it as the plan is not legally binding.

2) Department of City Planning Project Review Committee

For each project taking place in Bayview, a committee of planners and community representatives form a City/Community project review team where formal technical review is given and conditional use agreements are negotiated. This was the most promising option identified. The Bureau plans to participate on the project review team to review future projects and make recommendations. Bureau staff will work with DCP to evaluate the most effective "sticks and carrots" to encourage adoption of measures by developers on a case by case basis.

3) Environmental Impact Report (EIR)

The master plan and all major housing projects will be required to provide an EIR. These will include enforceable standards to mitigate undesirable environmental impacts. The Bureau will be able to provide review and comments on the EIR taking place in association with the master plan. Similar EIR energy review can also occur on a project by project basis, and recommendations for design measures to mitigate the environmental impact can be provided at that stage also.

4) Building Code Amendments

Building code regulations are most appropriate for building specific measures, and are not effective for addressing issues at the site planning level. In addition, building code amendments would affect the entire city, thus excluding their use for specific individual developments. Most importantly, the level of effort required to change the building code is substantial. Most building codes generally consist of mandatory measures - a strategy that is best used as a last resort after other policy options have proven unsuccessful.

Informal access points. While not part of the formal planning process, informal access points can make a valuable contribution. The informal access points considered were as follows:

1) Direct Contact with Project Developers

The Bureau worked directly with the only development company moving ahead with housing projects in the area (one of the owners of the company was also a member of the Advisory Committee). Fortunately, the developer is very responsive to community needs and is already sold on energy conservation.

2) Cultivating Community Advocates for Energy Efficiency.

By educating public housing activists and cultivating informed community advocates for energy conservation, community pressure can be exerted for the inclusion of energy efficient design standards.

Community Advisory Committee Recommendations

The Advisory Committee had several recommendations when reviewing the technical recommendations.

1) Energy Efficient Model Home

Advisory Committee members first suggested that a model energy efficient home be established in Bayview in order to demonstrate and market energy efficient housing design and construction. There was concern that just providing guidelines to builders and developers would not result in the adoption of energy efficient practices. Further, there was a consensus that one of the best ways to encourage energy efficient design was to provide a visible demonstration of a model energy efficient home in Bayview.

Such energy efficient model home demonstrations exist in other locations outside San Francisco. But in addition to having different climate conditions, quite often the model homes are only affordable to middle to upper income families. This tends to promote the myth that the inclusion of energy efficient design in new construction is only affordable for the rich.

San Francisco, and the Bayview district in particular, needs a model home that demonstrates the inclusion of cost effective energy efficient design and technology appropriate for San Francisco's climate and appropriate for affordable housing. Bayview is an ideal location for such an demonstration, due to the large amount of new housing construction anticipated in the area (especially compared to other neighborhoods in San Francisco) and the great need for affordable housing construction in Bayview.

2) Work with DCP to identify incentives for Developers

Committee members recommended that any guidelines developed should apply to all developers in Bayview in order to be equitable. The committee also suggested that the Bureau work with DCP to identify the best "sticks and carrots" that would lead to the adoption of the guidelines on a project by project basis. It was pointed out that some developers may adopt the guidelines in order to get community support. It was also suggested that there may be opportunities to provide benefits or incentives to developers in the planning review process for incorporating energy efficient features in the project.

3) Balance incremental first costs with operating costs

The committee expressed concern that incremental first costs resulting from the inclusion of some higher cost energy efficiency measures can be passed on to the home buyer. This would conflict with housing affordability by increasing the initial price of the home. It is already difficult for most Bayview residents to qualify as first time home buyers, therefore a careful balance must be maintained. There was much interest in finding ways

to buy down the incremental costs through rebates, for example. There was also concern that in the case where incremental costs for energy efficiency measures were offset or bought down, that a mechanism be put in place to ensure that the costs for the included measures or the added value to the home are not still passed on to the home buyer. DCP suggested that the conditional use agreement for each proposed project may be the best method to address this problem.

4) Investigate Possibility of "Energy Addendum Financing"

The Bureau raised the possibility of "Energy Addendum Financing" where banks finance larger loans on energy efficient houses than the applicant would otherwise qualify for, since lower utility costs enable the owner to make higher monthly loan payments. It was suggested that this concept be further investigated. It was also noted that a lender may be found to pilot such a program in Bayview, and that banks are required to invest in the community via the Community Investment Act.

5) Address Building Operation and Maintenance

Committee members pointed out that for multifamily buildings it is also important to address the building operation and maintenance of energy systems, not just initial design.

6) Energy Education for the first Home Buyers

The Committee pointed out that there is a Home Buyer bond program that includes workshops at S.E Community College and suggested that the Bureau consider future education seminars on home energy efficiency for home buyers.

PG&E Resources for Housing Construction

As a result of investigating the resources available for this program, the Bureau identified three important resources provided by PG&E. These resources may assist in the future implementation of energy efficient design guidelines for new residential buildings in Bayview.

E3 Home Demonstration Program. PG&E has a system wide program called the E3 home demonstration program to provide demonstrations of cost effective design measures with home automation technology. The program provides up to \$20,000 for the incremental costs of including energy efficient measures and another \$20,000 in advertising to participating developers/builders. An E3 home does not currently exist in San Francisco. The Bureau encouraged PG&E to establish an E3 home in Bayview and facilitated initial discussions between PG&E representatives and a neighborhood developer/builder currently working on housing development projects in Bayview. The developer is informed on the benefits of energy conservation, is responsive to community

concerns, and is a member of the Community Advisory Committee. Negotiations are presently underway regarding establishing a model E3 home in Bayview .

Pacific Energy Center. This 25,000 square foot facility provides a firsthand look at energy efficient technologies and design techniques. The center includes a housing demonstration section and will offer a variety of demonstrations, seminars and services directed towards designers and builders. The Bureau will be exploring how to encourage developers of housing construction projects in Bayview to visit the facility for free technical assistance on projects.

New Construction Mainline Extension Program. Developers and builders may be eligible for discounts from PG&E on natural gas line installations for certain projects through the Mainline Extension Program if the gas service infrastructure required for a development is substantially less than would be otherwise. The program is managed by the utility's New Construction Department. As future housing developments move to the early planning phase the Bureau will work with DCP to increase awareness among developers of the program.

Facilitating Outreach on Housing Energy Issues

Due to input and interest from the Advisory Committee, the Bureau found it important to expand the scope of the project to address the need for distribution of information to the Bayview community on residential energy issues and available assistance programs. The Bureau investigated available housing energy assistance programs and provided a hand out outlining the findings (including key organizations and phone numbers) to important community contacts and organizations.

The Bureau also held a community meeting where two presentations were given; the Outreach Coordinator for the Natural Resources Defense Council gave a presentation on how energy issues impact low income and minority communities and how to participate in the energy policy debate. PG&E representatives provided information on residential energy assistance programs offered by PG&E and others. Information was distributed on energy issues as they relate to social justice and local economic development.

Program Results

The Bureau prepared draft energy efficient design recommendations for housing constructions projects in Bayview. Based upon input from the community and DCP, staff has also identified the next steps for further developing the technical agenda and has begun developing strategies for adoption of selected measures.

Incentives for builders to make housing more efficient beyond existing mandated State Title 24 standards are few, if any, in spite of savings to eventual occupants. And in San Francisco, where a housing shortage exists and the median cost for a home is \$260,000, home energy rating systems and loan qualification incentives do not appear to provide much marketing advantage to the builder. Therefore, other strategies for encouraging adoption of energy efficient design measures need to be explored.

Future next steps include establishing an energy efficient demonstration home in Bayview; working with DCP to create incentives for developers to adopt measures; providing technical assistance to builders through PG&E's Pacific Energy Center, and locating resources to buy down incremental costs of measures. As a last step regulatory/mandatory solutions may be considered as a part of the conditional use agreements.

Finally, the Bureau provided information to the community on energy issues and how they impact low-income communities and in so doing helped foster community advocates for energy conservation.

CHAPTER 4: LESSONS LEARNED AND FUTURE WORK

INTRODUCTION

This chapter describes the lessons learned during the course of this project. It begins with a discussion on energy and social justice. This is followed by a description of other lessons learned that may be of help to anyone undertaking similar work. Finally, the future work anticipated within each program area is briefly described.

ENERGY AND SOCIAL JUSTICE

There are a number of organizations that have emerged over the past five years dedicated to fighting what has come to be known as "environmental racism", and promoting social and environmental justice. The Coalition on Race, Poverty and Environmental Justice, a multicultural student group at University of California Berkeley, refers to environmental racism as "the unequal distribution of economic benefits and environmental burdens", and goes on to explain that "environmental hazards affect all of us; we cannot ignore them, nor can we ignore the disproportionate distribution of those hazards and those who bear an unfair share of the burden. Some people benefit from the exploitation of natural resources, while others - poor communities and communities of color - suffer more of the consequences."

As energy managers we must recognize the ways in which people of color and low-income members of our society are disproportionately impacted in the current system of energy production, distribution and use. In addition, people of color or residents of poor communities have been largely absent from arenas where energy policy decisions are made despite the fact that the decisions made will impact them directly. As local governments, we can play a role in both addressing the injustices as well as preventing future ones.

Most inner city residents would not consider energy or environmental issues as among their primary concerns. Yet, energy costs impact low income communities more than anyone else. Low income residents pay a larger percentage of their incomes for energy costs. In addition, they generally have far less discretionary energy use to eliminate in response to increasing energy prices. Furthermore, with less discretionary income, home energy efficiency improvements are often too expensive.

From energy extraction, to processing, to end use, poor people and people of color often bear the environmental and health burdens of society's wasteful energy consumption. For example:

- The neighbors of the Chevron refinery in North Richmond are 85% African-American. The California Department of Health Services has estimated that the rate of respiratory cancer in its industrialized neighborhoods is 39% higher than in the other parts of Contra Costa County.
- Urban highways frequently run through poor communities and communities of color, dislocating residents, disrupting communities, and causing health problems such as lead poisoning and respiratory disease. Yet poor people frequently rely on public transportation and are less likely to enjoy the benefits of the highway system.
- Utility sponsored Demand-Side Management programs usually neglect small businesses and low-income residents even though the programs are funded from the rate base which everyone pays for.
- Waste-to-energy plants are usually located near low-income communities. While some of these plants may be clean, dangerous emissions continue to be a serious issue. In addition, poor communities are many times vulnerable to economic blackmail by hazardous industries promising jobs and economic development benefits that will offset any negative impacts. When industry is challenged to be accountable, poor communities are threatened with plant shut downs and job cut backs - the price to pay for pollution control and clean-up. The results are usually few jobs gained with devastation of lives from toxic contamination.

Local Government Socially Responsible Energy Planning

Local governments can promote social justice in the operation of its energy efficiency programs in a number of ways.

- We can be aware of the existing environmental injustices within the community.
- We can provide information and assistance in evaluating upcoming energy related policy decisions that will impact local neighborhoods.
- We can assist in developing local expertise on energy/environmental justice issues and educate individuals to become community environmental justice advocates.
- We can closely evaluate the social and economic consequences of all policy and program development. We can ask who benefits and who pays? Policy makers must be made aware of the unequal distribution of burdens and benefits in any proposed solutions to environmental issues. Market-based proposed solutions should be closely analyzed. Market-based solutions intended to encourage energy conservation, can sometimes be particularly unfair to poor people. Not only are poor people negatively impacted economically more than the non-poor by such solutions but in some cases

economizing on home heating, for example, may result in living at temperatures below comfort or at levels harmful to good health.

- We can include multicultural representation in all policy decisions. In order to develop and implement truly effective energy/economic development programs, we can learn about the community we are working in, understand the cultural differences, and incorporate these differences in all program development, implementation and outreach. Also, a framework for multicultural representation should be organized in the beginning of the project to insure ongoing input from all who will be impacted. Special attention should be given to those disenfranchised or under represented groups which are traditionally excluded in policy decisions.

The idea that energy efficiency programs can contribute to the local economy is still not a popular one. The perception seems to be that since there is apparently no longer an "energy crisis" and energy prices are relatively low, energy issues in general, need no longer be a high priority. Attention has turned to other problems. However, through appropriate responses to energy, economic and community development issues in low-income neighborhoods, this project shows that local governments can play a role in building a consensus for efficient energy use, and addressing the related environmental injustices as well as preventing future ones.

OTHER LESSONS LEARNED

Importance of new utility regulations

The resources presently available through certain utilities provide substantial opportunities for reducing residential and commercial energy costs in low income communities. However, the way in which these resources are utilized can often be improved upon. Similarly community economic development benefits can often be increased through more community involvement in program development and outreach. The scale of impact possible through local utility programs is far greater than that provided by any other resource - including local, state or federal government programs. Within the last year, one hundred businesses in Bayview had state of the art energy efficient lighting measures installed by the local utility. These resulted in lower utility bills - at no cost to the businesses themselves.

In California, resources such as these have been made available through new regulatory changes which make energy conservation profitable for utilities. Therefore, if such legislation does not presently exist in your area, lobbying for similar new utility regulation is an important long term strategy in providing increased resources for residential and commercial energy conservation. Once such legislation exists, local governments and neighborhoods can work together for improved community participation and control of resources.

Learn about the Community First

Take the initiative to learn about the community you would like to work with. Attend community meetings, read local newspapers and newsletters, talk to people, go to neighborhood organizations and churches etc. This research is necessary to identify local needs, concerns and resources.

Expect Difficult Issues

When working with minority and low income communities, one must expect to come across many difficult issues, and encounter the inevitable discomfort that can arise when relating to people different from you.

A willingness to listen carefully to people's concerns and frustrations, and to grapple with any questions that arise in the process - as difficult as this can be - is necessary to program success. Further, trying to separate program issues from community concerns may ultimately lead to other difficulties. Attempts to limit discussion to specific energy related concerns, for example, may result in community members feeling like they are not being heard. Much valuable information necessary to build an effective community energy program may then be lost.

It is worth noting, however, that during all group meetings, the need to hear people out must be balanced with the need to keep discussions on track and completed in a timely manner. The people you will be working with will have many demands on their time. It is important to utilize their time effectively to ensure their continued participation.

The Need for Quality Youth Programs

Be aware that young people in low income minority communities like Bayview, have a deep level of frustration and fear about their personal futures. Any programs developed to serve them must be realistic and offer quality assistance in order to be believable and have a real impact. To this end, the Bayview community expressed a need for programs that take a few people a long way. Such programs are preferred over those which help many people, but in ways that are temporary and provide few sustainable benefits.

Make an Effort to Work With All Factions of the Community

Do not assume that all residents and community leaders share the same views on all matters. Efforts should be made to include all factions of the community in all decisions over program development. The perspectives brought by the different viewpoints within the community are vital to program success. Remember that when representing a

government organization, one can present the decision to work with all factions of the community as an obligation. In so doing, one may avoid pressures to work with one faction of a potentially divided community.

Present Clear Mission and Project Objectives

It is important to be straightforward about one's own interests and objectives when beginning to work with a community. An approach of "we just want to help you - and we think we know what help you need " will understandably be met with suspicion. By being up front about your own interests and what you hope to gain, an atmosphere of mutual respect can be established and an appreciation of what you have to offer each other can be fostered.

Don't Over-Commit

It is very important to negotiate for a workable project scope and only commit to that which you are certain you can reasonably deliver given the available resources. Follow through is important in order to establish credibility and build trust. At Bayview there was tremendous pressure to expand the project scope in order to address additional community needs. It is best to resist such pressures and stay small in order to ensure program success.

Communities such as Bayview have experienced disappointment in the past with government programs. Accept, therefore, that you may not be trusted at first and people may not start out believing in success. Start small and commit to only those things you can follow through on.

Build Alliances and Cultivate Project Champions

An effective and enthusiastic Community Advisory Committee was successfully established at Bayview. It was composed of citizens, community leaders, and representatives from a broad range of interests, and provided a good foundation for community support and participation. Originally, the intention was to keep the number of committee members to a minimum in order to keep the group manageable. Further, it was intended to begin the project with the full Advisory Committee in order to establish a group identity. The plan was to then proceed with independent sub-committees for the Small Business Program, The Youth Program, and the New Housing Program.

As it turned out, it was found important to keep the committees flexible and to not restrict members to involvement in just one program area. It was also important to be able to continually absorb new members and never turn someone away who wanted to get

involved and could be an important resource. The active support of all parties at Bayview helped ensure the success of the project.

The most important (and sometimes difficult) aspect of building an effective project team is identifying and/or cultivating project champions within other organizations. As in the case of community support, one must present the program to potential project team members in ways that show how participation and involvement in the program will benefit their organization. The danger, however, in building a program that depends heavily upon other project team members is that if their support dwindles, so may the program.

Expect Long Lead Time in Building Community Trust

Do not expect immediate trust or cooperation. It may take months of sustained good faith efforts to establish credibility and begin building trust. Begin with early efforts to support the community on issues as they define them. Support local organizations and events as appropriate.

Helping those most in need versus the search for early success

The argument can be made that to provide for the greatest community economic impact, program services should be directed towards those who are most in need. For example, any work generated (for local printers, electricians, caterers etc.) should be directed towards businesses who will benefit the most. Working with such businesses, however, may be time consuming and more vulnerable to failure. This must be weighed against the need for project success. Success is extremely important to communities like Bayview Hunters Point in order to provide hope.

The solution is to design programs that will strike a balance ensuring some minimum acceptable levels of success while providing appropriate services to those in need. As an illustration, in the Small Business Program three different local caterers were selected, one for each seminar. Two of the caterers were very well established. One caterer was in the process of starting a catering businesses, and therefore could gain valuable work experience. Unfortunately, as a result the delivery of catering service to the seminar attendees was quite poor. The lesson learned is that the more the project is targeted to those in greater need, the more time, direction and attention the program will require in order to maintain acceptable levels of service and success.

Expect Substantial Administrative Overhead

Going beyond the usual energy programming, paying attention to process, and maximizing the benefits to local community requires additional administrative overhead.

Properly informing the community on program developments; organizing an advisory committee; holding meetings and distributing meeting minutes and other important information; hiring local businesses when purchasing restrictions may present obstacles; ensuring and encouraging adequate community input; working with those most in need - this all translates into more time and effort. Expect substantially more administrative time than is normally required for all project development and implementation phases.

FUTURE WORK

The Bureau has learned much from the present project that will be of assistance in future neighborhood energy conservation programs in Bayview. The following briefly outlines the more immediate future steps in continuing implementation within the three project programs.

Small Business Energy Assistance Program

The Bureau will provide informal recommendations to PG&E and California Energy Extension Service for improving small business energy assistance services. Recommendations will include how to improve community involvement on program development and implementation aspects in hopes of providing greater community economic impact, while increasing participation in utility conservation programs.

Youth Training/Weatherization Program

Staff will assist with the location of program funding, and will assist Young Community Developers (YCD) with the Youth Training/Weatherization program start up. Bureau staff will also be available following program start up to provide information and guidance on an as needed basis. In addition, staff plans to work with YCD to develop other training and opportunities.

Energy Efficient Housing Construction Program

Staff plans to encourage use of the new PG&E Pacific Energy Center (a technical design assistance center) by local builders. Technical assistance may persuade builders to include energy efficient construction techniques. Staff will be participating in the DCP community/city project review team for upcoming development projects. Staff will also continue to look for opportunities to buy down the incremental costs for higher cost measures. Staff will consider lobbying for mandating cost effective measures with a life-cycle cost advantage within conditional use permits. Bureau staff will also be continuing to look for opportunities to cultivate community advocates for energy conservation.

APPENDIX A

SMALL BUSINESS ENERGY SEMINAR MATERIALS

Appendix A contains small business energy seminar materials including an outline of the seminar outreach strategy, a sample energy seminar flyer, an outline of the seminar format, slide show presentation examples, and the minority contractor training workshop announcement.

SMALL BUSINESS PROGRAM OUTREACH STRATEGY

Combining the input from the Community Advisory Committee, Energy Management Services (EMS), and others, the following is an outline of the seminar outreach/marketing strategies employed by the Bureau:

- **Secured sponsorship of local merchant association known as the Bayview Merchants Association (BMA) and local utility (PG&E)**
 - First seminar held during regular BMA meeting
 - Sent flyer to BMA membership list of 300 along with BMA minutes
 - PG&E representative at each seminar
 - Coordinated with PG&E Direct Installed Program
- **Developed Flyer**
 - built upon success of previous flyer format utilized in the small business program seminars that EMS conducted for the state California Energy Extension Office
 - indicated BMA and PG&E sponsorship
 - community focus (first two seminars only)
 - indicated free lunch or breakfast
 - indicated that no sales items would be sold
- **Contracted with local outreach person**
 - provided 40 hours of door to door outreach, phone calling and registration confirmation for each seminar
- **Free lunch or breakfast**
 - EMS experience with the California Energy Extension Office seminars suggests that providing a free meal results in significantly increasing seminar attendance
- **Strategic outreach time frame**
 - 4 weeks before - Obtain/compile mailing list
 - 3 weeks before - Send out flyers (first class mail)
 - 1 week before - Phone those who have not responded
 - Week of seminar - Phone those who have registered to confirm attendance

SMALL BUSINESS ENERGY SEMINAR FLYER

The BEST thing you can
do to increase your profits
will improve your
community



Come to
"Increasing Profits
Through Energy Efficiency"

a free lunch seminar sponsored by the
Bayview Merchants Association, Inc.,

The City of San Francisco PUC
Bureau of Energy Conservation

and

The Pacific Gas and Electric Company

Increasing Profits Through Energy Efficiency

When: Thursday, October 17, 1991
11:30 a.m. - 2:00 p.m.
Lunch at 11:30 a.m.
Seminar at 12:00 p.m.

Where: Old Wells Fargo Bldg.
5048 Third Street
(at Revere Avenue)
San Francisco

Who Should Attend:

Managers, Owners, Employees of Small Retail
Businesses and Offices in the
Greater Bayview Hunters Point area.

To Register for the Seminar:

There is NO CHARGE for the lunch or seminar, but
advance registration is required. Call Christine or Cal at
the PUC/Bureau of Energy Conservation at 864-6915 to
reserve your space. Attendance is limited on a first come,
first serve basis so make your registrations now!

Cut Costs, Increase Profits

Even if your energy costs are a small portion of your
monthly expenses, any reduction will directly increase
your profits. In most cases, monthly energy bills can drop
from 10%-30% with very small investments in new
equipment (such as energy efficient light fixtures and
bulbs) and regular maintenance (for existing equipment).
In the long term, reducing energy use now can help keep
utility rates lower in the future. How? If utilities don't need
to build new power plants (to keep up with increasing
customer energy use), utility ratepayers won't have to pay
for them through rates.

And Protect the Environment

*Remember, less energy use means
less pollution
and a cleaner earth.*

Topics Covered:

Small Business Energy Use
Efficient Lighting Technologies
Other Building Energy Systems
Economics of Energy Retrofits
PG&E Services

The seminar will be presented by Energy Management
Services of Oakland. No products will be sold or offered for
sale as part of the seminar.

SMALL BUSINESS ENERGY SEMINAR TWO HOUR FORMAT OUTLINE

1) Introductions/Welcome (5 minutes)

- Merchant Association representative introduces program
- Project staff member briefly describes overall Project
- Well known business leader plugs energy conservation

2) Small Business Energy Use and Lighting Basics (30 minutes)

- Information is presented illustrating how energy efficiency can improve a business's bottom line profits
- Basic lighting principals and conservation practices are discussed

3) Energy Efficient Lighting Technologies (30 minutes)

- Demonstrations are given on various lighting technologies including compact fluorescents, T8 lamps and electronic ballasts, energy efficient exit signs, and occupancy sensors

4) Other Energy Systems and Energy Economics (30 minutes)

- Simple low cost measures for reducing Heating, Ventilating and Air Conditioning (HVAC) energy use are presented
- Example lighting retrofit calculations are demonstrated
- Literature on available services and assistance made available on display

5) Programs available to Bayview Businesses (15 minutes)

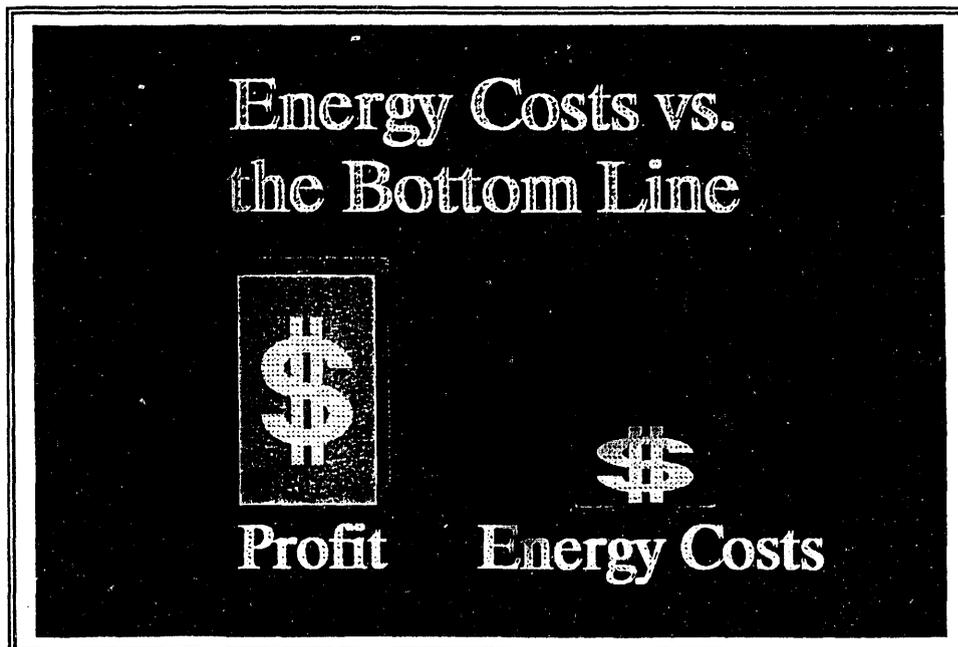
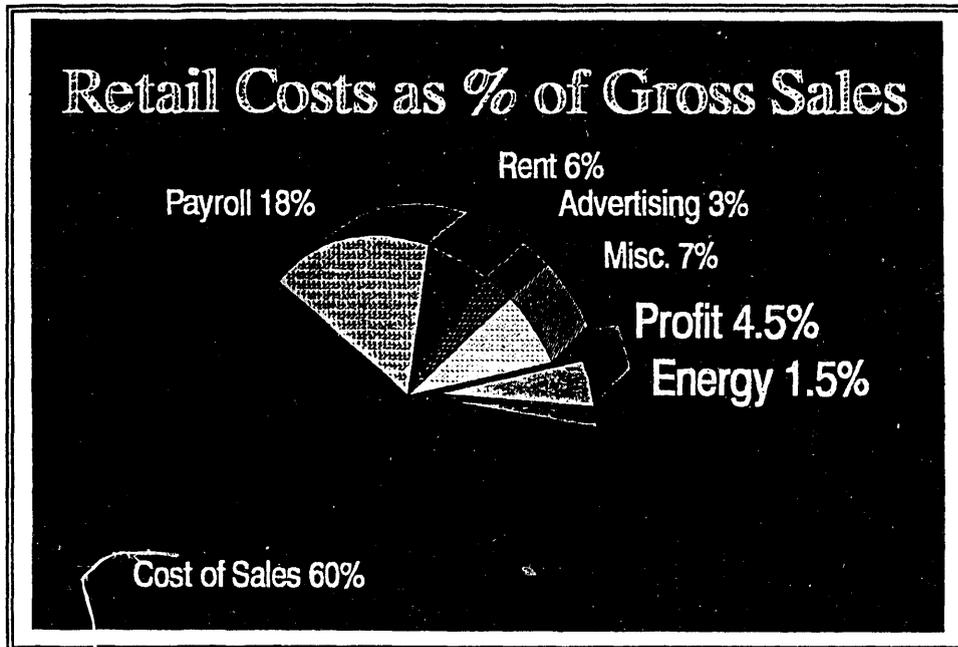
- Utility representative describes available programs including rebates etc.

6) Questions and Answers/Seminar Evaluation (10 minutes)

- Questions are directed to the appropriate speaker
- Attendees are requested to complete a seminar evaluation form to better evaluate seminar success and solicit suggestions for improvement
- A door prize (compact fluorescent light) is raffled off

SMALL BUSINESS ENERGY SEMINAR 1.5 HOUR FORMAT OUTLINE

- 1) Introduction (5 minutes)
- 2) Small Business Energy Savings (30 minutes)
- 3) Energy Efficient Lighting Technologies (30 minutes)
- 4) Programs Available (15 minutes)
- 5) Questions and Answers/Evaluation (10 minutes)



Suppose You Cut
Energy Costs By 15% ...

Profit Energy Costs

Avoidable
Energy
Costs

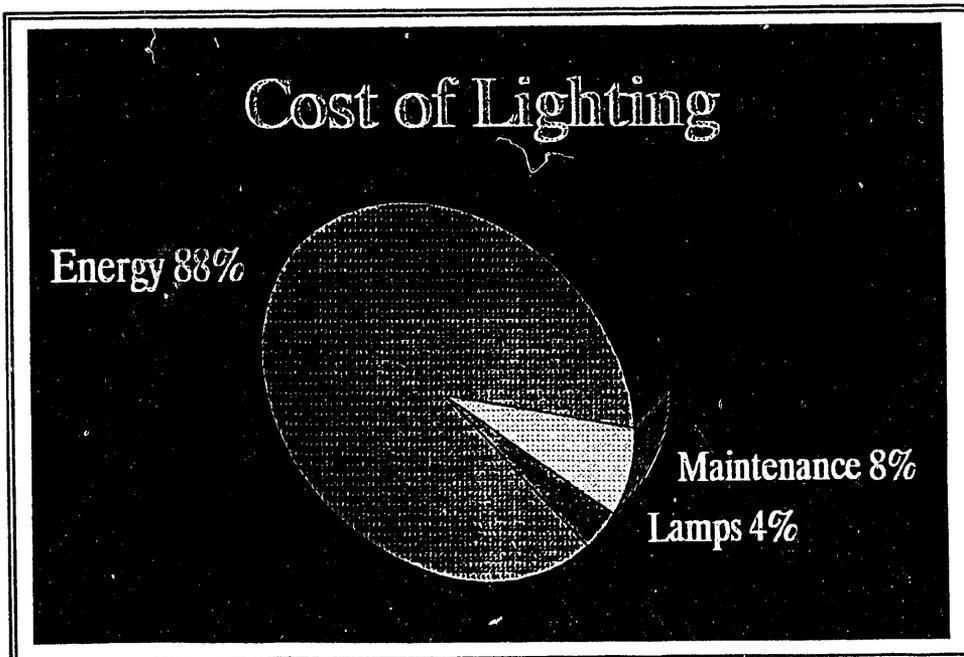
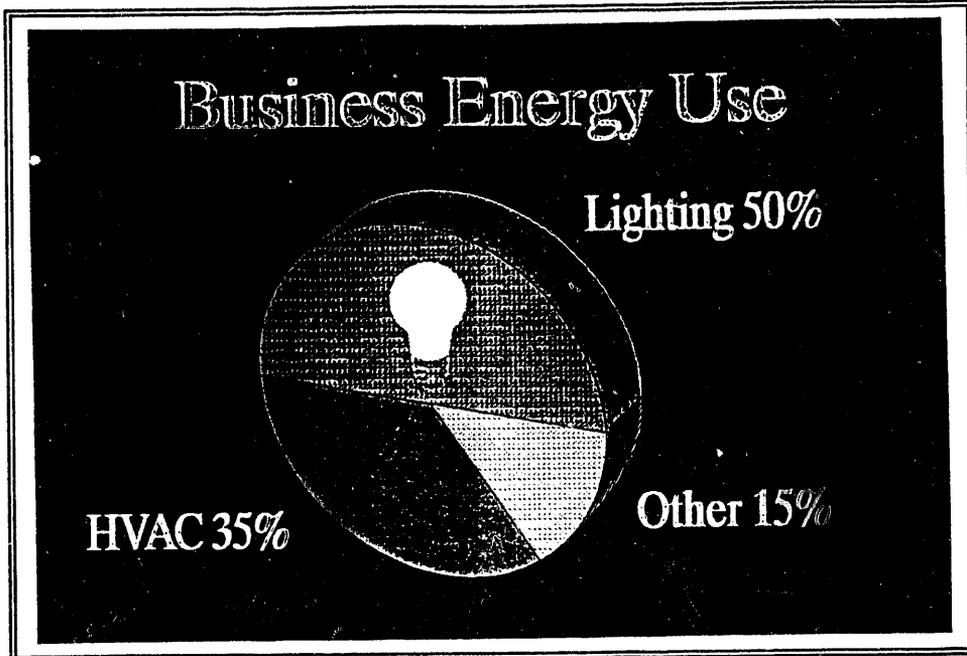
This diagram illustrates the impact of a 15% reduction in energy costs. On the left, a large dollar sign represents the resulting increase in Profit. On the right, a smaller dollar sign represents the original Energy Costs. An arrow points from the Energy Costs area towards the Profit area, with the label 'Avoidable Energy Costs' positioned above it, indicating that the saved amount is added to the profit.

... You Increase Profits
by 5%!

Profit Energy Costs

Avoided
Energy
Costs

This diagram shows the result of the cost-cutting measure: a 5% increase in profits. The Profit dollar sign is now larger than in the previous slide. The Energy Costs dollar sign remains smaller than the Profit one. An arrow points from the Energy Costs area to the Profit area, labeled 'Avoided Energy Costs', showing the direct contribution of the savings to the profit increase.



MINORITY CONTRACTOR TRAINING WORKSHOP ANNOUNCEMENT

HAVE YOU EVER WONDERED HOW TO EXPAND YOUR BUSINESS?

You are invited to come learn how you can expand your business by claiming your piece of the rapidly growing energy efficiency market. Come to a free workshop on:

Contracting Opportunities in the Energy Efficient Lighting Field

DATE: Wednesday, December 11, 1991

Time: 1:00 pm to 4:00pm

Place: City and County of San Francisco
PUC/Bureau of Energy Conservation
110 McAllister, Room 402
(Corner of Leavenworth)
San Francisco, California

R.S.V.P. to Christine Vance at 864-6915

Businesses and utilities are investing billions nationwide in energy efficiency due to rising energy costs and a heightened public awareness of environmental issues. Studies in the Northwest and other parts of the country are showing shortages of qualified personnel and contractors. You can gain access to these important opportunities by getting up to date knowledge on this growing field.

Topics Covered

- o Energy efficient lighting technologies/design considerations
- o Distributors - How to buy smart
- o Marketing - Expanding your market
- o PG&E Rebates and Networking
- and more

Workshop Presenters

The workshop will be given by Mr. Bill Knox of Energy Management Services and Mr. Bart Wallace of Daystar Energy. Both firms have specialized in providing energy conservation services for businesses for the last six years.

APPENDIX B
PG&E DIRECT INSTALLED PROGRAM DESCRIPTION

THE PG&E DIRECT INSTALLED PROGRAM DESCRIPTION

In the Spring of 1991, The Pacific Gas & Electric's San Francisco Division initiated a pilot Small Commercial Direct Installation Program within four neighborhoods, one of which was the Bayview District. The program ran concurrently with the Bureau's Small Business Program. While the first seminar provided by the Bureau was coordinated to support the PG&E Direct Installed Program, the two programs were developed and implemented independently from one another.

Why a PG&E Direct Installed Program

Acting on regulatory changes PG&E has committed itself to significant additional energy conservation in the coming year - 30 million kwh in San Francisco alone. To achieve its goals the utility must also address the small commercial market, not only the large accounts downtown. Past conservation efforts directed towards the small commercial market have included direct rebate programs and a small commercial audit program. Marketing included radio, television and direct mail marketing.

The small commercial customer participation rate in PG&E's Rebate Programs is approximately 1%. When an on-site survey is included the participation rate jumps to 10%, however, only a limited number of recommended cost-effective measures are actually installed. PG&E attributes this lack of participation to the many barriers encountered by small businesses including; lack of interest and information, lack of time, leasing arrangements where business owners do not own their lighting and HVAC equipment, very tight cash flow and anxiety about new or unfamiliar technologies.

In addition, both direct and customized rebate programs require either active customer or vendor involvement after the PG&E contact for cost effective measures to be installed. Additionally, vendors tend to focus on single items (or single categories) and rarely address all of a customer's cost-effective potential at once. This reduces the potential for energy savings in the small commercial market; implementing all of the low and no cost measures at one time provides a disincentive to implementing higher cost measures at a later time.

For all of PG&E marketing efforts - which translates into significant resources - very little electricity (kwh) and electric demand (kw) savings is achieved. Therefore, PG&E sought to increase the effectiveness of each site visit, by offering to install non-regressive or "permanent", long life-cycle, kw reducing measures at no additional cost to targeted small commercial customers in order to maximize the electricity and electric demand savings. Further, all cost effective measures could be installed all at once as a complete package.

How the Direct Installed Program Operated

The program was marketed through local merchant associations as the "Small Business Energy Tune-up", and was made available to PG&E A-1 commercial electric rate customers with "significant energy efficiency potential". In Bayview 100 small business were targeted, and only Bayview Merchant Association (BMA) members who had paid their membership dues were eligible.

In this way PG&E could secure BMA endorsement by promising new members since the BMA only had 70 paid members at the time, even though they had a mailing list of approximately 300 local businesses. PG&E also implemented the program in four additional neighborhoods in San Francisco with varying degrees of subsidy of the installed measures, targeting 100 businesses in each location. The intent was to determine the most cost effective level of subsidy.

In Bayview, the program was kicked-off by mailing letters to a list of BMA members from the BMA president announcing the Small Business Energy Tune Up being available to paid BMA members upon qualification (based upon being a A-1 electric rate customer with a required minimum energy use and conservation potential). The letter informed the BMA member that a PG&E representative would be stopping in within the next few weeks to discuss the program. With the business owners approval, an energy survey of the business was conducted on the spot if possible or, alternatively, a better time arranged.

The information was then evaluated to identify cost effective measures and a time was scheduled to meet and review the recommendations with the business owner. Following this, for the measures agreed to by the business owner (and the building owner if different), a contractor was procured to perform the work. Both materials and labor to install the measures are provided at no additional cost. After installation the work is inspected and a letter is sent outlining what measures were installed, what the cost of installation was (paid by PG&E), and the estimated annual savings one can expect.

PG&E contracted with an energy services company called DMC to provide for all program delivery and reporting including:

- 1) Mailing marketing pieces
- 2) Site visits to conduct surveys
- 3) Follow up review of recommendations with client
- 4) Installation of measures through use of sub-contractors
- 5) Inspection of contractors work
- 6) Information to business owners on results of participating in the program
- 7) Information to PG&E on program cost effectiveness

PG&E representatives conducted a random sample of inspections after the work was performed.

Direct Installed Program Evaluation

Given that the Bureau was not directly involved with the Direct Installed Program it is impossible to give a thorough assessment of its success. The following information has been provided by PG&E and DMC and provides interesting insights into the targeting of conservation programs for the small commercial market.

First, by targeting various neighborhoods and varying the degree of subsidy of the installed measures, some comparisons can be made as to what level of subsidy is most cost effective from a program participation rate perspective. In Bayview, where 100% of the installation cost was paid for by PG&E the utility PG&E had a participation goal of 75%. In addition, PG&E had a kw reduction goal of 1kw to 3kw per site, averaging 1.5kw per site. The participation goal was surpassed with 80% participation. Presumably, lack of interest, time, or lack of trust in the technology or program delivery prevented the other 20% of the businesses contacted from participating. DMC found that in areas where the subsidy was lowered only 20% (PG&E paid for 80% of all costs), the participation rate dropped to 30%. Given the level of effort to administer the program set up and site survey portion of the program, in DMC's estimation, a Direct Installed Program can only be cost effective when providing 100% of the costs.

One may conclude that lack of capital or working within a very tight cash flow is a major (if not the major) barrier to small businesses implementing conservation measures. Additionally, 20% of businesses will not participate even when all the costs are paid for - meaning that lack of time and other barriers (other than lack of capital) have obviously come into play. But, when the owner has to pay for 20% of the installation costs (resulting in very short paybacks to the business owner) the rate of participation dramatically drops off another 50%.

DMC also provided some interesting information on program evaluation criteria and analysis of overall program cost effectiveness from the utility's perspective. Program cost effectiveness criteria is based upon an avoided power cost of \$500/kw as mandated by the State PUC. That is, the conservation work that is completed at any one location, as well as for the total program is measured against an index of avoided cost for providing that power through conventional means. DMC estimates that the avoided power costs (costs avoided which would be required if a new power plant was built) are in reality much higher than the avoided cost mandated by the State, perhaps as much as \$1,800/kw. In DMC's estimation, when measuring the cost of a Direct Installed program (assuming a program design which provides 100% of the installed cost of measures) against an index of \$1,800, it is extremely cost effective.

APPENDIX C
YOUTH TRAINING WEATHERIZATION PROGRAM PROPOSAL

Titled
"Minor Home Repair Program"

MINOR HOME REPAIR PROGRAM

by
YOUNG COMMUNITY DEVELOPERS, INC.

SUMMARY

Young Community Developers (YCD) of San Francisco is proposing to train and employ up to 12 at-risk youth from the Bayview Hunters Point neighborhood to perform minor repairs with environmental and safety benefits in 400 homes of low-income residents of the neighborhood.

BACKGROUND

Opportunities in Energy Efficiency

Growing demands for cleaner air and the recent oil crisis are only two of the many factors prompting renewed emphasis on energy efficiency. Recent decisions by state public utilities commissions across the nation are stimulating investments of billions of dollars in energy efficiency by utilities (\$600 million in California). Utilities, including Pacific Gas & Electric (PG&E), are contracting this work to energy services companies who are in turn looking for people to perform the work. Studies in the Northwest and other parts of the country are showing shortages of qualified personnel. Further, the need to market, sell and provide services to the diverse population, particularly in California, is creating a real need for minority participation in a field largely populated by white males.

This is an opportunity for the youth, trades people, contractors and future college graduates of communities like Bayview Hunters Point. Developing (or obtaining) the training and experience now can provide the marketable skills needed to gain access to these opportunities.

Youth Unemployment

Youth unemployment is the most critical problem facing the Bayview Hunters Point community. The unemployment rate for people between the ages of 16 and 19 reached 50% for black teenagers in communities like Bayview Hunters Point, three times higher than for white teenagers.

As a result of few employment opportunities many youth become involved in illicit activities to meet their financial needs. The violence related to those activities continues to destroy the lives of the neighborhood's youth, particularly the young men. Providing meaningful options for youth is vital to stopping this process.

A major barrier to youth employment opportunities is a lack of basic skills training. Many youth in this community are handicapped by limited opportunities to explore and develop

specific skills and talents geared toward the work world. Further, many existing job training programs, while focussing on entry level skills, fail to provide career information to show youth how they can continue to develop their skills after the first job and climb a career ladder to a better life for themselves, their families and their community.

The Project Advisory Committee recommended a strong focus on youth ages 16 and 17 (though they also wanted older youth to be involved). Neither the San Francisco Conservation Corps nor the California Conservation Corps accept the 16 to 17 year olds. Therefore, an additional program to meet the needs of these youth is warranted.

YCD is currently operating several programs designed to provide the skills for entry level jobs in various fields. The Minor Home Repair Program would provide a needed link between unskilled youth and the construction work placement program now operating at YCD and create a stepping stone to the growing employment opportunities in energy efficiency.

The Project Advisory Committee also recommended training the youth to not only be employees, but to be employers. With business training, even if they decide not to run their own part-time businesses, it will make them better employees.

Energy Use, Housing Condition and Affordability

The condition and type of housing, unemployment and income levels have conspired to make Bayview Hunters Point the highest energy using residential community in San Francisco.

Per household, the community spends 40% more than households in other parts of San Francisco despite a 30% lower median income. Collectively, the 8155 households in Bayview Hunters Point expend approximately \$6.5 million for gas and electricity each year. This is not only a significant drain on local economic resources, it is a contributing factor to the housing affordability problem which strikes Bayview Hunters Point households especially hard.

This is caused by several factors prevalent in the neighborhood housing situation:

- 1) In contrast to other low-income neighborhoods, Bayview Hunters Point is predominantly (80%) single family homes. Single family homes typically consume more energy per unit than multi-family units of the same square footage.
- 2) Approximately 60% of the homes were built prior to 1949 when energy prices were low and few energy saving measures were included in the building design. 90% of the homes were built prior to the adoption of the California building energy standards.
- 3) Household occupancy is higher than the San Francisco average. This increases the energy demand per household.

- 4) High unemployment in the area has meant that people are home more often and using more energy.
- 5) The local economic situation has severely reduced family incomes and family's ability to perform home improvements. This impacts energy efficiency in two ways. First, poor maintenance significantly decreases the energy efficiency of a home. Second, because the community is cash poor, it was less able to avail itself of utility loan and rebate programs available in the early and mid 1980's. Though it received more help from the low-income programs, only 30% of homes in this neighborhood have been weatherized by all government funded and utility funded programs.
- 6) Further, low-income weatherization programs have limited funding for performing minor home repairs essential to the effectiveness of weatherization measures. Homes with more than \$200 in needed repairs are typically passed over for services.

Earthquake Preparedness

San Francisco is likely to experience a very serious earthquake in the next decade or so. Low-income communities like Bayview Hunters Point are at greatest risk for suffering long term, irreparable damage resulting from a major quake.

First, because of unemployment, household size and demography, larger numbers of residents are likely to be home at the time of a quake, especially if it occurs during working hours.

Second, because of income levels, it is less likely that residents have taken the basic precautionary measures to prevent injury due to falling objects and fire due to shifting appliances, particularly water heaters.

Third, because of a lack of economic reserves, being under-insured or failure to keep up on insurance payments altogether, they are less likely to be able to fully restore their lives to pre-quake levels. Low-income residents and the working-poor usually lack friends and family with extra resources to help in their recovery.

Fourth, housing in Bayview Hunters Point predates code requirements for earthquake safety leaving these homes vulnerable to even modest quakes.

Simple measures can reduce potential injuries and reduce the risk of fire during and immediately after a major earthquake. Strapping water heaters and securing bookshelves and other tall furnishings can significantly reduce the danger to occupants and the neighborhood as a whole.

Other Environmental Concerns

Because of the industrial and shipyard history of the area, asbestos, lead and other toxic materials pose serious health hazards. Evidence of the problem is the high lead levels in the blood of neighborhood children.

Though there is a high level of community awareness about toxics in the neighborhood, many residents are not yet aware that the problem is being compounded by toxic materials in their own homes. Most residents, particularly seniors, have yet to identify and remove toxic materials from their homes and, therefore, risk exposure and an increased possibility of fire.

To combat these hazards, households need assistance in identifying which materials are hazardous and information about how to eliminate or mitigate the hazard. For example, pointing out potential asbestos containing insulation on heating ducts gives the resident the knowledge and the opportunity to avoid disturbing or contacting the material, thereby reducing the risk.

In addition to identifying hazardous materials, some materials can be simply removed. Removal of paints, preservatives, herbicides, pesticides and cleaners which are no longer recommended for household applications will prevent future exposure. Removed materials will be taken to the City's Household Hazardous Waste facility located in Bayview Hunters Point.

OBJECTIVES

The objectives of this project are:

- (1) To educate young people on home energy conservation, home health and safety, and minor home repairs;
- (2) To enhance the energy efficiency, safety, comfort and earthquake readiness of 400 homes in the neighborhood;
- (3) To provide these services to seniors, single mothers, the physically and psychologically challenged, and low-income residents of Bayview Hunters Point;
- (4) To provide jobs for 12 Bayview Hunters Point youth, ages 16 to 21;
- (5) To provide supervisory experience for 2 adults;
- (6) To provide training for the youth in basic job skills and problem solving which will increase their opportunities for obtaining jobs in the future, particularly opportunities in the burgeoning energy field;
- (7) To provide business skills training to empower them to run their own small business;
- (8) To establish closer links between youths and Seniors;
- (9) To develop in the neighborhood the organizational capability to provide energy efficiency services and capture some of the new and future opportunities in this field.

The Minor Home Repair Program will compliment the efforts of existing home repair programs. The free services of the

weatherization programs and the Community and Home Injury Prevention Project for Seniors (CHIPPS) are stretched to deliver services citywide. The Minor Home Repair Program, will focus its services on Bayview Hunters Point and will offer services not available in the other programs, eg. cleaning the cooling coils on refrigerators. Though it is not possible for these programs to expand their services to include the simple energy measures and focus on Bayview Hunters Point (this was explored), they are interested in sharing referrals.

ORGANIZATION AND STAFFING

The project staff will include a full time Program Manager, a part time Office Assistant, two full time Crew Leaders and two sessions of six Crew each session. All staff will be under the direction of the YCD Executive Director. Additionally, this program will continue to be advised and supported by the Project Advisory Committee which includes members of the community, Pacific Gas & Electric and the Bureau of Energy Conservation.

The Executive Director will administer the contract and be available to resolve any problems between the Program Manager and the Crew Leaders. The Executive Director will also serve all public functions and liaison to other groups.

The Program Manager will supervise and provide all training and orientation for the Crew Leaders, schedule work for both crews and provide general management of the project. The Program Manager will also fill in when one of the Crew Leaders is sick or on vacation.

An Office Assistant will answer client inquiries, screen clients for eligibility, complete job request forms for each client, and schedule appointments.

The Crew Leaders will have skills in minor home repairs and supervising youth. They will preferably be residents of Bayview Hunters Point, be at least 23 years of age and be mature, responsible people, who will provide good role models for the participating youth. Crew Leaders will supervise a team of three youths, planning and scheduling their training and daily activities. Crew Leaders will be responsible for picking up materials, supervising all work and controlling the quality of the work performed by their crews. They will work with the Program Manager to arrange support services for any Crew needing such services, including child care, counseling, etc. The work will be divided among the Crew Leaders depending on their skills and time available. Crew Leaders will provide transportation for the youth between jobs and to the shop/office, and therefore must have a driver's license and be insurable.

Crew members will be residents of Bayview Hunters Point, 16 years to 21 years old and include young women, mothers, and school age youth, but with emphasis on young men 16 years and older. School age youth will work only in the afternoon to allow them to complete high school or get their high school equivalency diploma. If needed, they will receive services through the YCD tutorial program.

WORK PLAN

The Minor Home Repair Program will train and employ youth in two 24/25 week sessions. Members of the second group will be selected and brought in as the first crew are placed into jobs or other training programs.

Start-up

Prior to start-up of the Minor Home Repair Program, YCD and members of the Project Advisory Committee will begin with the recruitment of Crew members and Crew Leaders. They will use YCD's existing candidate lists and recruiting networks as well as post flyers and notify local churches and community organizations. Meetings will be held with key agencies which will provide referrals for home repairs. Outreach for services and client intake will begin. During the two weeks prior to the actual start date, the Executive Director, Program Manager, and Office Assistant will finalize the administrative systems, finalize the training arrangements, purchase start-up tools and materials. The Program Manager and the Executive Director will interview and select the Crew Leaders.

Crew Leader Training

After two weeks, Crew Leaders will begin with an orientation to the program and training performed by the Program Manager. The Manager will have identified three homes to begin as representative of the work which is to be done. Together they will discuss and perform the work and develop any additional guidelines for the work procedures as well as further define the limits to services. There will be special emphasis on how to train and supervise the Crew. During this week, the selection of the youth will be made by the Crew Leaders, the Program Manager, and the Executive Director. At the end of the week, the Manager will instruct the Crew Leaders on paperwork, materials purchasing, referrals, and personnel evaluation.

Crew Training and Support

All Crew training will begin with an orientation which will include Crew duties, skills to be learned, safety, quality control, Crew rules, and paychecks. The afternoon will be a hands-on introduction with the tools, materials and an in-class demonstration of the work to be done. Each youth will receive a training manual on the basics of tool use and minor home repair.

To prepare the Crew for the energy efficiency aspect of this work, a four-day training segment will be provided by Pacific Gas & Electric Company. This will focus on the principles, tools and practices of residential weatherization and provide hands-on practice. To prepare the Crew for the toxic materials aspect of this work, a training will be provided by the Solid Waste Management Program of the City and County of San Francisco. This will cover the identification and management of common household hazardous wastes.

Subsequent training will be in the homes of clients requesting service. The Crew will observe the work as performed by the Crew Leader. One at a time, Crew members will perform the work observed by the Crew Leader and other Crew members. Special attention will be given to safety, proper use of tools and materials, care for the clients' home and contents, and crew-client communications. As the youth gain experience and skills, they will take on work of progressively greater difficulty and complexity. Jobs will be rotated to ensure that each youth gains well-rounded experience in all types of work.

Eventually each youth will learn to estimate the labor and materials required for a job, supervise the other crew members in performing the work, and completing the work order forms.

Work Flow

Prospective clients will call or drop in. Referrals from other programs will be contacted by telephone by the Program Manager or the Office Assistant. The Office Assistant will use the client eligibility and work order list to discuss work to be performed. If the client is a property owner, the office assistant will schedule the work visit. If the client is a renter, the work visit will not be scheduled until the landlord is sent a letter with an owner work authorization and has signed and returned it.

The Program Manager will review the schedule for each week and assign crews to different jobs, filling out the Daily Crew Schedule. If a referral to another program should be made before work is performed by the Minor Home Repair Program then the Program Manager will initiate the referral.

Each day, each crew leader will review the schedule and pull the materials and tools. At the beginning of each work visit the Crew Leader will make sure that the client signs the eligibility and release of liability sections of the eligibility/work order form as well as the Utility Information Authorization Form. A Crew member will review the job order and improvement plans with the client before beginning the work (in the case of senior clients, this will foster the goal of positive intergenerational interaction).

During work visits, the Crew Leader will always be on site to supervise all work. The Crew Leader will provide instruction, answer questions, correct mistakes and solve special problems. The Crew Leader will inspect all work completed during the work

visit and will circle each completed job listed on the work order. The Crew Leader will inspect the work areas to see that they are left clean and household items are returned to their original places. The Crew Leader will also look for any additional energy conservation or safety jobs which could be performed by the program. If time remains and the client is present and approves additional work, the Crew will perform it. If there is no time to complete work requested under the original work order or additional work suggested by the Crew Leader, the Crew Leader will note the additional work in the work order form, and give the form to the Office Assistant for scheduling a new appointment.

At the conclusion of each work visit, the Crew Leader will provide the client with a "Client Comment Form" and a stamped envelope addressed to the Project Manager. The form will allow the clients to comment on their level of satisfaction with the work performed and the conduct of the crew. The form will also allow clients to request information on additional available services.

Outreach and Marketing of Services

There is significant demand for home repair services. Programs offering home repair services are generally overwhelmed with requests. This is to be expected given the housing stock and the income levels of many of the residents, particularly seniors, the physically and psychologically challenged and low-income members of the community.

The program services will be marketed in the following ways:

- (1) Client referrals will be received from several other organizations: the Seniors Center (across the street from YCD) and three existing agencies which provide home services city wide, including Bayview Hunters Point: (a) The Economic Opportunity Council which administers both the Low Income Home Energy Assistance Program (LIHEAP) and the State of California funded weatherization programs; (b) Save Energy Company which operates the utility supported low-income weatherization program; and (c) the Department of Public Health which operates an accident prevention program directed at Seniors.
- (2) Neighborhood and church groups will be utilized to announce the program through their newsletters and communications networks.
- (3) Fliers will be distributed in the neighborhood and through various community organizations. Outreach workers at the Seniors Center will be oriented to the program and contacted periodically.
- (4) Door-to-door canvassing will be used, if necessary.

Materials will be developed for distribution at senior centers, mailing to neighborhood groups, and door-to-door distribution. Special efforts will be made to bridge the historical alienation between youth and seniors to build the trust needed to allow youth to enter their homes. The Crew will go to the Senior Center to meet seniors and talk about the program. This will be a win-win situation for both groups when the barrier of fear is broken down.

Quality Control and Program Evaluation

Maintaining overall quality control of the work will be the responsibility of the Program Manager. The Program Manager will review all client comment forms and discuss the comments with Crew Leaders. The Program Manager will also randomly telephone clients who did not return comment forms to make sure they received the forms and to discuss their comments directly. The Program Manager will conduct random inspections of a certain percentage of the homes (at least 5%) to review the work done under the supervision of each crew leader. Based on client comments or random inspections, the Program Manager may order a crew to return to a job site to complete or redo any unsatisfactory work. The Program Manager will inspect the results of job call-backs.

Crew members, Crew Leaders, and the Program Manager will meet periodically to evaluate the techniques, the materials, tools, clients and their on-the-job relationships with each other. The Program Manager and the Executive Director will prepare an evaluation of the overall effectiveness of the program using the following evaluation tools detailed above: (1) On-site evaluation of youth skills; (2) Client comment forms; (3) the last week evaluation by youth and Crew Leaders; and (4) Results of follow-up client interviews by the Program Manager.

Additionally, the total energy saved and dollar energy savings per average home from the program's energy conservation work will be estimated from the results of the energy billing information. This will be done by obtaining an 18 month billing history six months after the work is completed. This will allow a before and after comparison of two same-season six month periods. PG&E and the City's Bureau of Energy Conservation will assist with analysis of the information.

YOUTH DEVELOPMENT

The youth involved in this program must be provided every encouragement and opportunity to succeed in both the short term and the long term. To break the cycle of poverty, unemployment and illicit activities, The Minor Home Repair Program must not only provide financially viable and meaningful work in the short term, it must provide marketable skills and a clear path to an attractive career.

This program will provide training and certification of the

skills attained, various support services, information and on-site exposure to potential careers in the energy field and post-training placement assistance.

Skills Development

Each Crew member will be given a personal "Skills Development Record". As the Crew member demonstrates the ability to explain and practice safety procedures, and to perform one of the home repair jobs independently, the observing crew leader will initial and date the youth's form alongside the skill. These forms will serve as a record of the achievements of the youth. When a youth leaves the program, he or she will get a copy of his form to show prospective employers.

Beyond the training in minor home repair, additional training from PG&E and the California Conservation Corps will be offered to selected Crew members. For example, the California Conservation Corps provides a six week training program in basic construction skills, energy efficiency (commercial and residential) and renewable energy for youth ages 18-23. Graduates will earn a Vocational Certificate from Sierra College. This training can be arranged at a minimal cost of \$4/day/trainee for experienced Crew members.

Self-Employment Skills

The youth will learn the cost of materials and tools used on the job. They will take turns interfacing with the home repair client. They will learn to estimate materials and labor costs of the jobs and incentives will be provided to reward accurate estimates. Then the youth will "bid" on the jobs. The successful bidder will supervise the job, and be rewarded for completing the job on time and within budget.

The youth will receive special workshops on the quality and prices of tools and materials, how to market home repair services, as well as the laws, licenses and regulations surrounding owning and operating a small business delivering residential services.

Career Information

Through field trips and additional training the youth will learn about the attractive positions available in the energy and environmental fields and they will be given the tools to access those opportunities.

Field trips will include several PG&E facilities: the power station in Hunters Point, the Technology Center, the research facility in San Ramon and the renowned training center in Stockton. Additional trips will include alternative energy sites and local businesses specializing in residential and commercial efficiency. There the youth will meet the people performing the work and discuss with them their daily tasks and salaries. The youth will participate in problem-solving exercise similar to real situations encountered on the job.

The youth will be introduced to the training and educational opportunities available through the California Conservation Corps, various community colleges and CSU at Sonoma.

Support Services

YCD will provide the support needed to retain Crew members through the completion of the program. Crew members will participate in self-esteem building exercises help during the periodic crew meetings. YCD's other programs can provide direct personal counseling and tutorial services. Paid tutorial time will be available to part-time crew members who are in high school or taking equivalency courses. Additionally, YCD has an effective referral network to other professional services when needed.

Placement

YCD has in place a job referral program to existing local businesses and the construction trades. The Program Manager will assist trainees in utilizing that program as well as locating opportunities in additional training programs (eg. apprenticeship test preparation) or local businesses doing energy related work.

Trainees will receive a letter of recommendation written by the Program Manager and will receive assistance in writing an appropriate resume.

Incentives

A combination of gifts of hand tools, bonuses and wage raises will be used for rewards. Some of the achievements to be rewarded are: perfect attendance, passing the G.E.D., proficiency in specific skill areas.

BUDGET

The program provides housing repair and safety services for 450 households, full time employment and training for 2 crew leaders, and employment and training in a field with a bright future for up to 12 youth in the Bayview Hunters Point neighborhood (this assumes an average participation per youth of six months as experienced by the Berkeley program). The total budget is \$211,426.

Small Crews

One of the key aspects of this program is using at-risk youth to perform the work rather than youth who already have the support and the focus needed to stay in school, find a job and work their way to a better future. The at-risk youth are more difficult to reach and need extraordinary support. Crew size has been kept small to provide close supervision and guidance for the youth. Over 1700 hours have been budgeted for training, career education, self-esteem workshops, group meetings and tutorial support.

Wage Rates

Youth representatives on the Advisory Committee have insisted that the wage which meets the basic needs for at-risk youth is \$7 per hour, significantly above minimum wage. While this will not be a starting wage, this project has been budgeted for an average hourly Crew wage of \$7 per hour. Wage increases after probation and for achievement will be recommended by the Crew Leader and decided by the Program Manager and the Executive Director.

Crew Leader wages are budgeted at an average rate of \$11 per hour. Increases after probation and for performance will be decided by the Program Manager and the Executive Director.

Paid Hours

Crew positions will be paid during training sessions, crew meetings, self-esteem exercises, field trips and school tutorial sessions.

Benefits

All positions will receive 11 paid holidays. After 90 days probation, full time personnel will accrue 8 hours/month sick leave and 6.7 vacation hours/month. Part time personnel will accrue those hours on a pro-rated basis. Medical insurance is provided for all qualifying employees.

Insurance

This project will carry General Liability Insurance and other policies needed for this work.

Office

YCD's existing facility cannot accommodate this project. The current plan is to utilize space at the Bayview Hunters Point Foundation on Third Street. It has classroom space with a blackboard and chairs, restroom facilities, a separate space for keeping personal belongings, and a storage space for materials. It has available desks, telephones and file cabinets. Because two other youth programs are being run from this site, it may be possible to jointly support a full time office assistant.

Tools and Materials

Necessary field materials include identifying coveralls and badges as well as dust masks, safety glasses and gloves. The tools budget includes the tools from Berkeley's CESC Minor Home Repair Program list plus replacement tools and supplies, eg drill bits. The budget amounts for tools and the material improvement measures is based on an average budget for similar programs at Berkeley's CESC.

APPENDIX

- A. Sample Marketing Flier
- B. Job Descriptions
- C. Client Eligibility and Owner (Client) Work Authorization Form (side 1), Work order/inspection form (side 2).
- D. Owner (Landlord) Work Authorization Letter and Form
- E. Utility Information Authorization Form
- F. Daily Crew Schedule
- G. Client Comment Form
- H. Skills Development Record
- I. Support Letters
- J. IRS Status
- K. Financial Statement
- L. Board Members
- M. Existing Repair Services
- N. Project Budget
- O. Timeline
- P. Pre-Test/Post-Test
- Q. Crew Rules
- R. Crew Contract
- S. Incentive Program
- T. Training Schedule - Week #1
- U. Site Visit Protocol
- V. Household Hazardous Waste Procedure
- W. Hazardous Waste Absentee Data Form

APPENDIX D
ENERGY EFFICIENT HOUSING DESIGN RECOMMENDATIONS

ENERGY EFFICIENT DESIGN RECOMMENDATIONS FOR HOUSING CONSTRUCTION PROJECTS IN BAYVIEW

SUMMARY

An important element of community and economic development is affordable housing. Affordability has increasingly come to include the energy costs of housing. The following recommendations seek to lower the operating costs of new housing through energy efficient design, and to contribute to the long term affordability of housing in Bayview.

Energy costs impact low income communities more than anyone else. Low income residents pay a larger percentage of their incomes for energy costs. Low income residents generally have far less discretionary energy use to eliminate in response to increasing energy prices. Further, with less discretionary income, home energy improvements are often too expensive.

In Bayview, residents spend approximately \$6.5 million a year on housing energy costs. Since the community imports all of its energy supplies, every dollar spent on energy leaves the community, constituting an enormous drain on the local economy. Energy conservation and the use of local renewable energy technologies can help retain dollars in the community that would otherwise leave in the form of energy purchases. Further, the dollars retained in the community will recirculate and generate new economic activity. At the household level, energy conservation can reduce the unequal economic burden caused by disproportionate energy costs, thus increasing the amount of discretionary income an individual has available to meet other needs.

A large addition of new housing and commercial buildings is anticipated in Bayview over the next ten years. New construction offers the opportunity to incorporate energy efficient technologies and design into buildings when it is easiest and most cost effective. By building in energy efficiency during initial construction, the owners and the general community will reap the benefits throughout the life of the building.

The State California Residential Energy Efficiency Standards require both mandatory measures (including ceiling, wall, and duct insulation, and minimum efficiencies for space and water heating equipment), and that the building's predicted annual energy use meet a designated energy budget for space heating and water heating. Building envelope measures are adequately addressed by the State Standards, and therefore are not included here. The following recommendations either go beyond the State Standards, or address items that are not covered by the State Standards.

I. ENERGY EFFICIENT EQUIPMENT AND APPLIANCES

Concept

Efficient heating equipment and electric appliances can save a significant amount of energy and reduce energy costs over the equipment typically installed. Higher efficiencies and lower operating costs can be achieved by using:

1. Natural gas-fired heating equipment such as furnaces and gas fired water heaters, rather than electric resistance equipment such as electric baseboard space heating and electric water heaters.
2. Equipment and appliances with better levels of performance, especially refrigerators and freezers.

Recommendations

- A) Install natural gas fired space heating equipment in all residential housing units except in the following cases:
 1. Where electric supplied space heating is used as a backup to a heat pump.
 2. In minor and incidental areas requiring heat in isolated locations which are more economically served by electric space heating or which are impractical to serve with a gas fired system.
- B) Install gas fired water heating equipment with electric ignition in all residential buildings except in small areas requiring heat in isolated locations which are impractical to serve with a gas fired system.
- C) Where clothes dryers are supplied by the builder, install energy efficient natural gas fired dryers which have moisture sensors in the drum that will sense dryness and automatically shut off.
- D) Install natural gas fired range top burners.
- E) Only install refrigerators/freezers that have efficiencies of 12% over the prevailing standards (e.g. State of California requirement) or better.

- F) Install energy efficient lighting fixtures, devices and controls
1. Use efficient fluorescent lighting or other lighting of equivalent efficiencies in interior common space of all residential buildings.
 2. Install lighting fixtures that can accommodate compact fluorescent light bulbs.
 3. Use only high pressure sodium, metal halide (when color rendition is a concern), or other lighting of equivalent efficiencies for all outdoor lighting which is installed on or as part of a building or its parking area.

II. PASSIVE SOLAR DESIGN

Concept

Passive solar space heating provides sunlight and heat to living spaces primarily through south facing windows. No mechanically assisted means are used to collect or store the solar energy. Solar energy is collected directly in the living space and stored within the construction materials in the room. San Francisco, and especially Bayview, have ample sunlight available for utilizing passive solar. When passive solar features are properly integrated into a building design, they not only permit energy savings, but can also provide architectural amenities that make the building more pleasant to residents.

In multi-family housing, relatively small passive solar systems utilizing direct gain windows and sun spaces can make significant contributions to space heating needs, and will also provide comfort, daylighting and amenity.

Recommendations

- A. Building orientation and form should be encouraged to maximize the southern exposure
- B. "Through" units should be encouraged over single aspect units to improve natural ventilation.
- C. Single aspect units with a South, Southwest, or Southeast exposure should be designed for maximum passive solar heating.
- D. Through units with a southern exposure should locate the main living area on the south side of the building and be designed for maximum passive solar benefit.

III. SOLAR DOMESTIC HOT WATER SYSTEMS

Concept

In San Francisco, solar hot water systems can supply 60% of residential water heating needs. The systems employ collectors mounted on building rooftops and a conventional water heating system installed as a backup.

At this time, the economics of solar hot water systems are not favorable. However, as the cost of energy rises and the price of systems declines as a result of better manufacturing technologies and simplified installations, the economics will become much better.

Recommendations

The following guidance is offered to facilitate the future addition of solar systems:

- A. Solar access to rooftops. Building heights should permit rooftop solar access to most buildings between 9am and 3pm throughout the year.
- B. Roof construction. Roofs should be either near flat or south facing, and be of sufficient strength to support the collectors.
- C. Plumbing. Developers could incorporate the plumbing necessary for a future solar system. This includes extra pipe connections at the central hot water system and piping through to the roof for the future collector hook-up.

IV. PHOTOVOLTAICS

Concept

Photovoltaics are semiconductor devices that produce electricity directly from sunlight. With current manufacturing technologies, photovoltaic systems produce electricity at a cost far above utility supplied electricity, and are thus only used in remote applications. However, there is a reasonable possibility that photovoltaics will be able to produce cost-effective electricity in the next 10 to 20 years. Bayview in particular, offers good sunlight availability for the use of photovoltaics. It would be advantageous to prepare for the future availability of photovoltaic electricity production.

Recommendations

The following guidance is offered to better accommodate future use of photovoltaics.

- A. Solar access to building rooftops. Building heights should permit rooftop solar access to buildings between 9am and 3 pm throughout the year.

- B. Roof orientations. Roofs of both residential and nonresidential buildings should as often as feasible be either near flat or on south-facing slopes. This will allow for maximum sunlight availability to any roof solar collector array.

V. INDIVIDUAL METERING

Concept

Individual metering of tenant energy use provides an incentive for tenants to use energy wisely. With individual metering, each tenant has a meter that records gas or electricity use. In the alternative, master-metering, a single meter records energy used by the entire building. The cost of energy can be hidden in the rent, and building tenants have little incentive to conserve, and do not receive the benefits of their conservation efforts.

Recommendations

- A) Provide for individual metering of electricity for all residential units in multi-family buildings.
- B) Provide for individual metering of natural gas for all residential units where both individual gas-fired space heating and natural gas-fired water heating are present.

VI. NATURAL COOLING

Concept

Multi-family buildings can use windows for natural ventilation to displace mechanical ventilation in common areas like corridors. Fresh air in San Francisco is at a suitable temperature for daytime cooling and ventilation for 93% of the year.

Recommendations

- A) Design for non-mechanical ventilation for all common areas in residential buildings, except where prohibited by code or where security considerations or other serious design considerations make it impossible.

Where mechanical ventilation is provided to internal common areas, it must be equipped with a time switch or occupancy sensor or similar device to switch off ventilation when not required.

- B) Encourage building orientation such that the long axis of the building is pointing west or northwest in order to facilitate natural ventilation.

VII. RECYCLING

Concept

In 1986, 865,000 tons of garbage were generated in San Francisco. Presently, the city recycles 25 percent of its waste. In an effort to extend the life of our landfill and reduce costly transportation of waste to the landfill, the city has adopted a recycling goal (as stated in the 1983 County Solid Waste Management Plan) of 35% by 1996. Recycling saves energy and water, reduces air and water pollution and saves precious resources. New multifamily buildings can provide community recycling services and all new residential units can be designed to optimize the convenience of recycling for occupants.

Recommendations

Space where recyclable materials could be stored should be provided in or outside the building whenever space is being provided for trash. The intent is to provide the same convenience for storage, disposal or pick up of recyclables as will be designed for trash. For example, kitchen designs for accommodating trash should also accommodate recyclables, and where chutes are provided on each floor of a building for residents to dispose of trash, then separate chutes should be provided for recyclables.

VII. BUILDING SYSTEM OPERATION AND MAINTENANCE

Concept

How occupants use a building and how building systems are operated have a large impact on the building's overall performance. The following recommendations are for multi-family buildings.

Recommendations

- A) An operation/information manual should be made available to the building manager to include:
 - o Information on all building energy using systems
 - o Information on required routine maintenance
- B) An information manual should be made available to the original building occupants to include information on efficient use of occupant controlled equipment.
- C) A building inspection of all energy using systems should be conducted six months after the building has been in use to ensure that all systems are operating correctly and as designed.

APPENDIX E

**Article from "Race, Poverty and Environment" newsletter
on Neighborhood Energy/Economic Development Project**

Race, Poverty & the Environment

A newsletter for social and environmental justice

Volume II, Number 2

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Summer 1991

The naive man who flies directly toward the sun will not be able to see his own shadow.

-- Robert Bly, Poet

Energy and Air Pollution are Social Issues

by Lily Lee

Poor people and people of color are benefiting the least and paying the most for this society's wasteful dependency on fossil fuels and nuclear power, and from the resulting air pollution.

Suffering at every step of the fuel cycle. From the time oil is taken out of the ground in Alaska in the land of the Gwichen to the refining process in North Richmond to the final combustion of the oil on the freeways through West Oakland,

>> see POOR PEOPLE, page 18

Hydro-Electric Power and Flooding of Indian Lands

by Ann Stewart

Four hundred miles north of the Great Lakes, James Bay straddles the border between the Canadian provinces of Quebec and Ontario. For 5,000 years, the Cree and Inuit people have lived in this region. Hydro-Quebec embarked on an ambitious plan to dam and divert to five of Quebec's rivers to produce electric power for cities as far away as New York. The following article reports on ecological devastation to the region, and growing opposition to the current phase of hydroelectric development.

The cry, "Save James Bay!" is being heard more frequently throughout the northeastern United States and Canada as a growing grassroots movement takes shape to save northern Quebec's most pristine wilderness from further hydroelectric development.

The Northeast Alliance to Protect

James Bay (NAPJB) is an eight-month-old network of human rights advocates, students, environmental activists, and other concerned citizens scattered across New England and New York. Its purpose is to inform the public

and the press, as well as state and federal legislators, about the James Bay project and to promote regional strategies that will unplug the northeastern U.S. from reliance upon electricity imports from Quebec. The Alliance has produced a 32-page publication written by Canadian and U.S. activists, as well as a video on the problem.

Power companies in New England and New York already have contracts to buy power from government-owned Hydro-Quebec, the region's largest employer. Activists want to rescind these contracts and prevent future agreements. NAPJB contends that money invested in energy efficiency and alternatives, coupled with more aggressive demand-side management by regional utilities and Hydro-Quebec, could easily meet the electricity needs of the northeastern U.S.

Hydro development in James Bay began in the 1970s. Phase I, largely completed by 1985, dammed and diverted five of Quebec's major rivers, flooding 4,400 square miles to create vast reservoirs. No provincial or federal environmental assessment was ever required or undertaken by regional or national authorities.

Twenty years later, the devastation is evident. Critical habitats for caribou have been destroyed; migration routes and staging areas for North American waterfowl have been

>> see JAMES BAY, page 14

Special Issue on ENERGY

- Hydro-electric Power & Exploitation in Quebec
 - Energy and Air Pollution as Social Issues
 - The Automobile & Inner City Abandonment
 - Uranium Mining on Indian Lands
 - Weatherization and the Poor

In February of this year, President Bush's National Energy Strategy was released to the American public from Washington, DC. The Strategy identifies no specific author or agency responsible for the contents, nor does it take into account the social justice aspect of energy policy planning.

For example, the NES missed an opportunity for addressing low-income weatherization policies. People who are transient or homeless usually have fewer options and less access to information regarding energy rebates and other programs. These individuals and their families fall between the cracks of practically every policy and program that is enacted in this country. Yet the halfway houses, shelters and other public buildings these people occupy are among the most energy inefficient.

This issue of *Race, Poverty, & the Environment* puts the spotlight on energy. When I look at the title of this newsletter on the one hand, and think about energy on the other, the connections become apparent. RACE: people

of color in this country have been largely absent from arenas where energy policy decisions are made, although those decisions have a direct impact on them. POVERTY: the poor must spend significantly more of their income on energy than the non-poor.

ENVIRONMENT: the natural resources necessary to produce energy are often located in or near

areas occupied by poor and/or non-white populations, particularly Native Americans. The extraction and production of energy, and the waste generated from these activities, has adverse effects on the physical environment and the nearby residents.

These are some of the reasons people of color and the poor must take a closer look at how energy policy is developed. Who are the people making the decisions? What are some methods local activists and citizens can use to make their needs known? Are there alternatives to the standard energy supplies?

Inside this issue are articles that examine these and other aspects of the

energy debate. We look at energy efficiency programs in low-income communities, how local community development organizations can become and are becoming key participants in local energy issues, and why it is important for low-income people and communities of color to organize and become active in energy policy in their areas. There is an examination of the abandonment of the inner cities to accommodate suburban sprawl and the automobile (a subject with which I identify since my first home in a predominantly African-American part of Chicago was torn down to make way for an expressway). There is an

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Recognition of the connection between social justice and environmental issues can help us develop a sound national energy policy.

Thinking Globally, Acting Locally:

Conservation and Economic Development Join Hands in Bayview

by Christine Vance and Abu Baker

There are links between social justice, local economic development and energy conservation. For example, low income people pay the highest proportion of family income to heat and illuminate their homes. Likewise, small neighborhood businesses see a higher proportion of their operating costs spent on energy purchases. Energy conservation can impact this inequality by reducing energy expenses for residents and local businesses. Further, conservation programs can increase the demand for local goods and services and lead to the creation of new local job training and employment opportunities. In this way, neighborhood-based energy conservation programs can support local economic development.

The Bureau of Energy Conservation of the San Francisco Public Utilities Commission, is working with the Bayview Hunter's Point community, and the local utility, Pacific Gas & Electric, to develop and promote a package of neighborhood energy and economic development programs. The project grew out of previous energy planning efforts in 1988 in which the Bureau worked with members of the Economic Development Subcommittee of the New Bayview Committee, and with the Department of City Planning to identify ways in which energy efficiency might service the needs of the community. The New Bayview Committee functions as an umbrella group for a large number of local community organizations. As a result of those efforts, the Bureau, with the assistance and input from the community and the Department of City Planning, developed an energy plan that provides a comprehensive menu of strategies that use energy management as a local economic development tool.

Bayview Hunter's Point is a low-income, predominantly African American neighborhood in San Francisco. The mixed-use district is approximately 3,000 acres and has a population of 21,000. Bayview Hunter's Point residents pay residential energy bills 40% higher than the city average, although the median family income is almost 30% lower. This inequity will only worsen with expected energy price escalations in the coming decade.

Various factors have contributed to the creation of such social inequity. The national shift from an industrial to a

service and information based economy have contributed to economic displacement during the 1980s. During the 1960s, manufacturing accounted for 40% of the jobs in Bayview Hunter's Point, many filled by local residents. From 1970 to 1980 there was a large reduction in employment due to the decline in the shipping industry. The economic situation has been further exacerbated by the recent recession.

Most inner city residents would not consider energy or environmental issues as one of their primary concerns. In fact a socioeconomic profile of many inner city areas would suggest that many residents view immediate health, food and safety issues as their primary concerns.

Yet, energy costs impact low-income communities hardest. Low-income residents pay a larger percentage of their incomes for energy costs. Low-income residents generally have far less discretionary energy use to eliminate in response to increasing energy prices. Further, with less discretionary income, home energy improvements are often too expensive.

The combined forces of energy inefficient homes, the unequal energy burden, and the lack of appropriate energy education and assistance programs, have a compounded impact on the community economic well being. In Bayview Hunter's Point, annual energy expenditures currently average \$24 million, with residents spending approximately \$6.5 million a year on housing energy costs alone. Since the community imports its energy supplies, every dollar spent on energy leaves the community—constituting an enormous drain on the local economy. Energy conservation and the use of local renewable energy technologies can help retain dollars in the community that would otherwise leave in the form of energy purchases. Further, the dollars retained in the community will recirculate and generate new economic activity. On the household level, energy conservation can reduce the unequal economic burden, thus increasing the amount of discretionary income an individual has available to address other primary and secondary needs.

The present project, entitled the Neighborhood Energy and Economic Development Project, marks the beginning of implementation of the energy plan. It began with the estab-

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lishment of a Community Advisory Committee to guide the design of the programs to best meet the needs of the community. This Committee consists of key interested individuals from the community which were nominated by local leaders.

The project has two main goals: one, to improve the energy efficiency of the community, thereby hopefully reducing the amount of money leaving the neighborhood each year in the form of energy expenditures, and two, developing and promoting community-based energy efficiency programs which also serve economic development needs and provide for the greatest benefit to the local economy.

Program designs are being developed in three areas: Youth Training and Home Weatherization, Small Business Energy Assistance, and Energy Review of New Housing

Construction. In an effort to use local resources to address local needs, the Youth Program links youth training to weatherization and minor home repair. The Bureau is working with Young Community Developers, a neighborhood youth employment services provider, and PG&E to determine how weatherization programs and services can address job training and employment for youth as well as provide valuable home improvement services for seniors in the neighborhood. A Youth Advisory Committee is participating in program development.

An important element of community and economic development is affordable housing. "Affordability" has increasingly come to include the energy costs of housing. Bayview Hunter's Point has a much higher percentage of home owners than the city as a whole, and over 64% of these homeowners are African American. The project's housing component is intended to provide information on housing energy issues and prepare appropriate energy efficient design and construction guidelines to lower energy costs in new housing construction projects.

The Small Business Energy Assistance Program includes a series of

energy educational seminars for small businesses in the area. All support services required for the seminars are provided by businesses or individuals from the community. The program includes training and promoting minority-owned businesses in the energy management field. The program is being coordinated with PG&E small businesses programs being offered which provide free energy services to small business in Bayview. It is hoped the education being offered will better ensure that Bayview businesses are able to take advantage of the technical and financial opportunities being provided by PG&E and other agencies to cut business energy costs.

The Bayview Neighborhood Energy and Economic Development Project is targeting lowering the costs of living and doing business in the community, job training and employment for neighborhood youth, as well as improving community-wide energy efficiency. These results are important, but so is the process. Community participation is a large component in all program development and implementation phases. In this way the program fosters ownership of local energy programs while educating and empowering neighborhood residents. The Bayview Energy and Economic Development Program can serve as a model for how local energy planning initiatives can contribute to a community's economic well being and be supportive of a range of other community development goals. It can also serve as a demonstration of sharing the economic benefits of energy programs with low-income residents that need it the most. Hence, community energy management can serve the wider economic strategy as well as being a valuable end in itself. Community groups might request their local utility companies and governments to explore the possibility of implementing similar neighborhood-based projects.

Christine Vance is the project manager for the Neighborhood Energy Economic Development project in Bayview Hunter's Point. Abu Baker is a summer intern working with Ms. Vance on this effort.

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property, build housing, undertake economic development, provide education and job training. From 1970 through 1990, CDCs built more low income housing than the federal government. During the 1980s, despite hostility from Washington, these groups thrived, and new ones were established. Today there are 1500 to 2000 such organizations around the country, showing surprising vitality and strength.

In the light of the need for urban energy transformation, new functions of community development corporations could be: energy education and information; urban agriculture, canning, and other local food processing enterprises; businesses related to weatheriza-

Strengthening our understanding of the connection between social justice, energy and transportation issues may encourage effective collaboration between environmental and social justice movements.

tion, heating, air conditioning; retraining; encouragement of energy efficient new housing construction, including advocacy of compact urban land use, energy efficient location decisions; diversifying recreational opportunities, using school buses rather than cars; developing car and van pool systems.

Recognition of the connection between social justice and environmental issues can help us develop a sound national energy policy. It can also assist inner city communities to reclaim and restore forgotten urban neighborhoods. Advocates of social justice should pay more attention to the National Energy Policy debate. Strengthening our understanding of the connection between social justice, energy and transportation issues may encourage effective collaboration between environmental and social justice movements which all too often in the past found themselves at odds.

EPILOGUE

YOUTH TRAININGWEATHERIZATION PROGRAM UPDATE

Titled

"Minor Home Repair Program"

MINOR HOME REPAIR PROGRAM UPDATE

INTRODUCTION

In November of 1991, the Bureau of Energy Conservation (BEC) had initiated a funding search for the Minor Home Repair Program (MHRP) to be operated by a community organization, Young Community Developers (YCD). In the following 18 months over \$270,000 were committed by the local utility and various agencies and foundations (nearly 30% over the originally estimated \$211,000 first year budget). In April of 1993, the program began training the first group of six youth and, by the writing of this Epilogue in June, dozens of homes had been repaired with an enthusiastic response from the clients served.

The successful funding search, the program setup, and the initial operation of the MHRP generally followed the strategy and design described earlier in this report. There



were, however, numerous challenges which required changes to the original plan. This Epilogue presents the salient points of the process: the funding search, the funding sources, setting up the program, and the initial operation of the program. The report ends with a list of the lessons learned and a summary of the program's results.

SUCCESSFUL FUNDING SEARCH

Though the search for funds was conducted primarily by BEC staff; the YCD Board, and timely social circumstances also played key roles in achieving the funding goals.

BEC's commitment

BEC, as an agency of city government made a commitment to invest the resources needed to locate adequate funds for this project. BEC not only lent technical expertise and provided credibility to the MHRP, it also provided over 500 hours of personnel time

to locate and acquire funds. Because the MHRP was originally the result of BEC's initiative and YCD was already fully occupied maintaining existing programs and developing new programs, BEC performed the majority of the funding search effort: researching grantors at the Foundation Center, contacting potential grantors, developing further program details, acquiring back-up documentation, writing and producing proposals tailored to the specifics of each grant application, preparing meeting materials, appearing at meetings, and following up grant request responses.

Bureau staff used professional and personal connections to identify and contact grantors, even attending environmental and economic development conferences to meet foundation representatives.

Young Community Developer's network

The Bayview Hunters Point community has a complex network of ties among organizations, families, City employees, and many other institutions in San Francisco. The commitment of the people in those organizations to help the Bayview Hunters Point community was key to the successful funding search. The YCD Board utilized this network to connect Bureau staff with those individuals in two ways. The Board hosted a lunch meeting of key community leaders and friends in other City agencies to present the program and discuss various funding sources including: the Private Industry Council (PIC), Community Development Block Grants, the San Francisco Foundation, and the Mayor's Office. This meeting served to rally support as well as provide insights about the approach to take with each potential funding source. Also, the Board President met with individual community leaders, often over lunch with Bureau staff invited.

Social circumstances

While youth services are always of general interest to foundations, youth became a greater focus after the April 1992 riots in Los Angeles. In two cases grantor staff stated that the decision to fund the MHRP was a direct result of the riots. It is unclear to what extent the riots played in securing other funding, some of which had been in process beforehand; however, only \$42,000 in donations had been pledged before the riots, and \$230,000 were committed in the months afterward.

A well developed proposal

The proposal was developed to a significant level of detail. For example, all organizations that might be involved in the coordination, outreach, training and other components had already been contacted, solicited for support letters and consulted to develop an outline of the working relationship. Additionally, paperwork needed for operating the program was developed in draft form: job announcements, flyers, a brochure, tool lists, materials lists, and work orders. This made proposal writing easier and improved the confidence of grantors that the MHRP was ready and able to operate.

A video

BEC had arranged for a video taped discussion of the need for the MHRP by members of the community's Project Advisory Committee. The tape was to be used for promoting the MHRP to funders. Many staff hours were spent in viewing the tape with YCD Board members, locating editing equipment (to transfer from 3/4" broadcast to VHS format), organizing the segments and editing. Unfortunately, in the end, this was not very useful. The quality was marginal, one funder said it made no difference, other funders said they did not accept tapes. BEC quit offering the tape.

FUNDING SOURCES

It had been expected that the MHRP would be of interest to a variety of funding sources because of the broad spectrum of interests it represents: youth training, energy efficiency, toxics, water efficiency, economic development, senior services, safety services, and practical skills training. Each potential funding source would have its own specific interest: the utility in energy efficiency, the City in youth services, and various foundations each with their own interest area. The strategy was to piece together funding from all of these interests to make a whole program.



The Mayor's Office

As expected the Mayor's Office was interested in assisting youth in the Bayview Hunters Point neighborhood. A key staff person in the Mayor's Office was familiar with the host organization, YCD, and knew of the YCD's problems. He helped YCD get a small technical assistance grant for organizational development which would strengthen YCD's ability to manage a program like the MHRP. This assistance was important to building confidence in YCD's capabilities and played an important role in securing funding from all other funding sources.

The utility.

The Pacific Gas & Electric Company was interested in the community, in the youth and in the energy component of the program. They first agreed to provide a four-day weatherization training at their center in Stockton, CA (including room and board). For cash donations by the utility, the MHRP would have to compete with other programs elsewhere in the PG&E territory. A representative thought funding was possible but nothing larger than \$50,000. He offered one other possibility; if the company decided to

expand its power plant located in the community, then significant funds would be available for community projects. The MHRP would have to wait until the California Public Utilities Commission approved the expansion (which now appears unlikely).

Following the Los Angeles riots, the Los Angeles electric utility, SoCal Edison, had lost a significant portion of their distribution system and customer base. Therefore, PG&E decided to provide significant funds to urban youth programs in hopes of preventing a similar occurrence in their territory. Since the MHRP was already developed and we were actively lobbying PG&E, the utility decided to fund the program for \$100,000.



The Private Industry Council (PIC)

The local PIC is especially interested in programs serving African-American males because they have consistently fallen short in achieving their goals for that group. Yet, the \$29,000 request was initially turned down; PIC staff cited a reduced budget and a problem with a previous YCD program. However, individual PIC members were interested in the MHRP. One PIC member who worked in the Mayor's Office offered to help YCD strengthen its organization. Another connected YCD to a private foundation which subsequently funded the program. Additionally, ten months later, after the PG&E funds were committed, PIC took the previous year's unspent funds and granted full funding to YCD.

Private foundations

Private foundations are primarily interested in the youth component of the MHRP. Environmental foundations were somewhat interested in the program, but they considered the program costs to be too high. One influential representative stated that the program would be difficult to fund because of the low ratio of one supervisor to three trainees. He compared that to the conservation corps, which is also "environmental" and uses one supervisor for ten trainees. Because the low supervisor to trainee ratio was essential to the success of the program's indoor residential services, (unlike the conservation corps' outdoor construction/landscaping work), the funding potential appeared bleak.

What initially succeeded with private foundations was the aforementioned referral aided by a PIC member. The MHRP was recommended to a construction company foundation which provided \$30,000, the first significant contribution made to the program before the

Los Angeles riots. After the riots, a foundation which had turned down a request, reversed itself and sent a check for \$5,000. Still later, after the program had hired the Program Manager, a local foundation granted \$20,000.

The Housing Authority

The San Francisco Housing Authority is interested in employing youth living in Housing Authority buildings. That interest was heightened by the directly useful nature of home repair training. Housing Authority staff assisted the BEC to respond to a grant notice from The U.S. Department of Housing and Urban Development (HUD) to train youth to begin their own micro-businesses. The application gave points for funds from other federal sources; therefore, the Housing Authority provided two small amounts from their programs totaling \$10,000. Subsequently, the HUD grant was approved for \$75,000.

The City's Household Hazardous Waste Program (HHWP)

HHWP is interested in gaining a door-to-door household hazardous waste collection service in the city. Because the MHRP would offer this as a component of the home repair services, HHWP staff began an application for a state grant intending to subcontract the work to YCD. Though it was decided not to complete the application, the HHWP pledged to apply for the funds in the next cycle.

In-Kind Donations

Donations were solicited from individuals in the community and from major San Francisco based corporations. Skilled people in the community pledged to provide specialized instruction and field trips. These covered various topics from self-esteem building exercises to tips on running a business. Corporations were solicited for office machines, office furniture and vehicles. One corporation will provide surplus computer equipment. Another corporation gave access to their surplus warehouse for chairs, desks, tables, file cabinets, bulletin boards, a white board, and book shelves, all in good to excellent condition. Vehicles were not available as donations due to liability issues.

When 85% of the budgeted funds were committed, BEC staff met with the YCD Board to formally report the success of the fund raising effort and discuss the next steps. BEC outlined the remaining funding potentials and the probability of success. The Board agreed that the program should begin as designed as soon as possible.

SETTING UP THE PROGRAM

Setting up the MHRP was the responsibility of YCD, but circumstances required BEC staff to continue investing a significant amount of time. First, at the same meeting where the funding success was reported, a new Executive Director of YCD was introduced.

Second, the YCD staff had not devoted any significant time to developing the MHRP and therefore knew little about it. Third, a staff person new to YCD was assigned to set up the program and therefore needed to be trained in the concept and details of the program design. After two discussion sessions it was clear that the complexity of the MHRP design required on-going BEC involvement in the program set up phase.

There were six main task areas:

- * Hiring and training program staff
- * Setting up management procedures
- * Setting up an office
- * Acquiring tools and materials
- * Soliciting homes to be repaired
- * Recruiting, intake and initial training of youth

Several of these tasks required significantly more lead time than planned. This and other problems are discussed below.

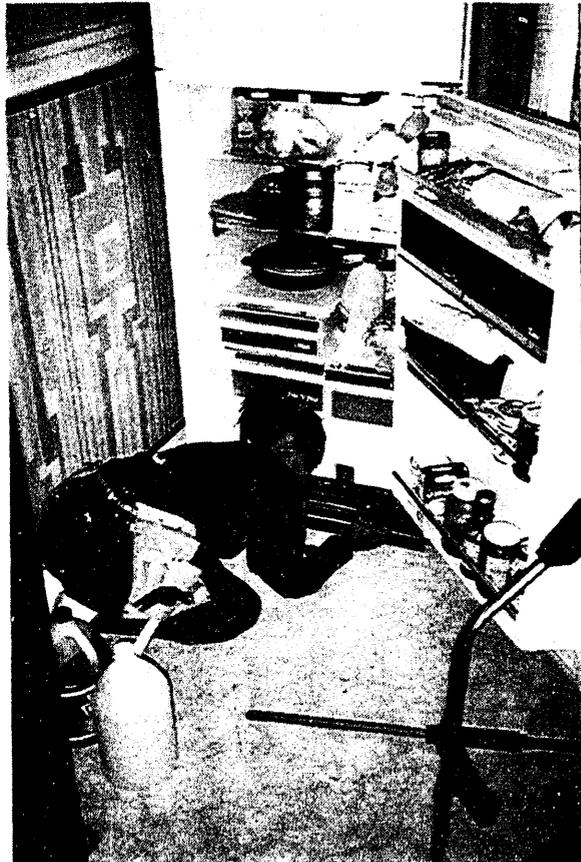
Hiring And Training Program Staff

This task area took significantly longer than was anticipated.

Hiring. This task took two months to complete largely due to significant lead times to announce the positions, schedule YCD staff and Board members for interviewing candidates and checking references.

Unfortunately, none of the Board members were able to remain for the 6 hours to interview all the candidates for Program Manager. Further, the new Executive Director was unable to attend the interviews and did not feel comfortable with the recommendation made. This meant calling some candidates back for a second interview. The most serious mistake was in not following the original hiring plan. The original plan was to involve the Program Manager in the selection of the Crew Supervisors. Unfortunately, one Crew Supervisor was hired simultaneously with the Program Manager, without the benefit of the Program Manager's insight. Because of his experience in the trades, he may have been able to identify the quality which later necessitated the firing of that Supervisor.

Training. For four weeks, BEC staff educated MHRP staff about the program and helped organize tasks to implement every aspect of the program set up. During these meetings, BEC reviewed and discussed the history of the program development, the



information sources, the funding sources, and all of the program components including the repair measures, youth recruitment, career education and business training.

BEC prepared a 100+ page Crew Training Manual which also had an additional section for the Manager and Supervisors. This included procedures and authorization forms along with sections on first aid, house systems, home safety measures, energy conservation and weatherization, water conservation and plumbing repairs, and other repairs. Most of the material was from the PG&E residential weatherization training manual. Remaining materials were from other City agencies and product literature.

Numerous program procedures were finalized. For example, while visiting the Household Hazardous Waste site, it was learned that dropping off toxics required an original document proving the client's San Francisco residency. A letter from the City's Solid Waste Management Office gave permission to deliver toxics without that proof.

The training did not proceed as planned due to a severe time shortage. Instead of one week of repairing homes together, there were two discussion sessions and only three home repairs. There was also a failure to acquire the tools and materials on schedule. Fortunately, BEC staff personally had the necessary tools and materials so that staff training was able to begin as scheduled.

Setting Up Management Procedures

Management procedures are needed for three components: personnel, finances and program information.

Personnel management. The management of staff followed established YCD procedures; however, the youth needed some special attention. Though they would be treated as other YCD employees, the construction related activity raised special concerns for staff. A code of conduct was developed, eg. it was required that all pants have a belt worn at the waist to prevent safety problems arising from the current style of wearing pants below the hips.

Financial management. YCD programs typically have one funding source. Because the MHRP has multiple funding sources, each funding source needs a separate account and a separate report for how much of the funds were spent on each budget line item. BEC developed a simple matrix on a spreadsheet to assist with budget tracking.

Also, because repair work often requires quick cash purchases of unexpected small items, the MHRP uses a petty cash fund. The agreed amount was \$100 to be kept in a locked box in a locked drawer. To date, it has been stolen once.

Program information management. The MHRP has special needs which require sound management of information. First, the program promises to perform many different

tasks: save energy, save water, dispose of toxics, make homes safer, etc. While the program was funded primarily as a youth program, the program's growth and longevity will be impacted by the extent to which it can show that it can perform those tasks.

Second, to avoid State of California contractor licensing requirements, the value of labor and materials provided to any one job cannot exceed \$300. The MHRP must be able to demonstrate that it is respecting that limit (particularly to the YCD Board member who is on the Central Labor Council). Therefore, the program needs a system which can track the repair measures performed at each house, the materials used, and labor hours spent.

To make reporting easier, the system should be computerized. For convenience, the work order should be identical to the on-screen form of the computer. When the information is transferred from the completed work order to the computer screen, the software should automatically enter the information into the database. When the reporting form is called up, it can be automatically filled with the information in the database. (The MHRP will use "Formworx for Windows" by PowerUp Software. This requires a computer with at least Microsoft Windows 3.0 and 640 KB memory, eg. an IBM 286. The set up requires 20 to 30 hours.)



Finally, to analyze each home's energy and water use, the utility data will have to be collected and analyzed for the year before and after the retrofit. Acquiring the data requires several "information release" forms for PG&E and the City Water Department. PG&E needs to have two separate releases, one at the time of retrofit for the year before, and one a year later because their service representatives have easy access to only 13 months of information, not two years.

Setting Up An Office

The space. YCD did not have enough space at their existing location for the MHRP; therefore the first subtask was to locate 600 square feet that included office space, a classroom, storage and a place for trainees to practice hammering, sawing, etc. The industrial history of the community made it difficult to locate a small office/storage/work space: most available

spaces were more than 5000 square feet, or had office space with no storage/work space. A store front might have worked logistically, but since it would have been located on the commercial strip where youth congregate, this was seen as a risk to the program. It took several months to locate a workable, though not ideal, space in a commercial office building and the budget amount had to be increased to meet a higher rent.

The phones. Identifying, pricing and selecting a system took over a month. There are many to choose from and they vary widely in features, service, and price. YCD settled on a four phone system for \$1700, not the \$100 originally budgeted for installation.

Furniture, etc. YCD rented a truck to retrieve donated furniture from a corporation warehouse. Other standard office contents had to be purchased: everything from scissors to calendars. Some of these could have been acquired second hand from flea markets, garage sales and closing businesses, but it takes many hours of staff time which it was determined could be more effectively used in other areas.

Acquiring Tools And Materials

Tools and materials lists were prepared in advance. Suppliers for most specialized materials were known. However, purchasing procedures and acquiring credit accounts proved to be the most difficult tasks.

Purchasing procedures. These were inadequate for the volume of materials needed and the decision-making pace. The existing YCD process for purchasing materials required approval of the Executive Director and signature by two Board members. This appeared to be workable for purchases made on a regular well planned basis; however, it did not work well for the hectic pace of program start up when a long lead time for purchases had not been planned. The signature process was unable to keep up with the purchasing decisions and became a bottleneck. Several times the program had to redirect its activities while waiting for the tools or materials to arrive.

Credit accounts. Most suppliers required two to three weeks while checking credit references. One supplier allowed a limited first time purchase pending the credit clearance; however, most suppliers could only offer that YCD provide a check as advanced payment, then use the account for a time until the credit history could be checked. The YCD Executive Director was not comfortable with that process and purchasing stalled until the new Executive Director provided the advanced payments.

Vehicles. The program was originally designed to use the Crew Supervisors' vehicles. This was an unrealistic, if not unfair, expectation given the community. One Crew Supervisor did not have a vehicle, the other's vehicle was unreliable. Vehicle donations were impossible given the staff time available. Local and state government agencies often donate vehicles through a state program; however, employment and training programs do not qualify as recipients: only meals, disabled, seniors and children's

programs. Further, for liability reasons large corporations no longer donate vehicles; rather, they sell them through a commercial auctioneer. The MHRP purchased two service vans at auction (total:\$3,500).

Specialized materials. Some items are specialized and not available at every hardware store or construction supply house:

- * Furnace filter alarms whistle or buzz loudly when the filter clogs with dust. These were procured at no cost from the PG&E free weatherization program.
- * Liquid crystal thermometers are cheap (\$1 each), do not break, and last two years if kept out of direct sunlight. They are used for checking room thermostats, water heaters (120° F) and refrigerators (40° F).
- * Compact fluorescent lamps (27 watts) are available at local stores or through a supplier at \$17.00 each. When the next subsidized program begins, we will purchase a quantity of them at a lower price. Until then, PG&E has offered to have them installed by their free residential program upon referral from the MHRP. An easy referral method has been established.
- * Brushes for cleaning refrigerator coils are sold by plumbing and heating suppliers.
- * Plastic V-seal (3M or Scotch) weatherstripping is cheap and easy to install. Suppliers of this and other weatherization materials were located through local weatherization companies.

Soliciting Homes To Be Repaired

Developing the outreach for homes went smoothly. The neighborhood senior's center agreed to promote the program and work closely with YCD on the scheduling. The Independent Living Center printed an announcement in their newsletter. The Program Manager appeared at community center events and church services to announce the MHRP. The youth have leafletted selected streets. These efforts are producing a steady stream of clients.

The Youth

The youth had to be recruited, qualified by the PIC as "at risk", equipped, and trained to carry out repair work in homes.

Recruitment. The youth recruitment and intake system was designed as an in-house process: youth would be identified by staff from YCD's existing list of youth seeking assistance, then the youth would be contacted and offered the program. When recruitment time came, YCD staff wanted some changes to the process. They decided

that to protect YCD politically, they needed to advertise openings to youth in all parts of the neighborhood and recruit from the respondents. Also, they wanted the youth to attend an orientation with their parents and sign a training contract. The orientation presented the program and the training opportunity as well as clarified the responsibilities of being a crew member, eg. laundering their own uniforms. The signing of the contract impressed upon the youth the commitment they were making to the program.

PIC qualification. This required an extensive amount of paper work for each youth including: a training plan, proof of age, proof of residency, proof of other "at-risk" qualifying factors, and proof of selective service registration for males. The MHRP staff were new to the non-profit world and found this process was complicated. Fortunately, the PIC program officer was particularly helpful in completing the requirements.

Testing. Pre-testing and post-testing of trainees can demonstrate the programs ability to effectively train the youth. BEC developed a skills test which utilized most of the tools and materials used in the program. It included the correct answers and props for administering the test. The test took the Crew Supervisors approximately 20 minutes per trainee. It was a verbal test; a written test was not appropriate for trainees who are likely to have failed in school. A manual test would be very time consuming and would risk the improper use of tools and materials. The Supervisors needed to be reminded that the purpose of the test is not to grade the trainee, but to measure the MHRP; therefore, it is important not to hint at the answers or teach during the test.

Equipment. Each youth was equipped with the following: two uniform shirts each with an embroidered "YCD" pocket patch, a photo identification badge (using an instant-photo camera), and a tool belt with the most heavily used hand tools: tape measure, 4-in-1 screw driver, hammer, and utility knife.



Training. The first week of crew training was conducted in a classroom by the MHRP staff. The mornings focussed on hands-on skills using the repair tools and materials to introduce the safe and proper use of each item. The trainees practiced using the tools on scavenged materials. Hammering, sawing, caulking and other hands-on

practice were clearly the most exciting part of the training. Some of the trainees demonstrated familiarity with some of the tools, yet all needed to practice these skills. In the afternoons, there were special sessions presented by outside agencies, including BEC. The topics were energy efficiency, water conservation, a visit to the household hazardous waste facility, first aid by the local Red Cross chapter.

In the week prior to the training, BEC and MHRP staffs had been unable to schedule a thorough preparation for the first week of youth training. Further, the MHRP staff was new to the role as trainers and was simultaneously attending to details to prepare for entering homes with the youth. As a result, the training organization and effectiveness dropped sharply over the course of the week. Yet, the one week training proved to be adequate; when the crews entered their first house they paid attention, performed well and the residents were happy with the service.

LESSONS LEARNED

- 1) While it was important to defer to the judgement of the community, BEC staff would always clearly state their positions. This not only protected BEC from the fallout of a bad decision, but left YCD empowered about the program. Further, several situations showed that YCD was in a better position to judge what is best. This is understandable since they are in the front line and they are the ones who will have to live with the results.
- 2) It is important to know the history of the host organization; it will impact the funding search results. YCD has had some noted past failures and many grantors had doubts about it successfully operating the MHRP. BEC's credibility and commitment were critical factors in assuaging those doubts.
- 3) People in granting organizations, both staff and governing boards, have an informal network; they talk to one another. Getting support from one source can make it more likely to get funding from somewhere else.
- 4) The environmental component of this program was less interesting than the youth component, even for environmental foundations. When a single foundation had divisions for both environmental and youth projects, the MHRP was always funneled to the youth division, in spite of BEC suggestions that it be classified as an environmental project.
- 5) Though the breadth of the repair services was not crucial to successful funding, it differentiated the MHRP from other programs with hands-on skills training. Also, BEC believes it is key to the future growth of the program.
- 6) If the MHRP had been operating successfully for a year or more and were ready to expand, numerous opportunities could be captured, eg. the National Park Service offered to involve YCD in the repair and retrofit of the buildings at the Presidio which is being de-

commissioned as a U.S. Army base.

7) It is highly unlikely that self-generated financial resources will ever be more than supplemental funding for the MHRP. Because the MHRP devotes a large amount of resources to training and developing youth who would otherwise be difficult to employ, they will not be able to compete with local small businesses. Further, for several reasons, many in the community would argue that the program should not compete with businesses.

8) Changes in the host organization's staff can have a significant impact on the program. BEC primarily worked with the Executive Director to develop some of the program specifics. Therefore, all of BEC's investment in educating YCD about the MHRP was in the Executive Director. Frequent changes of the Executive Director, particularly just as the program secured funding, made a smooth implementation of the program impossible.

9) When money arrives, those who have not previously paid much attention may want much more involvement and control. In YCD's case, the previous executive directors had not devoted much time to the development and funding of the program. The new executive director, hired at the same time that funding success was announced, insisted on being involved in every decision, down to the details of wording on forms. The pace of accomplishing tasks slowed dramatically and several "windows of opportunity" were missed.

10) BEC stayed in contact with the Board, the funders, and the advisory committee members. This provided valuable channels of communication during differences with YCD staff. It also served to reassure funders who could see the problems developing.

11) BEC's involvement in the set up and early operations was crucial to a successful program. YCD needed help in developing a new area of training and making the transition from classroom training to field training.

12) This program has many conceptual facets and numerous specialized details which are going to be foreign and difficult to learn for anyone, especially one who has primarily worked with their hands. The Program Manager needed constant guidance and direct assistance with many of the details for one month of preparation and during the training of the Crew Supervisors. Once the youth were repairing homes, the need for assistance dropped dramatically.

13) There were two factors which encouraged BEC to continue a direct role in the program set up. First, BEC staff were committed to a successful program and were, therefore, easily tempted to take on additional set up tasks when asked by YCD. Second, YCD as an organization was stressed and was seeking all the help it could find.

14) YCD needed to take on as much responsibility as quickly as possible. First, many

of the tasks require knowledge of the culture and of the community and the complex relationships between individuals and groups. This is especially important for some of the most sensitive tasks such as selecting and negotiating rental space, soliciting and interviewing candidates for program staff positions, negotiating the details of relationships with outreach organizations, recruiting and selecting youth. Second, during program operation, contact with the community will have to be directly by YCD, not by anyone identified as "government". Therefore, YCD staff needed to initiate the forming of the operating relationships.

15) There will be turnover in staff and youth; therefore, the program organization and participants need to be flexible.

16) Job placement opportunities appear to be developing. Two weatherization companies have signed letters of intent to take four trainees as apprentices for one month with the intent to hire them if they work out. However, if the local economy continues to impact the weatherization business, it is possible these apprenticeship will not materialize. Another opportunity is a construction apprenticeship program which has been recently created. Graduates of the MHRP will be in a good position to be accepted in that program.

PROGRAM RESULTS

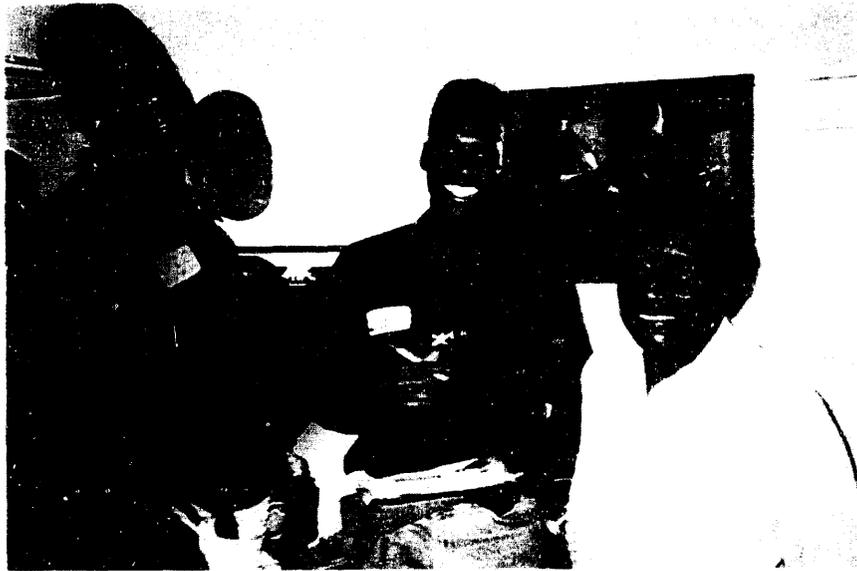
The MHRP has been generally executed as designed. There are, at present, ten year-round positions: the Program Manager, one Office Assistant, two Crew Supervisors, and six youth trainees. The program is operating with two crews, three trainees and one Supervisor for each crew. Homes are receiving repair services and the Supervisors are sticking to the \$300 limit on time and materials. Due to the purchasing problems, the program is somewhat behind schedule in homes served but still expects to repair 400 homes in the first twelve months.

The youth are paying attention to the Supervisors, focussing on tasks, and demonstrating an eagerness to learn new skills. Of the six youth (including one female) three youth have been replaced; one was expelled for behavioral problems and two failed to report because they were incarcerated for previous warrants. One Crew Supervisor was replaced for inability to establish a positive working relationship with the youth.

Most of the planned measures are being performed, with gradual improvement being demonstrated, eg. the first collection of hazardous materials occurred at the 26th house. The utility information release forms are being signed and the energy and water use data is being compiled. Conclusive data will be available in late Fall of 1994.

BEC staff currently spends two to four hours per week providing technical support; this is expected to decline to one hour per week after the second session begins.

BEC is proud of its effort to develop the MHRP and is hoping it will flourish as a shining example of how energy efficiency, environmental protection and community development can work together.



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