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FINANCING ENERGY CONSERVATION:
A GUIDE FOR MONTANA COMMUNITIES

BY

James B. McNairy

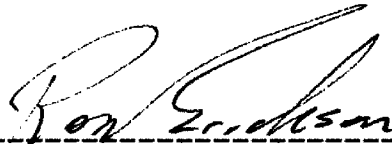
B. A., University of Houston, 1975

Presented in partial fulfillment of the requirements for the degree of
Master of Science

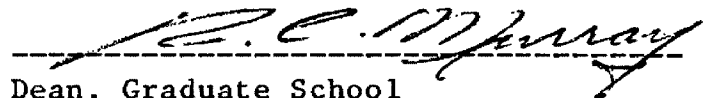
UNIVERSITY OF MONTANA

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Chapter I

INTRODUCTION

Various events of the last decade have served to emphasize the importance that energy plays in our daily lives. Fuel prices have increased dramatically since the OPEC oil embargo. The finiteness of the world's fossil fuel reserves has become painfully apparent. As a nation we have learned that we use energy very inefficiently.

Millions of dollars are spent annually on energy in cities and counties throughout Montana. If a concerted effort is made to improve the energy efficiency of local buildings, Montana communities will realize a variety of benefits. These include the creation of local jobs installing conservation materials, consumers having higher spendable incomes as a result of less money being exported out of local economies to pay for energy supplies, and the lessening of residential wood burning and associated air pollution as heating needs decline.

Although most conservation measures are more cost-effective than building new power plants, widespread conservation is being rather slowly adopted throughout the country. There are several reasons for this. Many consumers lack good information about both conservation products and the life-cycle savings of efficiency improvements. Conservation measures are forced to compete with conventional energy costs that are artificially low. Utility customers pay the average cost

rather than the marginal cost of the energy they use. Thus, while conservation can save energy at a lower cost than new power plants can produce it, the average cost of old and new power from conventional facilities is often lower than conservation costs.

The high initial cost of comprehensive conservation measures, even though justified by energy cost savings over time, is another factor that hinders conservation investments. Because many new homes are not owner-built, builders often do not emphasize energy conservation measures, in an effort to keep construction costs to a minimum. There also exists a lack of incentives to weatherize rental property. In most cases landlords are not directly affected by rising energy costs. This is because they either do not pay the power bills or pass on utility costs to their tenants in the form of higher rents. Renters are not motivated to make conservation improvements on property they do not own.

This paper will focus on another major barrier hindering widespread conservation investments - inadequate access to capital. There are currently three basic types of conservation financing programs in Montana. These are conventional home improvement loans, low-income weatherization programs, and utility no-interest loans. All of these programs are having a limited impact on promoting conservation.

The adequacy and effectiveness of each of these existing financing programs will be evaluated in this paper. Certain financing programs that are being tried in other parts of the country will be described. Other possible funding sources and program designs will be analyzed. In the concluding chapter recommendations will be made

concerning which financing options have the best chance of increasing the level of conservation investments made in Montana.

Chapter II

CHARACTERISTICS OF AN EFFECTIVE FINANCING PROGRAM

There are a variety of different funding options that Montana communities can use to establish effective energy conservation financing programs. Communities may want to set up some type of revolving loan fund to finance a community conservation effort. There are a variety of different ways that a loan fund of this type can be capitalized, and there does not appear to be a single best funding source. Location-specific factors will often shape a particular community's approach.

A conservation loan program will need the active support of a broad cross-section of the community in order to succeed. It is a good idea, therefore, for local officials to involve consumers, business people, and lenders in the planning and development phases of the project. In this way potential problems with the program may be identified and worked out before the program goes into effect.

This chapter will identify and discuss some of the major features of an effective financing program from the viewpoints of consumers, lenders, and local governments, respectively.

The Consumer's Viewpoint

The key to a good loan program from the consumer's viewpoint is the affordability of the financing. According to a study done by the Department of Housing and Urban Development in 1978, many homeowners don't want to take on additional debt and/or monthly payments even if it is done on favorable terms (1). If borrowers can realize an immediate positive cash flow after they install conservation equipment, then they will be more likely to participate in the program. An optimal loan program from the borrower's perspective features 100 percent financing and loan payments that are low enough that they can be repaid with the energy savings that result from the financed efficiency improvements.

Loan Terms

The size of monthly payments is the single most important factor to most borrowers when considering borrowing money. The typical home improvement loan has an interest rate several points above the prime rate and very short terms (usually less than five years). This results in high monthly payments which discourages homeowners from seeking financing to pay for home improvements. The amount of time a borrower is given to repay a conservation loan has a major influence on whether the loan can be repaid with energy savings. Lengthening the terms on a loan will have a greater impact on reducing monthly payments than will a proportionate reduction in the interest rate. To illustrate this,

suppose a homeowner wants to borrow \$1,500 to install conservation measures in his or her home. Monthly payments on a five-year, 8 percent loan would be \$30.21. If the loan term is doubled to ten years then the adjusted monthly payments would be \$18.08. However, if the length of the loan remains fixed at five years and the interest rate is halved to 4 percent, resulting monthly payments would be \$28.08 - only slightly lower than the original level. Table I compares the monthly payments on a \$1,500 loan at varying interest rates and terms.

While lower monthly payments result from lengthening loan terms, the overall amount to be paid back on the loan will increase as the terms are stretched. In the example above, at 8 percent interest the borrower will repay \$2,170 on the ten-year loan and \$1,813 on the five-year loan.

Interest Rates

A combination of lengthened terms and below market interest rates will increase the likelihood that borrowers can make their loan payments with their energy savings. One source of below market interest rates, the variable interest loan, is discussed below. Other possible sources of reduced rates are outlined in the local government section of this chapter.

Table I

Monthly Payments on a \$1500 Loan
at Varying Interest Rates and Terms

| Interest Rate (%) | Loan Terms (years) | | | | | |
|----------------------|--------------------|----------|----------|----------|---------|---------|
| | 3 | 5 | 7 | 10 | 15 | 20 |
| 0 | \$ 41.67 | \$ 25.00 | \$ 17.86 | \$ 12.50 | \$ 8.33 | \$ 6.25 |
| 4 | 45.04 | 28.08 | 20.83 | 15.41 | 11.24 | 9.20 |
| 8 | 46.69 | 30.21 | 23.22 | 18.08 | 14.24 | 12.46 |
| 12 | 49.33 | 33.04 | 26.22 | 21.31 | 17.82 | 16.35 |
| 16 | 52.04 | 36.00 | 29.40 | 24.80 | 21.74 | 20.59 |
| 20 | 59.34 | 41.80 | 34.68 | 29.82 | 26.74 | 25.67 |

Variable Interest Loan. Loans that have variable interest rates are becoming an increasingly common method of financing. These loans are characterized by low initial interest rates that gradually increase over time.

A conservation loan with a vvariable interest rate may be attractive to both borrowers and lenders. Recent economic uncertainties and volatile interest rates have combined to make financial institutions wary of entering into traditional loan agreements that feature a fixed interest rate over the life of the loan. This is because prolonged inflation tends to decrease the real value of payments to the lender over time while real savings to the borrower increase. If real energy prices rise while inflation increases, the value of the payments the lender receives on the fixed interest loan erodes even further. The result of this mismatch of benefits and costs is that investment is discouraged.

A conservation loan with a low initial interest rate, good terms, and variable payments will increase the chances that borrowers will be able to realize an immediate positive cash flow upon installing conservation measures. Interest rates will be allowed to rise periodically in a contracturally specified way. Inflation may be used as an index to trigger interest rate adjustments. This will protect lenders from having their investment devalued by inflation and allow them to recover any foregone interest resulting from the low initial rates.

Program Simplicity

The simplicity of a loan program is another important factor that will increase public participation. The program needs to be easily understood by consumers. Program designers should avoid offering borrowers too many different funding options (2). A complex program will be harder to administer and may only confuse consumers and discourage them from participating.

One or two simple options should be presented to consumers. It's important that the program remain flexible, however, so that changes can be made when faced with legitimate objections or problems.

From the Lender's Perspective

In order for a loan program to be most successful, it must have the solid support of the financial community. Lender involvement in originating and servicing loans will increase the chances that the program will run smoothly. Lenders will be more inclined to participate if the loans appear profitable and there is no unusual risk involved.

Financial institutions are profit-making enterprises. They are directed by their stockholders to earn as much money as they can at an acceptable level of risk. Their depositors expect them to make wise investments with the public's money. Lenders therefore tend to be conservative and cautious about their investments.

It's hard to get financial institutions excited about making home improvement loans. Lenders generally feel that they will lose money on loans of less than \$1,000 because of the fixed costs involved that are relatively independent of the loan amount (3). Among these costs is a one-time origination fee that involves checking a borrower's credit to determine his or her eligibility and setting up a new account. According to one source, lenders typically charge anywhere from \$15 to \$125 for this expense (4). A fee is also charged for servicing a loan. This covers the ongoing costs involved with processing and recording loan payments and any other necessary paperwork. For small loans this may amount to \$15 to \$30 annually (5).

Banks are naturally interested in making investments that offer them the greatest return on their money at an acceptable level of risk. Because small loans, for such things as conservation improvements, are more costly per dollar loaned when compared with larger financial projects, they have a tough time competing for limited investment dollars. Home improvement loans therefore must carry higher interest rates and shorter terms if they are to compete.

Risk Assessment

The major risk with any loan is whether or not the borrower will repay it in full on schedule. Lenders use strict guidelines to assess the creditworthiness of loan applicants.

Using liens to secure loans. In their attempt to minimize the risk that borrowers will default on loan payments and leave the lender "holding the bag," financial institutions usually require that home improvement loans be secured by liens or second mortgages on the improved property. This security protects the lender's investment, but may serve to discourage widespread public participation in the program. Pacific Power & Light officials report that their lien requirement is a major factor in keeping people from participating in their no-interest loan program (6). This is especially true among their elderly customers.

Liens also have high administrative costs. It may not be cost-effective for lenders to pursue legal action when borrowers default on their loans. Most conservation loans will probably be for under \$2,000 and any default will likely occur near the middle or end of the repayment schedule (7).

Loan Guarantees

Rather than relying on liens as security, lenders could opt for other types of loan guarantees.

FHA Title I. As part of the National Housing Act, HUD operates a Federal Housing Administration (FHA) Title I Property Improvement Loan Insurance Program. This program will insure up to 90 percent of the value of a home improvement loan, and it can be used for conservation loans to single family and multi-family buildings. Title I will cover loans up to \$15,000 for single family buildings and \$37,000 for

buildings with two or more units. The loan terms can be for up to fifteen years.

There are no income restrictions tied to the Title I insurance program. The purpose of the program is to give lenders an incentive to provide unsecured loans to low and moderate income families. No specific security is required for loans under \$7,500. Any security that is used for loans under this amount is left up to the lender.

Private mortgage insurers. Private mortgage insurers (PMI's) offer lenders another loan guarantee option. Lenders are increasingly turning to PMI's rather than FHA to insure their residential loans. According to one Missoula lender, this is because PMI's offer better service, with less red tape and quicker deliveries on claims (8). Insurance coverage is available based on a fee equal to a percentage of the loan amount. This fee is usually 1 percent. Security arrangements are left almost entirely up to the lender, and second mortgages are not necessarily required.

Neither the Title I program nor PMI's require lenders to use second mortgages or liens as loan security. However, unless the borrower has a very strong credit standing, lenders will probably require a lien or second mortgage. This will further insulate the lender from the risk of not being able to collect on a bad loan.

Local reserve fund. A third loan guarantee option involves local government serving as the loan insurer. Local officials can set up a reserve fund with public money, which can be used to cover all conservation loan losses. There are a variety of sources of public

money that could be used to capitalize the reserve fund. These include using part of the local government's idle cash revenues, revenue sharing funds, Community Development Block Grant money, Urban Development Action Grant funds, and/or state and federal weatherization and fuel bill assistance monies. These funding sources will be described in more detail in Chapter III.

The community should be able to use this reserve fund to leverage private investment in a revolving loan fund. If lenders know that the reserve fund will cover any loan defaults, they should agree to make loan commitments of between five and ten times the amount in the reserve fund (9). The greater the diversity of borrowers participating in the loan program, the less money per borrower needs to be contributed to the reserve fund. If five hundred people borrow from the loan fund, a statistical table can be used to compute what the probability of default is for that class of borrowers (10). Program officials may be able to maintain a reserve fund of between 10 and 15 percent of the loan commitment amount at all times to cover any expected defaults. The affordability of the loans from the borrower's standpoint will be the overriding factor determining how many bad loans the local government will have to repay.

Secondary Markets

Financial institutions earn money by making loans and investments with deposits made by their customers. They must keep enough money on hand so that they can remain liquid - i.e. be able to meet the withdrawal requests of their depositors or any unforeseen emergency that might arise.

In order to keep a pool of local capital available so that lenders can meet the credit needs in their community, secondary markets have been set up. These secondary markets exist on both the state and national levels. The main purpose of a secondary market is to join a primary market, say for home mortgages, with large capital markets.

Secondary markets are a valuable source of lender liquidity, for they enable financial institutions to maintain a readily available source of loan money. In order for lenders to be able to sell loans that they originate to a third party on a secondary market, lenders usually must first combine a certain number of loans into a large "package." This loan package is then offered for sale to a third party, which may be an insurance company, investment firm, pension fund, state agency, etc. What third parties have in common is a pool of capital that they're looking to invest at a reasonable level of risk.

The Montana Board of Housing currently acts as a secondary market in purchasing home mortgages from Montana lenders. However, the Board does not purchase home improvement loans from local lenders. (see Chapter III for a discussion of the Board's secondary market activities.)

Recent federal legislation has created secondary markets for energy conservation home improvement loans. Under provisions in the National Energy Conservation Policy Act of 1978, authorization is given to the Federal Home Loan Mortgage Corporation, the Federal National Mortgage Association, and the Government National Mortgage Association to purchase approved energy conservation and solar loans from lenders. This legislation is intended to give local lenders an incentive to originate small energy loans.

Federal Home Loan Mortgage Corporation (Freddie Mac). Freddie Mac is a privately owned but federally regulated mortgage company. It buys mortgages and home improvement loans from lenders who are part of the Federal Home Loan Bank System.

Freddie Mac will buy up to 80 percent of a home improvement loan's value from the lender. They will only buy loans made to owner-occupied residences, and the loan must be secured with a lien on the improved property. The maximum loan amounts are as follows: For single family homes - \$30,000 with up to fifteen year terms. For two-to-four unit residences - \$60,000 and twenty year terms. For condominiums - \$15,000 and fifteen year terms.

A borrower's loan payments must be in equal monthly amounts. Lenders are required to combine loans in packages of \$25,000 before they sell them to Freddie Mac. All the loans in the package must have the same terms and be in amounts that are multiples of \$1,000.

An attractive feature of the Freddie Mac program is that it allows energy improvements to be added to a home's mortgage. If a buyer is going to make conservation improvements immediately after purchasing a home, the lender is authorized to add the retrofit costs to the mortgage package and then sell the entire loan to Freddie Mac. This is an important provision. A \$2,000 energy retrofit job that is added to a \$50,000 mortgage at 13 percent over thirty years will only add \$22 a month to the buyer's payments. The actual monthly energy savings may be greater than this added cost.

Federal National Mortgage Association (Fannie Mae). Like Freddie Mac, Fannie Mae is a privately owned but federally regulated entity. It operates a mortgage purchase program that channels money into local housing markets when money is tight.

Fannie Mae is authorized to purchase energy conservation loans that do not exceed \$2,500. This energy conservation component may be included in larger home improvement loans. Fannie Mae's guidelines for buying home improvement loans are the same as Freddie Mac's, except that loans that exceed \$15,000 may have thirty year terms rather than twenty. Fannie Mae gives priority to mortgages or loans made to low and moderate income, elderly, and handicapped citizens.

Government National Mortgage Association (Ginnie Mae). Unlike the previous two examples, Ginnie Mae is federally owned and a part of HUD. Its purpose is to provide a secondary market for residential loans that have federally subsidized interest rates.

Ginnie Mae will purchase loans of low and moderate income borrowers whose household income is below the median in that area. The loans must be insured under the FHA Title I program. Loans cannot exceed \$2,500, and the terms must be not less than five years nor more than fifteen.

There are at least three specific advantages associated with having a secondary market available to purchase conservation loans. First, the lender's risk is greatly reduced or eliminated, depending both on whether the lender retains a portion of the loan and whether they are responsible for the collection. The financial institution receives a fee for originating and servicing the loan, and once the loan is sold to a third party the lender has regained most or all of his or her investment. Second, being able to turn around and sell loans on a secondary market enables lenders to remain liquid and avoid tying up their investment capital for long periods of time. This allows them to make more loans available in their community. Third, the loan originator is able to extend the terms of the loan, thereby decreasing the borrower's monthly payments, because the lender can sell the loans soon after closing.

However, there are some definite drawbacks with these three government sponsored secondary markets. Each program generally requires property liens as security, which may discourage low and fixed income homeowners from applying. The programs are for owner-occupied

residential buildings only, and therefore offer lenders no incentives to make energy loans for residential rental property or commercial buildings. Another problem involves the fact that homes that are owner-financed are not eligible. This eliminates all homeowners who are purchasing their homes on a contract-for-deed basis. It's estimated that more than 50 percent of all current homeowners do not have title to their homes (11). Both Freddie Mac and Fannie Mae require lenders to package at least \$25,000 in loans before they will buy them, which may discourage some lenders from participating. Finally, the requirement that loan payments be made in equal monthly amounts means that variable interest loans cannot be used.

Solar Mortgage Corporation (Sunny Mac). There are at least two examples of private, independent secondary markets that have been or will be established to purchase energy loans. The California Solar Energy Industries Association is trying to set up a solar mortgage corporation, "Sunny Mac", in that state (12). Sunny Mac is envisioned as being a nonprofit corporation with members from utilities, banks, savings and loans, credit unions, solar industries, and the public. Its purpose will be to purchase energy loans from lenders, thereby ensuring that adequate financing is available for solar projects.

Sunny Mac will pay lenders a small fee for servicing the loans. Its proponents hope it will prove to be a viable alternative to utility financing of solar projects. They want to establish a competitive solar loan market, rather than having a utility financing monopoly. Initial capital is expected to come from the utilities. Once the program gets

going capital will hopefully be provided by private investors, pension funds, lenders, and federal, state, and local governments.

Another local program of note is in Baltimore. This city has used the proceeds from tax-exempt bonds to set up their own secondary market to purchase energy conservation loans from local lenders. Baltimore's program is discussed in detail in Chapter IV.

Local Government's Role

There are a host of important decisions that need to be made by local officials if an effective conservation financing program is to be established. Some of the major policy questions will be outlined in this section.

Local governments should take the initiative in designing and implementing a conservation program. A strong visible commitment to energy efficiency within government operations will be an unmistakable signal to the community about the importance of conservation. This will enhance the government's credibility in promoting conservation and make it easier to gain community-wide support for a financing program.

Evaluating The Effectiveness Of Existing Financing Programs

The first question that should be raised by local officials is whether an energy conservation program would benefit the community. There are many buildings in the state that are inadequately insulated, and untold millions of dollars are being wasted annually on these energy inefficiencies. In recent years several communities in Montana have attempted to quantify local energy use and cost information in an effort to assess the potential for conservation (13). This information is very helpful in identifying whether energy is, or should be, a real community issue.

If it is felt that a conservation program should be established, then the adequacy of existing financing programs should be assessed. Many communities are currently served by some type of utility energy financing. A new local financing program should supplement existing utility efforts and/or be targeted to those citizens who are not eligible for the current programs.

The Montana Power Company (MPC) and Montana-Dakota Utilities (MDU) have no-interest loan programs for their single family electricity and natural gas space heating customers. Pacific Power & Light has a no-interest loan program for its residential electrical heating customers in the Kalispell and Libby areas. In addition, the state Department of Social and Rehabilitation Services operates weatherization and fuel bill assistance programs for low-income residents.

There are many gaps in the existing financing programs, however. Multi-family housing units and commercial and industrial buildings are not included in the utility financing programs. Residents who burn wood, propane, or fuel oil as their primary fuel source are also left out of the utility programs. Rural Electric Cooperatives that serve Montana are not required by the Public Service Commission to implement conservation financing programs. However, the five western Montana Coops may soon be receiving financial assistance from the Bonneville Power Administration.

Program Administration

Local officials may want to enlist the aid of the private sector in designing and administering an effective financing program. Lenders and utilities have experience originating and servicing loans. If a local government decided that it wanted to assume these responsibilities, it might be getting involved in an area where it has little or no expertise. A more appropriate government role would be in designing a program that meets the social and economic needs of the community. It would probably be unwise for local officials to put the government in the position of competing with the private sector.

Local governments should want lenders to be involved with the program, for it gives financial institutions a chance to familiarize themselves with energy efficiency. Unfortunately, a lot of lenders need to be convinced that conservation makes sense and is profitable. By involving local lenders in the financing program, lenders can gain

direct experience in energy financing. Lenders need a thorough understanding of both the markets and technologies that are related to energy efficiency. Being involved in a conservation program of this kind should make lenders more inclined to become increasingly involved with energy financing in the future.

Financing the Program

Using public money as leverage. Regardless of the specific funding sources that are chosen, it makes sense for a community to try to maximize the effectiveness of the money that is used. This can be done by using public money as leverage to attract private capital to form a loan pool.

With decreasing federal and state aid to local governments and a widespread public distaste for raising taxes, it is necessary for local officials to investigate ways to use a limited amount of public money to leverage large private financial investments. A certain amount of public funds could be earmarked to act as a reserve fund to guarantee conservation loans made by local lenders to creditworthy customers. Local officials and lenders can jointly decide on credit guidelines for potential borrowers. The reserve fund should be able to attract commitments from financial institutions to supply up to ten times the reserve fund amount in a loan pool to be used to finance energy efficiency improvements (14). Thus a \$50,000 loan guarantee commitment by a local government should be sufficient to get local lenders to pledge up to \$500,000 for energy loans.

This local reserve fund can be earning interest while it's set aside to guarantee loans. Perhaps more important, the reserve fund can be used to reduce the interest rate on loans, thus making them more affordable to consumers. By creating a loan fund, program officials are pooling the risk of loan defaults, which reduces the average risk of default for each loan. If a bank lent \$2,000 to one customer for conservation improvements, it would have to set aside \$2,000 as a reserve against default. However, if 500 people borrow \$2,000 each then the statistical probability of default for any particular loan may be less than the risk inherent in the single \$2,000 loan. The net reduction in risk with the pooled approach may result in reduced interest costs to each borrower.

Among the possible sources of public leveraging funds are federal grants, such as HUD Urban Development Action Grants (UDAGs), Community Development Block Grants (CDBGs), and revenue sharing; state grants or loans from the Department of Natural Resources and Conservation; and a portion of the interest earnings from the local government's idle cash revenues. These options will be discussed in detail in the following chapter.

Designing a self-funding program. A good loan program should be self-financing once it gets going. After the initial infusion of capital, the loan fund may be able to stay at a fairly constant level over time or even make a profit.

In order for a loan program to be self-supporting it must have a low default record. The combination of reduced or variable interest rates and extended terms should enable borrowers to make their monthly payments with their energy savings. Loan payments can then be put back into the revolving loan fund in order to be loaned out again.

An additional consideration concerning the loan fund involves when loan payments are to be made. Borrowers could be allowed to repay the loans in monthly installments or in one lump sum upon either resale or transfer of the home or building. The latter option is used in Pacific Power and Light's no-interest loan program. However, this payment-upon-resale option may have a negative impact on the cash flow of the revolving loan fund. A cash flow problem might occur if the improved properties are not changing hands with expected frequency, which could tie up loan monies without any payments being made.

Establishing a Community Development Corporation (CDC)

A local government may want to consider setting up a Community Development Corporation that could help design and carry out an energy conservation program. An entity of this type could limit itself to just providing energy financing. It also could choose to be involved in any or all of the following energy-related activities - public education, contractor referral, product information, materials installation, maintenance, and inspection. Local officials may not wish to enter into direct competition with the private sector, however. If this is the case, then a CDC conservation program may not want to be involved with

product installation and maintenance.

A CDC provides governments with the opportunity to use public and private money to bolster local economies. This can be done by creating jobs on a direct and indirect basis. Direct jobs will be needed in energy related businesses. These may include conservation materials retailers, wholesalers, manufacturers, contractors, auditors, inspectors, and program staff. Jobs will increase on an indirect basis, too, as consumer energy bills decrease, leaving the public with more disposable income to be spent in the local economy.

CDC's that have several objectives may have more success in securing funding. Energy conservation measures could be combined with building rehabilitation work. These two objectives often go hand-in-hand. It's not unusual for a building to need roof and/or window repairs at the same time that insulation and storm windows are added. A CDC may want to target at least part of its efforts into both weatherizing buildings and promoting economic development in low and moderate income neighborhoods. This will increase the likelihood that the program may qualify for CDBG, UDAG, or SRS weatherization funding. It's also possible that banks or individual investors may provide operating capital for CDC's.

Local officials may wish to incorporate a CDC's activities into an already existing government department or local agency. If this approach is used, care should be taken to integrate the CDC's functions with the existing operation as smoothly as possible. Adequate staffing and funding should be provided, and a clear delineation of roles is

necessary.

Another CDC approach involves creating an independent community agency whose members represent a cross section of the community and are appointed by local government officials. In this way there will be adequate community representation in the CDC and the government will retain at least an indirect control over policy decisions. According to one local Missoula official, a community may increase its chances of receiving outside funding if there is private agency involvement in the CDC (15).

There are several examples around the country of communities that have developed a type of CDC to help implement a local conservation program. Portland, Oregon is leveraging a UDAG grant with capital from private lenders to operate a comprehensive energy information clearinghouse. This clearinghouse, known as the Energy Center, is also administering a variety of conservation loan programs funded by the same money. (see Chapter IV)

In California there is a major cooperative effort underway between the state and a handful of communities to develop model energy CDC's (16). The state, with assistance from the Department of Energy, has provided at least seven cities with funds to engage in feasibility studies to determine how best to develop local municipal solar utilities (MSU's). These initial studies are analyzing the pros and cons of a whole host of possible MSU activities. These include installing, maintaining, and owning solar systems; job training; consumer protection; system financing; and electrical generation. One of the

goals of the program is to provide cost competitive services without undercutting the private sector. It will be up to the individual communities to decide if they want to set up a local MSU and how it should be structured.

Should the Program Be Voluntary or Mandatory?

Over the last several years an increasing number of communities have enacted mandatory conservation and solar ordinances. Many of these mandatory regulations have been added to local building codes. Although Montana cities and counties are prohibited under state law from adopting their own energy efficient building codes (17), it may prove useful to examine some of the pros and cons of adopting mandatory regulations.

Communities that adopt energy ordinances typically argue that saving energy will benefit individual consumers as well as the entire community. The fact that everyone isn't voluntarily conserving is due in part to the failure of the market to allow conservation to compete with conventional fuels on an even footing. Consumers historically have been able to pay an artificially low price for conventional fuels rather than the current marginal or replacement cost. Conservation and solar energy have generally enjoyed no such preferential treatment. When making energy investment decisions, consumers are most concerned with initial costs and monthly payments, rather than life-cycle costs. Consequently, they tend to be reluctant to invest in major conservation improvements without a sizable financial incentive to help lower these first costs.

Mandatory conservation ordinances are a fair and effective means of saving energy if they are applied to all buildings. There are two basic types of ordinances - prescriptive and performance. The prescriptive mandate requires that the same energy efficient measures be installed in all buildings. The insulation requirements in Montana's building code are prescriptive. New homes are required to have R-19 in the ceiling, and R-11 in the walls. Prescriptive measures are easy for the public to understand and easy to administer.

Performance standards, on the other hand, require that buildings meet an overall energy efficiency rating by whatever means necessary. One building may meet the standards by using insulation and weatherization materials. Another building may combine solar and conservation measures to meet the minimum energy efficiency guidelines. Davis, California and Portland, Oregon are two communities that have adopted performance guidelines in their mandatory energy efficiency programs. This approach allows citizens more leeway in meeting the standards, but it is more complicated to administer.

There are some problems with mandatory ordinances. There may be legal barriers, such as in Montana, which prohibit local governments from adopting their own energy-efficient building codes. Mandates are viewed by some as an unnecessary and unwarranted infringement on an individual's property rights. This concern has led Portland voters to reassess the wisdom of their mandatory program (18). Mandatory ordinances can also be costly to enforce if they require individual inspections.

As mentioned above, Montana does not allow counties to develop their own building codes. Counties must use the code developed by the State Board of Administration. There are two ways that counties could gain the authority to adopt their own energy ordinances (19). First, a county could adopt a home rule charter, which requires a vote of the residents to change the local government format. Second, the State Legislature could pass specific enabling legislation that would give counties the legal authority to adopt energy efficiency standards if they so choose. The State Board of Administration could also decide to strengthen the energy requirements in the state building code. While not giving localities the authority to enact their own guidelines, this measure would increase the mandatory insulation levels for the entire state.

An option that falls short of requiring specific energy efficiency standards but may promote conservation is the energy disclosure statement. Communities could require that building owners provide prospective buyers or renters with specific information about a building's energy use. This information could consist of past energy bills or, with a new building, projected energy costs. This would enable a prospective buyer to make a more informed decision about whether the combined life-cycle cost of owning or renting the building are affordable. Owners may choose to make conservation improvements prior to putting a building on the market if these improvements would increase the saleability of the structure.

Marketing

In order for a good financing program to be successfully implemented, it must be combined with an aggressive community education and market development effort. A financing plan is of no use if there is insufficient community interest in conservation. Government officials must convince local financial institutions and residents that energy conservation is a good investment on both an individual and community basis.

Active lender involvement is crucial to the success of the program. Financial institutions have access to large sums of capital, high community visibility, and the lending experience to help a funding program run smoothly. Government officials should work hard to sell lenders on the benefits of participating in a local conservation effort.

An energy loan program will not be successful unless there is sufficient public participation. Thousands of residents and business owners must want to make weatherization improvements to their homes and business establishments. These people need to be convinced that a conservation program offers both individual financial benefits to them as well as economic and social benefits to the community.

It will take a lot of hard work to both design and implement a successful conservation effort. An aggressive promotional campaign should be launched to get the program off the ground. It's important that the program be taken out into the community. Widespread media exposure and door-to-door canvassing are probably the best marketing strategies.

The town of Fitchburg, Massachusettes developed the prototype grassroots conservation program several years ago. With the help of an army of volunteers, program organizers mounted a door-to-door informational campaign designed to get the public to participate in a neighborhood weatherization campaign. In a three-month period the program succeeded in its goal of installing no-cost/low-cost conservation measures in almost all of the community's residential buildings. PP&L and Bonneville are currently conducting a similar grassroots weatherization program on a pilot basis in Hood River, Oregon.

Portland, Oregon is relying on extensive advertising to promote its various loan programs (20). They are using direct mail, utility bill inserts, advertising on city buses, radio and television announcements, and staff outreach to help promote their conservation effort. One local grocery chain has even printed loan program information on their shopping bags.

Setting Up A Pilot Program

It's a good idea for a community initially to design and implement a small pilot loan program with a modest commitment of funds. This will enable local officials to test the program design and experiment with the marketing approach. Lenders will hopefully see that an attractive program will have few defaults, be profitable, and therefore represent an acceptable risk.

A community the size of Missoula may want to plan on making between fifty and one hundred loans during the pilot phase of the program. A loan pool of \$100,000 to \$200,000, 10 percent of which is public money, should be adequate to get the program started.

Program officials might want to target the initial program for a particular area of the community, such as a low or middle income neighborhood, or a specific sector, such as commercial businesses. A successful initial program will stimulate wider community involvement in subsequent programs.

Local officials may want to make changes in the program's design after it has been in operation for a year or two. A pilot program offers this kind of flexible approach. If the demand for the program is there, the small initial commitment of funds can always be increased.

Chapter III

POSSIBLE FUNDING SOURCES

There are a variety of different funding sources available to communities that wish to capitalize energy conservation loan programs. This chapter divides these sources into three general categories - (1) public, (2) private, and (3) a combination of public and private. Most of the sources listed below may readily be used to finance energy conservation efforts if a community so desires. However, a few potential options, such as using tax-exempt bonds or State coal severance tax trust fund monies, face legislative and/or administrative hurdles before they could be utilized.

Public

Federal

Community Development Block Grants (CDBG) . These grants are awarded to local governments by the federal Department of Housing and Urban Development (HUD). The funds are targeted for low and moderate income neighborhoods; and are generally used for housing improvements, economic development, and public works projects.

Montana received about \$6 million in CDBG funds in 1982. (21). Local governments compete with each other for this money, which is awarded on the basis of community needs assessments. Under the Reagan administration, the federal government has turned over virtually all the decision-making power concerning who receives the awards to the states.

Over the last eight years CDBG's have been used by a number of communities to design and implement a variety of energy projects (22). These include a district heating and cogeneration project in Piqua, Ohio, solar space heating and cooling in Spokane and Seattle, weatherization programs in Fitchburg, Massachusetts, and neighborhood audits in Hutchinson, Kansas.

Montana communities could use CDBG money for building rehabilitation and weatherization work. Local governments could also use CDBG's as a source of seed money to leverage private investment in order to capitalize an energy conservation revolving loan fund. If a community develops a proposal to use CDBG money in this way, it must substantiate the positive benefits the program will have for low and moderate income citizens. These benefits may include job creation, direct services, or any other concrete measures.

Lane County, Oregon is one local jurisdiction that has developed an innovative energy loan program with the help of a CDBG. This community received close to a half million dollar CDBG in 1981 to help subsidize interest rates in a demonstration conservation loan program for private, for-profit commercial and industrial businesses. This program will be discussed at length in a later chapter. In addition to

writing down interest rates, an energy CDBG could be used as a reserve fund to insure conservation loans against defaults.

Urban Development Action Grants (UDAG). UDAG's are another grant program funded by HUD that is available to local governments. These grants are targeted for urban redevelopment in economically depressed or blighted areas.

There are five different indicators used by HUD to assess a community's economic problems. Prospective UDAG applicants must qualify in at least three of these areas. The indicators are population lag, unemployment, the age of the housing stock, poverty, and per capita income.

UDAG's differ from CDBG's in several important ways. Local governments compete for UDAG's on a national basis, while the competition for CDBG funds occurs at the state level. UDAG's are designed to fund projects that are considered unattractive investments without the help of this grant money. UDAG recipients are required to secure private matching funds equal to at least two and one-half times the total grant award.

UDAG's can be used for energy conservation improvements on residential and commercial buildings. They could also be used to secure financial commitments from area lenders to set up an energy conservation revolving loan fund. In most cases UDAG money must fund projects that are located within the city limits of an urban area.

Portland, Oregon received a \$3 million UDAG from HUD in 1979 to promote and finance conservation measures in residential buildings and businesses. This is the first UDAG that has been used specifically for energy conservation (23). The Portland grant is being combined with almost \$15 million in private capital from local lenders. The city has created several different energy loan programs with this money.

Revenue sharing. General revenue sharing is the nation's largest domestic federal aid program (24). Local governments have been receiving these funds since 1972. Over 38,000 communities receive revenue sharing funds at present, and in FY82 about \$4.6 billion was dispensed (25).

The funds are distributed by an allocation process based on population, inverse per capita income and local tax rates. It is a popular program with local officials because it is an entitlement program and is thus not competitive. The lack of restrictions on how funds can be used and the small amount of paperwork involved in receiving and allocating funds are other attractive aspects of the program.

Montana law allows local governments to spend revenue sharing money on anything that could otherwise be financed out of a city or county's general fund (26). This would appear to give local officials the authority to use revenue sharing funds to capitalize a conservation loan program.

Fort Collins, Colorado is using revenue sharing money to fund a residential no-interest loan program for energy conservation (27). Borrowers must pay 10 to 20 percent of the labor cost, with the city paying the remaining cost to the contractor after the work has been completed and certified. Residents must repay the loans within five years.

Weatherization programs. The federal government operates two different programs designed to help states pay heating bills and weatherize homes of low-income residents. In 1982 Montana received about \$11.4 million in energy aid of this type (28). Seventy-five percent (\$8.5 million) of this amount was used for fuel bill assistance, and 25 percent (\$2.9 million) for weatherization purposes. The amount of money a state receives is based on the size of its low-income population and the severity of its climate.

The federal Department of Health and Human Services (HHS) is the major source of funding for the low-income energy programs. In 1982 they allocated Montana about \$10 million, 85 percent of which was used for fuel bill assistance and 15 percent for weatherization (29). The Department of Energy (DOE) operates a separate weatherization program, and allocated Montana \$1.4 million in 1982 (30).

The two programs are administered at the state level by the Department of Social and Rehabilitation Services (SRS). Non-profit Human Resource Development Councils and/or county welfare offices operate the programs at the local level.

According to SRS, about 14,000 homes have been weatherized in the state since the weatherization program began in 1974 (31). It's estimated that there are anywhere from 27,900 to 43,000 eligible low-income households in the state (32). The average amount of money spent per house on weatherization measures is approximately \$960 (which includes labor and materials) (33). Eligible conservation improvements include infiltration losses, clock thermostats, hot water heater jackets, ceiling insulation, and storm windows.

DOE weatherization funding has been steadily declining in the last three years. Montana's allocation has dropped from \$4 million in 1980, to \$2.5 million in 1981, to \$1.4 million in 1982 (34). President Reagan is attempting to kill the program with DOE having asked for zero funding the last two years. However, according to the state SRS official in charge of administering the program, this program has broad Congressional support and probably will not be completely eliminated (35). The fuel bill assistance program is apparently also safe from being killed or drastically curtailed (36).

State

Coal severance tax trust fund. The state earmarks a small portion of the revenue collected from Montana's coal severance tax to fund projects that can demonstrate nonrenewable energy savings. Individuals, groups, businesses, and local governments can apply for energy grants and loans under the state's Renewable Energy Grant and Loan Program. This program is operated by the Department of Natural

Resources and Conservation (DNRC).

The 1983 Legislature passed a bill that will allow some of this coal tax money to be used for grants to fund the research and development of promising conservation technologies. Conservation projects may not receive loans under the DNRC program.

Although this coal tax fund would appear to be an ideal source of seed money to help a community set up a pilot energy conservation loan program, it's unclear whether or not communities may receive grants for this purpose. Hopefully at some point the guidelines governing the grant and loan program will be changed to expressly include funding for community conservation programs.

Another promising source of funds that is connected with the coal trust fund is state ballot initiative number 95. This initiative, which was enacted in November 1982, requires that the state invest 25 percent of all future deposits in the coal tax trust fund in Montana's economy. A state economic development fund will be created, which will be designed to support Montana businesses that are compatible with a clean and healthy environment.

The legislature is charged with developing the details of the investment program. The initiative wording does prohibit the state from making direct loans. It is conceivable, however, that the state could act as a secondary market by purchasing conservation loans that are originated by Montana lenders.

Montana Board of Housing. The Montana Board of Housing operates as a secondary market by buying home mortgage loans from Montana lenders. The Board issues tax-exempt bonds and uses the proceeds to purchase these mortgages at reduced interest rates. The Board has issued three such bond offerings in the last three years.

The Board currently only purchases federal FHA or VA insured loans. It does not include home improvement loans in its financing programs. This is because the Board has made a policy decision that it does not want to be involved in refinancing loans (37).

According to one Board member, the issue of whether the Board of Housing should help finance home improvement loans, which could include energy improvements, has not been thoroughly discussed (38). It's conceivable that the Board may be persuaded to change its policy on rehabilitation loans if they're presented with a well-reasoned proposal.

State employee pension funds. Pension funds in the U.S. represent the largest source of private investment capital in the world (39). The Department of Labor reports that there were \$653 billion in non-federal pension assets in 1980 (40). It's possible that some of these funds could be used to capitalize energy conservation loan programs.

The Montana State Board of Investments is authorized to manage the investment portfolios of a number of state employee pension funds. The author made inquiries about one such fund - the Public Employee Retirement System (PERS) (41).

All public employees, except teachers, are required to be members of PERS. Employees contribute 6 percent of their earnings to this retirement fund. These contributions are matched by state and local government contributions of 6.32 percent. When an employee leaves a public position, the portion he or she has paid into the fund plus about 8 percent interest is returned. However, the county's contribution remains in the fund.

The invested value of the PERS portfolio as of June 30, 1981 was about \$270 million (42). The aggregate return on this investment in FY81 was about \$23.5 million (43). This resulted in a return on the portfolio of 9.56 percent (44).

PERS investments are made in four main areas - common stocks, corporate bonds, federal securities, and home mortgages. In FY81 two-thirds, or \$178.3 million, of the investments were made in U.S. corporate bonds (45). The second largest percentage of investments was made in buying mortgages from Montana lenders. These investments equaled \$38.5 million, or a little over 14 percent of the total (46).

The only policy stipulation the Board of Investments has made to date concerning the purchasing of home mortgages with pension funds is that the mortgages must be insured by either FHA or VA loan guarantees. It's possible that the Board could be persuaded to purchase similarly insured energy conservation home improvement loans.

Local

General fund. A local government's general fund is used to help finance a variety of community programs and services. Local property taxes are the primary source of general fund monies. State law prohibits counties from exceeding either a twenty-five or twenty-seven mill ceiling, depending on a county's size, when levying taxes for the general fund (47).

Using general fund money to finance a community conservation program may be politically unworkable if a local government is already at or near the legal mill levy limit. It is probably not a good idea to cut existing programs or services in order to finance a conservation loan program out of the general fund.

Tax-exempt bonds. Tax-exempt municipal bonds can be used to finance expensive community projects. These bonds are exempt from federal taxation, which benefits the bond's issuers and buyers. Local governments are usually able to sell bonds for reputable projects at interest rates that are several percentage points below the current market rate. This decreases the community's debt service. Buyers agree to this reduced rate in exchange for not having to pay federal taxes on any of the interest earnings.

Municipal bonds may only be used to finance projects that will be of primary benefit to the community as a whole. Whether a proposed project satisfies this "public purpose test" is usually decided on a case-by-case basis (48).

Two main types of municipal bonds, general obligation and revenue bonds, could conceivably be used to finance an energy conservation program.

General obligation bonds are often used by local governments to finance school, street, and building improvements. These bonds must be backed by the full faith and credit of the issuer. This means that local governments pledge to use their taxing power if necessary to repay the debt service on the bonds.

There has been a decrease in the use of general obligation bonds in recent years (49). There are several reasons for this. The fact that voter approval must be obtained before the bonds can be issued limits their attractiveness to local officials. Mounting voter dissatisfaction with rising government spending and tax increases work against voter approval of these bonds. In addition, Montana state law limits the amount of bonded indebtedness a Montana community may incur. All outstanding bonds and warrants, excluding high school bonds and emergency bonds, must not exceed a ceiling of 11.25 percent of the current taxable value of a city or county's property (50). This ceiling deters local governments with outstanding bond debt service from issuing additional general obligation bonds.

Revenue bonds now represent about two-thirds of all the new municipal bond issues in the nation (51). These bonds are favored by local governments because they do not require voter approval and are not backed by the full faith and credit of the issuer. Rather than making all local taxpayers share the responsibility of retiring the debt,

revenue bonds are repaid with funds which originate from the activity which was financed by the bonds.

Recipients of revenue bond proceeds must be able to prove that they will be able to generate sufficient revenues to repay the debt service. The issuer must obtain a pledge from the recipients that revenues from the financed project will be used to repay the bond obligation. Revenue bonds have traditionally been used to finance such things as sewers, parking, airports, rapid transit, and stadiums (52).

Industrial development bonds are a special form of revenue bond that are often used by local governments to promote economic development. These bonds are designed to help finance private commercial or industrial projects that will create local jobs and bring other accompanying economic benefits to the community.

Industrial development bonds have been described as being "really corporate bonds that are disguised to look like municipal bonds" (53). They involve no financial obligation to the local government, being secured entirely by revenues derived from the financed project. In order to qualify for federal tax-exempt status, industrial development bonds must finance projects that are expressly authorized under state law and do not exceed specific funding limits.

If general obligation or revenue bonds were to be used to finance an energy conservation program, it can be persuasively argued that they would be supporting local economic development and therefore satisfying the public purpose test governing municipal bond issuance. However, there are both legal and political problems that may make it

difficult to use tax-exempt bonds to finance conservation programs.

It appears that specific enabling legislation must be enacted by the state legislature before industrial development bonds can be used for conservation purposes. Current state regulations do not mention single family residential buildings as being eligible for improvements financed by these bonds (54). A legal opinion is needed to determine whether improvements to multi-family housing, public buildings, and commercial and industrial facilities are allowed under this restrictive Montana industrial revenue bond statute.

General obligation bonds, on the other hand, may be able to be used to finance conservation measures. State law allows counties to issue these bonds in order to make building repairs and additions (55). However, it may be politically difficult for local governments to get a majority of voters to agree to have their taxes increased to pay for conservation measures only some will receive.

As long as interest rates remain high and the economy is sluggish, there is no guarantee that municipalities will be able to obtain attractive interest rate reductions on tax-exempt bonds (56). The bond market is generally leery of innovative financing programs that lack a proven record of success (57). It will take a very solid program proposal and an excellent credit rating for a local government to be able to sell a sizable amount of tax-free bonds at rates several points below the market rate.

There are two additional problems with tax-exempt financing. State and federal statutes prohibit the taking of energy tax credits for projects that have been funded with tax-free money. This prohibition against "double dipping" applies to both energy conservation and production projects and may serve as a deterrent to loan program participation. A further hindrance to using tax-exempt financing involves provisions of the federal Mortgage Tax Act. Under this act, tax-exempt bonds cannot be used to finance mortgages or improvements to single family homes after December 31, 1983 (58). This would seem to eliminate using bonds to fund conservation measures after that date. Multi-family housing units are not included in this prohibition, however.

Idle cash flow. Each year local governments collect large sums of money in property taxes and other revenues. These funds are normally deposited with local financial institutions in short-term interest-bearing accounts until they are needed for government expenditures. This idle cash could be used as leverage to encourage local lenders to work with government officials in setting up an attractive conservation loan program.

In FY82 Missoula County had an annual cash flow of \$34 million (59). The county earned a return on this investment of about \$2 million (60). Communities like Missoula could establish a policy whereby local lenders who wish to receive some or all of the government's cash flow deposits must agree to help design and participate in a community conservation loan program. The competitive nature of the local

financial community should be such that the chance of receiving these lucrative short-term government deposits will influence lenders to work with the community in designing an effective loan program.

A city or county could propose to take part of the interest earnings from one year's idle cash deposits and use it as seed money to capitalize a conservation loan reserve fund. This reserve fund would be used to secure loans originated by participating lenders. The initial seed money used to create the reserve fund may earn enough interest to offset any defaults. The more affordable the loans are - i.e. can borrowers make their payments with their energy savings? - the less likelihood there will be of having a high default rate.

However, using this idle cash may present problems. These funds are usually earmarked for present uses. Therefore, officials must weigh the relative merits of making a one-time allocation of a portion of their annual cash flow to help capitalize a loan program versus spending this money on other community needs.

Local tax incentives. Local governments may wish to use property tax credits or exemptions to encourage building owners to invest in conservation improvements. This approach is being used in several areas of the country (61).

The property tax credit provides taxpayers with a deduction in the amount of property tax owed and can be equal to some or all of the cost of the conservation improvements. Harford County, Maryland has been offering residential, commercial, and industrial building owners who install solar systems credits against their property taxes since

1977. The initial program was so successful that it had to be scaled down in order to restore some of the foregone tax revenues the local government needed to conduct county business (62). (See Chapter IV for a further discussion of this program.)

The property tax exemption, on the other hand, assures taxpayers that there will be no increase in their taxes as a result of their having installed energy efficiency equipment. California voters passed an initiative in November 1980 that gave the State legislature the authority to prohibit both residential and non-residential property from being reassessed when solar systems are installed (63).

Public sentiment would probably support a local government tax incentive program designed to stimulate conservation investments. A fairly recent survey done by the Massachusetts Energy Office found that, when asked to choose between a variety of possible incentives, 37 percent of those polled felt that property tax credits were the best tool to influence consumers to make energy efficiency improvements (64).

There are some inherent problems with local tax incentive programs, however. Montana local governments may need state enabling legislation in order to use tax incentives of this nature. Another problem involves the reduction of operating revenues for local governments that in many cases are already having to cut services due to budget reductions. A property tax credit program that promises to further decrease local revenues may be unwise. Tax exemptions on the other hand would not cut into the amount of current revenues, but would just reduce the amount of increased revenue that could otherwise be

expected.

Another drawback is that tax incentive programs are weighted in favor of those citizens who pay the most taxes. There is the chance that a local incentive program may merely be providing a windfall to those taxpayers who would have made the investments anyway. Those consumers who still cannot afford the initial cost of conservation improvements will not directly benefit from a program that requires them to pay the material and installation costs before they can realize the tax breaks. If a community chooses to adopt a conservation tax incentive program, it should provide other incentives for those who pay little or no taxes.

Private

Financial Institutions

Lenders across the country are beginning to realize that they have a vested interest in promoting energy conservation. Energy costs are increasingly being added to the traditional formula of principal, interest, taxes and insurance (PITI) when lenders are evaluating the ability of borrowers to repay debts.

Financial institutions realize that consumers who live in energy efficient housing will be less affected by rising energy costs and should have an easier time making their monthly mortgage payments. More people should be able to afford home ownership if the life-cycle cost of owning and operating a residence is reduced due to energy efficiency

measures. It is also likely that the resale value of energy conserving buildings will increase in the future when compared to the resale value of similar less efficient structures.

Despite evidence that financial institutions are becoming more aware of the benefits conservation has for consumers and lenders alike, communities should not expect lenders voluntarily to offer energy loans with rates and terms sufficiently attractive to encourage consumers to make cost-effective conservation investments (65).

It was not too long ago that lenders could expect to have ready access to large amounts of low cost money as a result of their standard no-interest checking, low interest savings, and time deposit accounts. However, the changing economic conditions in recent years have seen consumers choosing to deposit their money in funds that offer competitive market rates of return. Consequently, lenders are having to offer higher interest rates to attract depositors, and they can no longer afford to offer below market money to borrowers.

In order to get financial institutions interested in a conservation loan program, the program must be made attractive to them. Lenders need to make a reasonable profit on any loans that they're involved with. Any interest subsidies that will enable borrowers to repay the loans with their energy savings will probably have to come from a source other than the lenders. Lenders need to be adequately compensated for originating and servicing loans. Loan programs in Eugene, Oregon, Baltimore, and New Mexico all are having problems getting lenders to participate due to the lenders' feeling that the

programs do not offer them enough profit for their efforts (66).

If lenders are to make loans to consumers who are considered marginal or poor risks, then some sort of loan guarantee package and/or secondary market should be used to make the loans attractive. The existence of a convenient secondary market will be an incentive for lenders to participate in a loan program. Most lenders are constantly concerned about maintaining their liquidity. Financial institutions will be more inclined to originate and service loans if they know they can turn around and sell these loans on a secondary market.

Congress passed legislation in 1977 that can be used as a vehicle to encourage lenders to participate in energy loan programs. The Community Reinvestment Act requires that all federally chartered and/or insured financial institutions meet their community's credit needs according to both sound business practice and the institution's financial capacity (67). The Act was passed in order to try to increase the amount of credit available in depressed communities and low and moderate income neighborhoods. Under provisions of the Act, lenders are required to prepare annual statements on their institution's community investment activities. These reports are available to the public.

Lenders may be tapped as a source of operating capital for CDC's that are involved in energy conservation work. A 1980 ruling by the Comptroller of the Currency allows national banks to own equity in CDC's (68). There are a number of stipulations attached to this. They include proof that the CDC is engaged primarily in projects that are in the public's interest, as opposed to being private or entrepreneurial in

nature. The CDC must provide substantial tangible benefits to low and moderate income residents. There is also a limit on the amount of bank funds that can legally be invested in a CDC.

Banks will probably be cautious in investing in a CDC until they see its initial track record. If it appears that the CDC is a viable operation that may potentially be a self-supporting or profit making entity, lenders may be agreeable to providing operating capital.

Utilities

In 1978 Congress passed landmark legislation that required publically regulated utilities to become actively involved in energy conservation and renewables. The National Energy Conservation Policy Act of that year established the Residential Conservation Service. This program directs utilities to provide their residential customers with several services. These include energy audits designed to recommend cost-effective conservation measures and referrals to help residential customers arrange for both the financing and installation of recommended efficiency improvements.

The Energy Security Act of 1980 expanded the role that utilities can play in promoting conservation and renewables. In addition to the audit and referral services, utilities are now allowed to provide financing, materials, and installation for their customers. Small commercial buildings and multi-family housing units have been added to the program. State utility regulatory bodies, such as the Public Service Commission in Montana, are authorized to design and implement

their own programs.

There are currently over one hundred utilities in the country that are financing conservation programs (69). Montana's three major investor-owned utilities - Montana Power, Montana-Dakota Utilities, and Pacific Power & Light - all offer conservation loans for their residential heating customers.

Montana Power Company(MPC) and Montana-Dakota Utilities(MDU). The MPC and MDU loan programs are very similar. Both utilities offer their residential space heating customers no-interest loans to pay for the installation of approved conservation measures. The utilities provide free energy audits upon request and will finance such improvements as ceiling and attic insulation, storm windows and doors, caulking and weatherstripping, clock thermostats, etc. Wall insulation is not included under either program.

MPC will loan up to \$2,000 to customers living in residential buildings of no more than four units. Loan recipients have up to four years to repay the loans. MDU has a ceiling of \$1,500 per residential loan, with a three-year payback. Neither utility will loan money for conservation improvements made to multi-family, commercial, or industrial buildings. Residents who use fuels other than electricity or natural gas as their primary heating source are also not eligible.

Montanans are indirectly subsidizing the operation of these loan programs. In return for making this loan money available, the utilities are receiving credits against their state taxes. There is a ceiling of \$500,000 in tax credits that each utility may claim in any tax year.

This ceiling effectively limits the loan money the utilities will make available in any year.

Pacific Power & Light. The PP&L program differs from the MPC and MDU programs in several ways. PP&L also offers no-interest loans to its residential heating customers, but these loans are not due until the home or building is sold. PP&L does not have a fixed ceiling on the amount of money a customer may borrow. Instead the utility will loan money for all measures whose life-cycle cost is less than PP&L's marginal cost of supply. In other words, the utility will finance those conservation improvements that they feel will save energy over the useful life of the measures at a cost that is less than it would cost PP&L to provide an equivalent amount of energy from new generation sources.

The financing of PP&L's program also differs from the MPC and MDU approach. Instead of opting for state tax credits to offset the cost of providing consumer loans at no-interest, PP&L has chosen to rate-base the cost of their loan program. The amount of any loans that are made is added to PP&L's rate base. All of the utility's Montana ratepayers share the interest cost of carrying these loans for as long as the loans remain unpaid. When the improved home is sold and the borrower repays the loan, the rate base is reduced by the amount repaid.

Under this arrangement ratepayers who don't participate in the program subsidize those who do, in that everyone shares the interest costs of outstanding loans that are still in the rate base. However, this subsidy is offset by the fact that all ratepayers will benefit if

the conservation program allows PP&L to make more efficient use of its existing capacity at a life-cycle cost that is less than the incremental cost of building new generating facilities.

Rate-basing utility conservation investments. The 1983 Legislature passed a bill (SB 456) that hopefully will provide an incentive for Montana's three major utilities to increase significantly their conservation efforts. This new law allows MPC, MDU, and PP&L to add the full cost of any cost-effective conservation investments they make to their rate bases. The utilities will then be able to earn a rate of return on these expenditures. Cost-effective conservation is defined in the bill as being those measures that cost no more than 50 percent of the utilities' avoided cost of generating or purchasing energy supplies from other sources.

The bill also states that the Public Service Commission (PSC) may authorize an increase of up to 2 percent on the rate of return utilities are allowed to earn on conservation investments vis a vis the return allowed for other investments. In other words, at the PSC's discretion, it may be possible for a utility to earn, say, a return of 12 percent on a conservation investment compared to a 10 percent return on other utility investments.

There is a major difference between this rate-basing approach and the rate-basing currently being done under PP&L's loan program, which was discussed previously. Under the provisions of SB 456, the utilities have the option of adding the full cost of purchasing and installing conservation measures into their rate base. All of the

utilities' customers will then share the cost of acquiring this conservation. Under the current PP&L loan program, only the cost of carrying the interest on the loans is added to the rate base. The loan recipient eventually repays the entire loan principal.

By allowing utilities to rate-base their conservation investments, conservation is being treated as a resource that should be acquired if it is cost-effective. It is hoped that the possibility of earning a higher rate of return on their conservation investments will serve as an added incentive for utilities to pursue a conservation program aggressively.

Adding conservation costs into the rate base will increase the utilities' cost of doing business and cause electricity and gas rates to rise. However several factors will help offset this increase. Monthly fuel bills in buildings that are weatherized should immediately be lowered or stabilized because of decreased consumption. By lowering the demand for electricity and gas, utilities will be able to postpone the need to purchase expensive new supplies of these fuels, which would cause prices to rise further. Any increase in rates resulting from conservation investments will most likely be phased in gradually over time as customers' homes are weatherized. These gradual rate hikes will be much easier to absorb than the drastic hikes envisioned if and when Colstrip 3&4 are added to MPC and PP&L's rate bases.

There are limitations to this rate-basing approach, however. Because the provisions in SB 456 are voluntary, there is no guarantee that the utilities will increase their conservation efforts. There is the possibility that some or all of the affected utilities may decide not to take advantage of the rate-basing opportunity.

Another drawback is that the bill does not apply to homes that are heated with fuels other than natural gas or electricity. Although most customers of the three major utilities heat with gas or electricity, a growing number of Montanans are turning to wood as an alternative to rising fuel bills. This is having a serious impact on air pollution in many western valleys. The availability of fully financed conservation improvements for utility space heating customers may act as an incentive for wood burners to reassess their choice of wood as a fuel, though. It's possible that a financing program of this sort may decrease the economic attractiveness of burning wood.

Conservation rate-basing programs are being tried in several parts of the country. In New Jersey, General Public Utilities operated a very successful pilot program in 1982. Under this program the utility offered to pay the full cost of installing cost-effective conservation measures in the homes of 1,000 targeted customers, and 95 percent of these customers participated (70). The Northwest Power Planning Council has recommended in its twenty-year energy plan for the Pacific Northwest that cost-effective conservation measures be fully financed by the Bonneville Power Administration in all rental dwelling units and in homes where the combined annual income is \$16,000 or less. The Council

further recommends that BPA partially finance conservation improvements in homes with annual incomes in excess of \$16,000 and in all commercial and industrial buildings. The Council predicts that with an aggressive marketing effort, these financing programs will be able to retrofit 80 to 90 percent of the homes in BPA's service region over the next fifteen to twenty years (71).

Foundations

Securing funding for a conservation program from a foundation is only a remote possibility (72). There are several reasons for this. First, energy has never been a real priority item with most foundations. There is also the feeling that energy is not as burning an issue as it was several years ago. A community must therefore have a very innovative idea in order to be considered seriously for foundation funding. To compound these problems, the competition for foundation support is extremely tough and will only get keener as federal budget cuts force community groups to scramble for new sources of money.

Individual Investors

There are two additional methods of financing that involve the participation of individual investors. These are leasing energy efficiency equipment and using energy investments as a tax shelter. Both of these methods are not applicable to programs that are limited to financing insulation and weatherization materials that become permanent parts of a building's structure. Leasing and tax shelters are primarily

suited for either large centralized projects with capital intensive equipment, or decentralized applications that involve leaseable items like solar collectors.

Solar panels, storm windows, or large boilers for commercial or industrial businesses are examples of items that could be financed with a leasing arrangement. Leasing is a viable option if one is purchasing large expensive equipment that could be removed and installed elsewhere (73).

There are several tax benefits available for investments in energy businesses. These include a 10 percent investment tax credit, a 10 to 15 percent energy tax credit, a five-year capital cost recovery allowance, and interest deductions.

A community may want to encourage private investors to set up a partnership with local government to design and implement an energy efficiency program. The investors could use the partnership as a tax shelter.

If an investor puts 25 percent down and borrows the remaining 75 percent in order to acquire enough capital to get a program established, for tax purposes he or she is considered to be at risk for 100 percent of the investment (74). The investor can thus claim tax breaks for the entire investment (75). In some instances this arrangement could provide participants with a good return on their investment, especially in the first year when they can claim both investment and energy tax credits.

A Community Development Corporation(CDC) could capitalize itself by selling syndications in energy tax shelters. The city of Onondaga, New York is using this approach in its effort to help finance a \$90 million resource recovery plant (76). The city is creating a CDC which will issue industrial revenue bonds and then hire a vendor to design, construct, and operate the plant. The city hopes to help finance the project by selling \$35 million worth of equity to outside investors. These investors will hold a long-term lease on the plant, which they will sublease back to the vendor. This financing arrangement will allow the city to use the equity money to retire part of the debt, which will help reduce the financing costs. The investors will be able to claim tax shelters, which may be as high as \$27 million in the first year alone.

The city of Los Angeles is also using the lure of sizable tax shelters to attract investment in a private municipal solar utility (77). The utility will design and install solar systems.

Chapter IV

MODEL FINANCING PROGRAMS FROM AROUND THE COUNTRY

This chapter presents several examples of financing programs that have been developed around the country to promote conservation and renewables. There are four main types of programs listed--those that are operated by financial institutions, utilities, states, and local governments. The programs that appear within each category were chosen because they are innovative and there is adequate information available about them.

Financial Institutions

San Diego Federal Savings & Loan Association - San Diego, California

The San Diego Federal Savings & Loan Association has several programs that are designed as incentives for undertaking solar and conservation projects (78).

One program offers customers who hold mortgages with San Diego Federal loans up to \$4,000 for energy improvements. These loans are added to the principal of the outstanding mortgage. The interest on the energy loan is the weighted average between the old rate on the outstanding mortgage and the current market rate for the new loan. An important feature of the program is that the lender will extend the life

of the mortgage so that the borrower's monthly payments will stay about the same.

If the borrower's first mortgage is with a different lender, San Diego Federal will finance an energy home improvement loan at 1 percent below the current market interest rate. This discount will not have much of an effect on reducing the borrower's monthly payments. A \$4,000 loan for five years at 15 percent instead of 16 percent will result in savings of only \$2.36 per month to the borrower.

San Diego Federal also offers an incentive program for homebuyers and contractors. They will give a 1/4 percent discount on their mortgage interest rate to homebuyers who agree to install conservation materials upon purchase. The lender will include in this offer energy improvements that cost up to 10 percent of the home's sale price. For a \$50,000 home with a thirty-year mortgage at 16 percent rather than 16 1/4 percent, the buyer will realize savings equal to about \$3,600. This is enough money to finance most of the common energy efficiency improvements. This 1/4 percent discount also applies to contractors who build energy efficient structures. A builder who takes advantage of this incentive could save \$7,000 on a \$2 million construction loan over an eighteen-month term.

Home Federal Savings & Loan
Association - Rockford, Illinois

Home Federal Savings & Loan offers a 1/4 percent mortgage interest rate reduction for new homes that meet minimum energy efficiency standards. These standards include R-38, 19, and 22 in the ceiling, walls, and floor respectively; double or triple glazed windows; storm doors; efficient furnaces and fireplaces; and caulking and weatherstripping.

Home Federal reports that during the first 2 1/2 years of the program, from 1977-1979, 84 percent of all their new construction loans were for energy efficient homes (79).

According to Home Federal officials, the success of the program is due in large part to the aggressive energy conservation promotional effort the lender waged in the community (80). As a part of this effort, Home Federal staff members helped write the energy conservation code for Rockford.

Bank of America - California
Branches

The California branches of the Bank of America have developed a novel approach to ensure that sound technical judgments are made about proposed energy efficiency improvements that the bank may finance (81). The bank has contracted with the Berkeley Solar Group, a private energy consulting firm, to provide the lender with technical evaluations of various solar projects. The bank combines this technical information with their own financial evaluation in order to be better able to

determine whether they should finance particular solar and conservation projects. This program also aids consumers by giving them valuable information on specific products and projects.

Continental Savings Bank -
San Francisco, California

This Bay Area lender has established an innovative energy financing program that is attractive to borrowers, investors, and lenders alike (82).

The bank has set up a Safe Energy Fund that is used to make long term, below market loans to individuals who want to install solar energy systems. The loan fund is capitalized with deposits made by investors who want to see their money used to finance solar projects. With a minimum deposit of \$10,000 for six months, investors receive Solar Treasury Bills (T-Bills). These are money market certificates with interest rates that are tied to the yield of government T-Bills. All savings deposits are fully insured up to \$100,000 by the Federal Savings and Loan Insurance Corporation (FSLIC).

Continental Savings also offers investors who want to deposit less than \$10,000 the option of buying Solar T-Notes. Individuals may open thirty-month T-Note accounts with a minimum deposit of \$1,000.

The interest rates on these accounts are the highest allowed by the federal government. These rates are usually several points below the prime lending rate. Borrowers who use Safe Energy Fund money pay an interest rate 1 1/2 percent higher than the rate paid to depositors.

This 1 1/2 percent difference is used by the bank to cover its transaction costs. These may be the lowest-cost unsubsidized home improvement loans in the country. In addition to this below market interest rate, the bank also offers terms up to twenty years.

Unlike most bank investment programs, depositors are guaranteed that their Safe Energy Fund money will only be invested in solar energy. All of the money deposited in the fund is used to finance solar systems installed primarily on multi-family residential buildings within a one hundred mile radius of San Francisco. This is thought to be the only program of its type in the country (83). As of October 1981 there was over \$2 million dollars in the loan fund. As a result of national advertising, one-fifth of this amount had come from out-of-state depositors.

Utilities

Bonneville Power Administration (BPA)

BPA is a federal agency, headquartered in Portland, Oregon, that markets electricity throughout the Pacific Northwest region. Under provisions of the Pacific Northwest Electrical Power Planning and Conservation Act of 1980, Bonneville has the authority to borrow up to \$1.4 billion from the U.S. Treasury to fund conservation and renewable energy programs that will save Bonneville electrical energy.

BPA currently has several pilot conservation programs underway in its four-state service area (84). Among the agency's conservation efforts are a residential weatherization program and a low-income weatherization program.

The residential weatherization program is a ten-year effort that targets conservation savings in existing single and multi-family dwellings. Under this program, which began in November 1981, Bonneville offers participating utilities two conservation financing options. The first option involves BPA providing no-interest loans which are payable on resale - which is similar to PP&L's loan program. Under the second option Bonneville will pay a rebate of 29.2 cents/annual kilowatt-hour saved to utility customers who save electricity for the system by installing approved conservation measures. According to the agency, this 29.2 cents/KWH rebate typically covers between 60 to 80 percent of the cost of retrofitting existing homes (85). The customer pays the difference. In both cases Bonneville provides the conservation money to participating utilities, who in turn pass these funds through to end-use consumers.

BPA will finance the same types of conservation measures under this program as Montana's investor-owned utilities do under their programs. There is one important exception, however. Under Bonneville's programs, measures designed to reduce air infiltration, such as weatherstripping, caulking, storm doors and windows, and outlet and switchbox gaskets, can only be installed in homes that have been certified as having no indoor air pollution problems. In order to be

certified, homes must have all of the following characteristics:

- "1. A full crawl space with cross ventilation (as per the Uniform Building Code), with a ground cover vapor barrier and floor insulation with a vapor barrier (which may be provided under the program).
2. No woodstoves or unvented combustion appliances, such as gas stoves or kerosene heaters.
3. A municipal water supply or surface water source for domestic supply.
4. Wood frame construction with less than 10 percent exposed interior masonry per floor area.
5. No urea-formaldehyde foam insulation (86)."

The agency is currently studying the causes and effects of indoor air pollution and may revise these restrictions at a later time.

As of January 1983 one-half of the 144 BPA-affiliated utilities had signed up to participate in the residential weatherization program. In the first year of the program 6 percent, or 17,500 out of the 312,000 targeted homes, had been retrofitted (87).

Bonneville's low-income weatherization program combines the previously mentioned 29.2 cents/KWH-saved rebate with DOE low-income weatherization money. This enables low-income residents to receive fully financed conservation measures, at no direct cost to the recipients. The agency also works closely with participating utilities to market this program aggressively. In order to ensure that low-income residents will have access to this program, Bonneville is offering this same financing package to states to administer in the event that some BPA-affiliated utilities choose not to participate in the program.

Bonneville also has money available for local governments to use for conservation purposes. These funds are targeted to help local governments design and implement cost-effective conservation programs that will save electrical energy in the residential, commercial, and industrial sectors.

Federal legislation limits Bonneville's potential service area in Montana to those areas that are no further than seventy-five air miles east of the continental divide. There are five rural electric cooperatives in western Montana that are affiliated with BPA. Montana Power is not. However, if MPC signs a power sales agreement with Bonneville in the future, the latter's electrical conservation programs will then be available to MPC's customers throughout western Montana.

Pacific Gas & Electric

Pacific Gas & Electric (PG&E), the largest utility in California, has adopted a variation of the previously mentioned utility loan programs (88). Their Zero Interest Loan Program (ZIP) allows borrowers to defer the start of loan payments for one year.

PG&E will loan up to \$3,500 to homeowners, landlords, and renters for weatherization materials and labor. Renewables are not eligible. Borrowers have up to eight years to repay the loans, and may apply for a 40 percent state energy tax credit.

PG&E's one-year deferment on repaying their loans benefits the borrower. When combined with the state tax credit, the borrower is guaranteed a healthy positive cash flow in reduced energy costs for at least the first year. As energy prices continue to increase during the eight-year term of the loan, the customer should be able to maintain this new savings with the help of the large first year savings.

The loan amounts are included in the utility's rate base. Upon repayment of a loan, the rate base is reduced by the amount of the loan. The utility is expecting the program to result in substantial savings to its ratepayers. Over the life of the program they are predicting net savings due to avoided generation costs of \$9.5 billion (89).

This is a pilot program that began in a ten county area in 1981. A large portion of the loan money is targeted for the utility's low-income and elderly customers. PG&E hoped to make the program available to its entire three million customers sometime in 1982.

States

California Solar Business and Industrial Development Corporation

The California legislature has been an active supporter of solar energy and conservation during the last decade. In addition to the state's 55 percent solar tax credit and 40 percent conservation tax credit, in 1977 the legislature passed the State Assistance Fund for Energy Act. This Act established the nation's first Solar Business and Industrial Development Corporation (BIDCO).

The BIDCO's sole purpose is to finance renewable energy businesses. By making loans and equity investments in these businesses, the BIDCO has provided the state's small energy businesses a much needed lift (90). The state initially allocated \$2.5 million to the BIDCO fund. This money can be leveraged by a factor of ten with 90 percent federally guaranteed loans available through the Small Business Administration (SBA). The BIDCO remains liquid by selling the federally guaranteed portion of the loans on the secondary market.

Vermont State Housing Finance Authority

The Vermont Housing Finance Authority (HFA) is working with twelve Vermont financial institutions to make low interest loans available for conservation to low and moderate income families (91). The loans are capitalized with the proceeds of a \$2 million tax-exempt bond issue that the state HFA offered in 1980.

The proceeds of the bonds are used to provide energy conservation loans of up to \$3,000 to families with annual incomes under \$20,000. The interest rate on the loans is 8 1/2 percent. The program is restricted to owner-occupied one and two-family dwellings.

New Jersey Mortgage Finance
Agency

The New Jersey Mortgage Finance Agency has set up a \$2 million revolving loan fund to finance the installation of solar hot water systems and energy conservation improvements in residences (92). The funds for the loan pool were part of the proceeds of a \$21.7 million tax-exempt bond issuance for home improvement loans in 1979.

There are no income restrictions attached to the loans. Each borrower may receive a maximum loan of \$4,500, \$1,500 of which may be used for conservation improvements that are made when the solar hot water systems are installed. The loans carry interest rates of 8 3/4 percent and terms of up to fifteen years. There is no direct subsidy involved in the program, because the 8 3/4 percent interest rates are high enough to meet the bonds debt service.

The combined effect of a relatively low interest rate and long terms makes the conservation portion of this program very attractive. If a borrower were to use the full \$1,500 allowed for conservation measures, his or her payments on this portion of the loan over fifteen years would be about \$15 per month. This figure is less than one-half the monthly payment a MPC customer would have to pay on a similar loan

of \$1,500. (see Table II) These low payments could very well be offset by equivalent monthly energy savings.

State-Financed Conservation Programs For Rental Buildings

There are several existing weatherization programs for rental buildings around the country. These programs are using varied approaches.

At least two states have made rental housing weatherization mandatory. Minnesota and Wisconsin require rentals to meet minimum energy efficiency standards. Minnesota requires the installation of conservation measures by July 1, 1983 that satisfy a ten-year payback criterion (93). Wisconsin's law states that measures that meet a five-year payback test must be installed by 1983 (94).

Property tax credits may be a significant incentive for landlords to invest in conservation. Rhode Island offers a 20 percent state tax credit to landlords who invest in rental housing conservation (95). The tax credit is limited to \$500 per structure and \$1,000 per owner per year. There is a five year, \$5,000 ceiling on the amount of credits that can be claimed by an individual. The state enacted this program despite the fact that there is no similar state conservation tax credit for homeowners. It was felt that rentals needed special attention because there are no federal conservation tax credits for rental property.

Table II

Comparing Different Loan Program Payment Schedules
On A \$1,500 Conservation Loan

| Program (interest, terms) | Month | Year | Total |
|--|----------|-----------|-------------|
| Montana Power (0%, 4 years) | \$ 31.25 | \$ 375.00 | \$ 1,500.00 |
| Montana-Dakota Utilities (0%, 3 years) | 41.67 | 500.00 | 1,500.00 |
| Pacific Power & Light (0%, due on resale) | 0 | 0 | 1,500.00 |
| Pacific Gas & Electric (0%, 8 years) | 15.62 | 187.50 | 1,500.00 |
| New Jersey Mortgage Finance Agency (8 3/4%, 15 years) | 15.30 | 183.35 | 2,750.26 |
| Portland (4 3/4%, 10 years) | 16.00 | 191.91 | 1,919.00 |
| (8%, 10 years) | 18.63 | 223.54 | 2,235.44 |
| Baltimore (11.425%, 7 years) | 26.89 | 322.71 | 2,258.97 |
| Conventional Home Improvement Loan - as of May 1982 (18%, 5 years) | 39.97 | 479.67 | 2,398.33 |

The potential benefit of tax credits should be weighed against the consequent decrease in local tax revenues. There is the possibility that decreased tax revenues may jeopardize the continued funding of some local services. However, in the long run renters and the community as a whole will benefit from reduced energy bills and a healthier local economy.

The state of Maryland has a popular loan program for multi-family building owners (96). The state gives loans of up to \$5,000 for the first rental unit, and \$3,000 for each additional unit up to \$50,000 or 20 units. The interest rate is 13 percent, terms are for up to eight years, and the program has no income restrictions. The program began in April 1982, and by the end of May they had made \$800,000 in loans (97). The state is financing the program with \$1 million in surplus funds.

Cities and Counties

Portland, Oregon

The City of Portland has developed a comprehensive energy policy over the last seven years, with the aid of two large federal grants. The city is relying on a combination of public education, financial incentives, and mandatory ordinances to promote and implement this policy.

Portland received a \$224,000 grant from HUD in 1975 to finance a local Energy Conservation Demonstration Project. The city spent four years developing a comprehensive energy policy. During this time a series of studies conducted by citizen committees concluded that the city could decrease its energy consumption by 34 percent by 1995. In August 1979 the City Council formally adopted Portland's energy policy.

There are six principles that form the basis of this policy (98).

1. The policy must be aggressive and achieve substantial results.
2. Provisions must be made for the social and economic differences among the local population.
3. All sectors must be treated fairly.
4. The city's attractiveness as a place to live and do business must not be compromised.
5. All conservation measures must be cost-effective.
6. The local government's role is to support private enterprise, not to replace it.

The cornerstone of Portland's conservation program is its mandatory weatherization provision. The energy plan calls for an initial five-year voluntary period when it's hoped that all local buildings will be weatherized. A ten-year payback test is used to

measure cost-effectiveness for residential buildings. The payback for commercial and industrial buildings is shortened to five years. Industrial processes are exempt.

Beginning in 1985 the weatherization provision will become mandatory. For residential buildings, including apartments, the enforcement will come at the point of sale or rental. For commercial and industrial buildings, the ordinance will be enforced at either the point of sale or when remodeling is done that is equal to 50 percent of the building's replacement value. A self-certification procedure will be used to comply with the retrofit ordinance. Hence the city will have no additional administrative responsibility to inspect buildings for compliance.

The provision making building weatherization mandatory in 1985 has been very controversial. It was challenged from the beginning by opponents who felt that it was an infringement on their property rights and personal liberties. In November 1980, a little over a year after the ordinance was enacted, voters passed by a 55-45 percent margin a ballot initiative requiring voter approval before the mandatory provision of the ordinance goes into effect.

Consumer education is a vital part of Portland's energy program. The city has established a nonprofit corporation, Portland Energy Conservation, Inc.(PECI), to develop programs aimed at helping to implement the policy. PECI operates the Energy Saving Center, which is a one-stop clearing house for energy information and referrals. The Center has mounted an aggressive marketing campaign aimed at getting

local buildings audited and the recommended improvements made.

In order to help finance their energy conservation program, Portland received a \$3 million Urban Development Action Grant (UDAG) from HUD in November 1980. The city is leveraging the UDAG money with \$14.7 million that has been pledged by twelve local lenders to finance several conservation loan programs. Below are sketches of each of these loan programs.

Low and moderate income home weatherization loans. Families who own their own homes and whose household income is less than 110 percent of the area median (\$29,700 for a family of four in 1982) are eligible for home improvement loans under this program. These loans can be for up to \$10,000 at 4 3/4 percent and ten-year terms. Local lenders have created a \$2 million loan pool to finance these improvements, which can include energy efficiency measures. UDAG money is used to write down the interest rate from the city's tax-exempt rate to 4 3/4 percent. A lien is required as security for the loan. This program began in February 1982 and not quite one hundred loans were made in the first four months (99).

Single family home weatherization loans. This program provides loans for up to ten years at 8 percent. UDAG money subsidizes the difference between the current market rate for similar home improvement loans and 8 percent. There are no income restrictions, and the program is targeted primarily for oil and wood users, who are not eligible for other utility or government loan programs. Lenders use their normal criteria for screening loans, and the loans do not have to be secured

with a lien. In 1981 four hundred of these loans were made (100).

Multi-family weatherization loans. This program has the same provisions as the single family loan program. It's available for multi-family residential buildings that are located in predominantly low-income neighborhoods. In 1981 about 300 apartment units were weatherized at an average cost of \$500 per unit (101). According to a Portland official, this is their least successful program (102). The city is having a hard time convincing landlords that it will benefit them to make energy improvements in their buildings.

Commercial, industrial, and multi-family audit loans. No-interest loans to pay for building audits are available for all commercial and industrial buildings as well as those multi-family buildings not eligible for the preceding loan program. This loan money is available for one year. Borrowers receive credit toward their loan repayment in proportion to the number of cost-effective improvements that are made. Several local banks have created a \$9.75 million loan fund at market rates to help finance recommended efficiency improvements.

Lane County, Oregon

Lane County, which includes the City of Eugene, has also received a large federal grant to develop and implement a model conservation loan program. There are both similarities and major differences between the Portland and Lane County programs.

Both Eugene and Portland passed weatherization ordinances for residential buildings prior to seeking funding for loan programs. Linked with the ordinances are energy efficient building codes. The local utilities conduct free audits for their single family residential customers, and help finance recommended conservation measures.

Lane County originally submitted three grant proposals to HUD under the CDBG program to establish loan programs for buildings not currently eligible for utility financing. These proposals targeted low-income multi-family, multi-family in general, and commercial and industrial buildings. Only the latter project was funded.

The county was awarded a \$498,000 CDBG in May 1981. Its purpose was to set up a revolving loan fund to finance conservation improvements in commercial and industrial buildings at below market interest rates. The loans are available only to private, for-profit businesses located within the City of Eugene. HUD awarded the grant based on the general idea of the project, and left it up to the county to iron out the specific details of the program (103).

After receiving the grant, the Housing Authority and Community Services Agency of Lane County (HACSA), which administers the loan program, conducted a survey of commercial and industrial businesses in the target area. HACSA then developed the loan criteria based on the survey results.

Loans are available for up to \$1,500 at 10 percent interest and four-year terms. The county reserves the right to change the interest rate, which would then apply to all subsequent loans. All targeted businesses are eligible, regardless of whether they own their own buildings or lease or rent. Approved energy improvements include the standard conservation measures (insulation, storm windows, etc.) plus active and passive solar retrofits.

Loans for amounts in excess of \$1,000 must be secured with a duly recorded promissory note and a mortgage on the property to be improved. If the loan applicant rents or leases their building, the loan must be secured with either a mortgage on their home or on other real property that they own.

In addition to the fact that the Lane County loan program does not apply to residential buildings, another major difference between the Portland and Lane County approaches is that there is no lender involvement in the latter. The county is using the CDBG money to make direct loans through HACSA. The loan approval criteria is roughly the same as with conventional loans from private lenders. Borrowers repay the loans in monthly installments.

The program has had some problems getting started (104). It was initially thought that the grant money could be used to leverage an equal amount of funds from financial institutions. The public money would then be used to subsidize the below market interest rate. However, to date lenders have shown no interest in the program. They are apparently unsure of the loan market and feel that the individual

loan amounts are too small for them to be able to make a reasonable profit (105).

Added to this snag is the fact that businesses are not applying for loans. Evidentially the public feels that the program is overregulated (106). To remedy this problem, several changes have been made in the program.

Originally the program required that a specific audit format be followed. The county was going to loan money for improvements that met a three-year cost effectiveness test as determined by a comprehensive audit. This has been relaxed to include more audit leeway. The comprehensive audit is no longer required, because a lot of businesses complained that they already knew what improvements needed to be made. Now the applicants must simply show HACSA how much energy will be saved by the proposed improvements in order to have the measures approved. The program's director is optimistic that these changes will make the overall design of the program a success (107).

Baltimore, Maryland

Unlike the two Oregon programs, the City of Baltimore has not relied on federal grants to develop and implement its financial incentive program. Baltimore has chosen to use the proceeds of tax-exempt bond sales as its funding source.

In April 1981 and again in April 1982 the city issued general obligation consolidated public improvement bonds totaling about \$54 million. Two million dollars of the proceeds of the two sales have been earmarked to finance conservation improvements.

The city has established a residential energy loan program. It enables low and moderate income homeowners to receive below market loans of up to \$3,500 to fund conservation measures. The loans are available at 11.425 percent interest and have terms up to seven years. A note is used for security. The program is limited to residential owner-occupied buildings of from one to four units, and the property to be improved cannot be used for commercial or office purposes. There is an annual gross income ceiling of \$30,000 per household, plus \$1,000 for each dependent.

Applicants are encouraged but not required to have an audit done. Eligible improvements include the standard weatherization measures, plus the installation of active and passive solar equipment. Roof repair or replacement is also allowed when necessary in conjunction with the addition of attic insulation.

The city uses the proceeds of the bond sales to act as a secondary market. It does this by purchasing energy loans that are originated by the five local lenders who participate in the program. Lenders use their standard loan evaluation criteria in considering loan applications. If the loan is approved, the applicant pays the lender a \$50 origination fee plus 1 percent of the loan amount. The lender collects all the payments and then forwards them to the city.

In the first year of the program, from April 1981 through March 1982, 121 loans averaging \$2,543 were settled (108). This equaled a total loan value of about \$308,000. The average household income of the borrowers was between \$17,000-\$18,000. Program officials are considering expanding the loan program to include owners of multi-family buildings.

The city has had trouble getting major commercial lenders with lots of branch offices to participate in the program (109). This is despite the fact that the lenders are just advancing loan money to the borrowers, rather than committing their own funds. It appears that the major lenders are balking because the service fee is too low. To try to remedy this problem, the local utility, Baltimore Gas and Electric, has agreed to service the loans. The city is now hoping that without having to service the loans, major lenders will believe that the \$50 origination fee plus 1 percent of the loan amount will be adequate compensation.

Harford County, Maryland

Unlike the three previous programs, this mixed suburban and rural county with a population of 150,000 has adopted an incentive program that uses local money exclusively. The county offers citizens who install solar systems a reduction in property taxes.

In the mid-1970's the state of Maryland passed enabling legislation that allows counties to give taxpayers credit against their local property taxes for solar installations. The amount of the credit and criteria for eligibility are left up to the local jurisdictions.

In 1977 Harford County officials adopted a 100 percent property tax credit for solar projects installed on residential, commercial, and industrial buildings. The credit could be applied over a three-year period. It was equal to the lesser of either the total amount of property tax for any eligible building over this three-year period or the total cost of the system. The county required that applications for the tax credit be received nine months prior to the beginning of the county's next fiscal year. This would enable local officials to plan for the impact these foregone revenues would have on the local budget.

The program was so successful in stimulating solar investments during its first four years that it had to be amended in September 1980. There was mounting concern among local officials that the county would not be able to absorb the loss in revenues due to the tax credit without having either to increase taxes or cut services. The property tax loss had jumped from \$4,000 on five applications in the first year to a projected revenue shortfall of \$700,000 on 600 applications in FY 81-82

(110). This latter figure represents a six cent loss for every \$100 in assessed valuation (111).

County officials recently decided to change the program in the following ways. They reduced the tax incentive to a one-year credit of either \$1,000 toward the purchase and installation of a solar system or the citizen's total property tax for that year, whichever is less. The county also placed a ceiling of \$150,000 on the total amount of credits it would award in any one year. Applications are still taken on a first come first served basis, and any applications that are left out due to the overall ceiling are automatically carried over to the next year.

This program has been a boon to solar energy in the area. By the end of 1982 it is estimated that there will be over 1,000 solar systems in Harford County (112). The program is primarily responsible for the creation of over sixty local solar industry jobs, which were virtually nonexistent prior to 1977 (113).

Despite these impressive figures, there are disadvantages tied to the program. The obvious loss of local revenues has put a strain on government operations. The 1,000 installed systems represent a local tax investment of over \$1 million. Another major limitation is that the program only benefits those people who pay local taxes. The current one-year limit on claiming the tax credit favors the wealthier property owner who pays more taxes than the moderate or low income citizen. If the \$1,000 credit was spread over four years it would be of equal benefit to both the property owner with a tax obligation of \$250 annually and the taxpayer who could claim the entire \$1,000 credit in one year.

Chapter V

CONCLUSIONS

Existing Financing Programs Are Inadequate

There are only a few options available to Montana consumers interested in financing energy conservation improvements. These financing programs are not working for a variety of reasons, which are discussed below. Problems include poor public participation, expensive loan payments, underfunding, limits on borrower eligibility, and the exclusion of rental property and commercial buildings.

Loans Are An Ineffective Way To Finance Widespread Energy Conservation

Virtually all conservation loan programs are destined not to be used by a large proportion of households. There are several reasons for this.

Loan programs start at a disadvantage when one considers that several studies have been done that conclude that consumers are reluctant to take on additional debt, even at no-interest (114). None of the three Montana utilities that offer no-interest conservation loans have had more than 5 percent of their eligible customers participate. Some loan programs around the country have had better success than this, but the potential is still limited. Seattle City Light's low-interest

weatherization loan program seems to have leveled off at 25 percent participation (115). Puget Power has achieved a similar 25 percent penetration rate in their partially financed conservation program, in which the utility and individual customers share the retrofit costs (116).

Those who do take advantage of loan programs tend to be predominantly higher-income consumers. In separate surveys done for Portland General Electric and Montana Power, it was found that each utilities' loan participants tended to be "younger, better educated, and more affluent" than their average customers (117). The Pacific Northwest Utilities Conference Committee (PNUCC), which represents a consortium of Northwest utilities, concedes that loan programs virtually eliminate low-income participation (118).

Specific problems with existing loan programs in Montana are discussed below.

Conventional home improvement loans. Most Montana financial institutions have not developed special programs or policies for energy conservation loans. Instead lenders will loan money for conservation measures under their standard home improvement loan policy.

Conventional home improvement loans usually carry short terms and high interest rates, which result in high monthly payments. One Missoula lender reports that their maximum term on loans of this type is five years, with interest rates a few points above prime (119). These loans are normally secured with second mortgages or liens on the improved property. The combination of expensive monthly payments and

stringent security requirements has resulted in a large majority of home improvement work being owner-financed (120).

Utility no-interest loan programs in Montana. Customer participation in the conservation loan programs operated by MPC, MDU, and PP&L in Montana has been disappointing to date. As of summer 1982, after each of these programs had been operating for at least two years, none of the utilities had given loans out to more than 4 percent of their eligible customers (121).

There are several possible explanations for this low participation rate. It's conceivable that because none of the utilities have mounted aggressive promotional efforts, there is a lack of consumer awareness about the availability and specifics of the programs. Other possible explanations include poor public relations on the part of the utilities; the unwillingness of MPC and MDU customers to assume additional debt, even at no-interest (this is especially true of lower income citizens); and the rapid increase in the number of homeowners turning to wood heat in the face of escalating utility costs, rather than investing in conservation.

PP&L's payment-on-resale provision may be a deterrent to program participation. This could arise if potential borrowers feel that they would need to ask for larger down payments when selling their homes in order to cover the loan repayments. They may view this as decreasing the marketability of their homes, and therefore choose not to take advantage of the loans. Also contributing to PP&L's low participation rate is the requirement that liens be placed on their borrower's homes

when loans are made. This scares potential participants away (122).

A further problem with all three utility programs is that only a certain group of customers are eligible for loans. The programs are designed for residential space heating customers only. Homes that burn wood, fuel oil, or propane as their primary heat source are ineligible. Multi-family housing, rental units, and all commercial and industrial buildings are also excluded.

In recent years a number of the more populated mountain valleys in Montana have developed increasingly serious air pollution problems. The rise in residential wood burning is largely to blame. One way to decrease the amount of wood burned in these areas is to cut down on the demand for heat in these homes. This can be accomplished by installing conservation measures. Unfortunately, Montana's utility financing programs cannot be used for this purpose.

Montana's Low-Income Weatherization Program

The federally funded low-income weatherization program operated by the State Department of Social and Rehabilitation Services is being attacked by the Reagan administration. DOE funding for Montana's program has been cut by 65 percent over the last three years (123). These budget cutbacks are occurring at a time when it's estimated that only one-half to one-third of Montana low-income homes have been weatherized by this program (124).

Montana's low-income people are the ones who can least afford to continue living in energy-inefficient housing. Poor people spend almost one-quarter of their income on household energy needs, which is about four times the percentage spent by the average American (125). They continue, by necessity, to live in low quality, energy inefficient housing. It is in these homes that conservation improvements offer the best return on investment.

Low-income citizens are unable to make these conservation improvements on their own. They often have little or no income, and cannot afford any out-of-pocket energy efficiency expenses. Obtaining loans is out of the question, in that the poor are considered bad risks and would probably have considerable difficulty making monthly payments.

The fact that federal funding for low-income weatherization is declining and utility loan programs require low-income citizens to take on debts many can't afford underlines the importance of developing a conservation program that meets the needs of these Montanans.

Rental Housing and Commercial Buildings Are Left Out of Existing Programs

There is a great potential for energy savings in both rental housing and commercial buildings in Montana. However, existing utility loan programs and the state low-income weatherization program do not serve these markets.

A sizable amount of housing in Montana is rental property. Without attractive conservation financing and in the absense of mandatory weatherization ordinances, landlords have no real incentive to insulate their buildings. In most cases tenants pay the fuel bills. Therefore landlords are not directly affected by the high cost of residential heating. If a landlord does pay the energy bills, he or she merely has to pass on these costs to tenants by including them in the rent.

Another factor that hinders a landlord's investment in energy conservation is a limited cash flow. Rental property owners generally want a quick two to three-year payback on their investments (126). There are several reasons for this. They are often unsure of the expected costs and paybacks of different investments; there are a variety of possible investments to choose from; and they want to realize the paybacks before they sell the property (127).

Renters also have no incentive to invest in major conservation improvements. They feel that they would be wasting money by investing in property they don't own and will likely move from within a few years. In addition, there are often legal restrictions that prohibit renters from making improvements to property without the owner's consent.

The fact that Montana's low-income weatherization program now only targets owner-occupied residences further compounds the problem. Prior to 1981 rental units were eligible for this program. Many low-income Montanans are renters, and most of these residents can't afford to make conservation investments of any kind.

Most of the existing incentive programs for energy conservation do not apply to the commercial sector, either. Montana's utility loan programs are available only to owner-occupied residences. Both the state and federal conservation tax credits are also only for residences. The federal 10 percent business tax credit is not applicable for weatherization measures.

Although rising energy costs increase a business' operating expenses without raising productivity, many businesses are reluctant to commit money to energy conservation. There are several reasons for this. Energy costs are often a relatively small part of a business' overall operating expenses (128). Businesses are allowed federal tax deductions for some of their energy costs. In addition, installing energy-saving equipment and materials are not normally seen as ways to enhance a business' profitability, especially when compared to labor-saving investments (129).

However, low cost/no cost and moderate conservation improvements that will pay for themselves within five years offer business people an attractive return on their investment. A business can begin to realize a savings immediately as its energy costs decrease. An investment of this kind also does not involve market development or production costs that are associated with competing investments such as adding a new product, equipment, or facilities.

Possible Solutions

Changing Utility Financing Programs

The best way to finance effective community conservation programs in Montana that will succeed in retrofitting a large majority of existing buildings is with utility funding. Utilities are well-suited to finance conservation programs because they have ready access to capital, an infrastructure that is capable of operating a financing program, and residential energy auditing experience. However, the extremely low public participation in the existing utility loan programs suggests that these programs should be changed significantly or scrapped altogether in favor of rate-basing conservation investments.

Rate-basing conservation investments. There is a preponderance of evidence that suggests that conservation programs that feature utility rate-basing of conservation investments will achieve very high rates of public participation. The Northwest Power Planning Council predicts that over the next fifteen to twenty years 80 to 90 percent of existing homes in the BPA service region will be retrofitted under the Bonneville-financed conservation program outlined in the regional power plan (130). PNUCC is not quite as optimistic about the expected penetration rate of the power plan's conservation programs, but they still think that 70 to 75 percent of the region's eligible homes will participate (131). Bonneville concludes, in its 1982 report entitled "Promoting Residential Conservation", that without full utility financing, conservation programs are unlikely to be able to achieve

higher than 50 percent penetration rates (132).

By allowing cost-effective conservation costs to be added to a utility's rate-base, two major advantages result. One, the utility is given an incentive to invest in conservation, in that it is able to earn a rate of return on its investment. The second advantage is that the burden of paying for the conservation work is shifted from the individual consumer to the ratepayers as a whole.

Conventional loan programs treat conservation not as a resource to be acquired if proven cost-effective, but rather as a luxury available only to those who can afford to pay the costs of retrofitting their own home. Thus conservation is financed in a fundamentally different way than electricity and natural gas supplies. The costs of acquiring these latter resources are fully financed by utilities, and ratepayers are eventually billed. In light of the fact that conservation is generally regarded as the most cost-effective resource available, it doesn't make sense that it should be the only resource that is singled out to receive less than full financing by utilities.

Rate-basing is the most equitable way to finance conservation. This is because it makes affordable conservation financing available to everyone regardless of their income level. It's been pointed out that a program with anything less than full financing will result in a considerable number of consumers failing to participate for economic reasons. By having all ratepayers share in the cost of conservation acquisitions, electricity and natural gas rates will rise. However, these rate increases will be offset by a stabilization or decrease in

monthly energy bills, as individual home heating needs decrease. In addition, the size of rate increases over time will be lessened as a result of purchasing cost-effective conservation. This is because conservation will postpone the need to acquire more expensive new supplies of natural gas and electricity.

Modifying existing utility loan programs. Because the rate-basing provision passed by the 1983 Montana Legislature is voluntary in nature, Montana utilities may choose not to utilize this financing option. In the event that this occurs, there are numerous changes that can be made in the existing loan programs that will benefit borrowers without placing an undue burden on the utilities. A few of these possible changes are:

- Lengthening the terms of the MPC and MDU loans. This will result in a reduction in the size of monthly loan payments, which is the single biggest factor a consumer weighs when contemplating taking out a loan. MPC and MDU loan recipients presently have four and three years respectively to repay loans financed by these companies. By increasing the life of these loans to ten years, monthly payments on a \$1,500 loan will be cut from \$31.25 (MPC) and \$41.67 (MDU) to \$12.50 for both. This sharp drop in payments will make it much easier for borrowers to repay the loans with their energy savings.

- Allow borrowers a one-year grace period before they must begin repaying their loans. The major advantage of this approach is that it allows borrowers to accumulate a years worth of energy savings that can be spent for other uses or used to help repay the loan.

- Have PP&L and MPC sign conservation contracts with BPA. This would allow PP&L and MPC customers living in BPA's service area to be eligible for the various conservation financing programs Bonneville offers. Currently BPA gives its residential customers a choice between several different financing programs, while PP&L and MPC operate only one program each. As a result of affiliating with BPA, MPC and PP&L customers would most likely also be eligible to participate in any future conservation programs implemented as a result of the Northwest Regional Conservation and Electric Power Plan.

- Combining utility no-interest loans with low-income weatherization or fuel bill assistance money. It's estimated that more than half of the homes occupied by low-income Montanans are in need of weatherization work. The biggest obstacle to getting this work done is a lack of money. The money the state uses to both weatherize low-income residences and pay fuel bills could be stretched a lot further if it was used to repay utility loans used for conservation purposes. This would allow many more energy inefficient low-income homes to be weatherized each year.

If a low-income resident moves from a building that has been weatherized by utility money before the loan is repaid in full, the state could continue to make the loan payments until a new tenant or owner rents or buys the residence. At this time the new occupant could assume the payments. If the new occupant qualifies for state energy assistance, then the state can continue to make the payments.

- Make the utility loan programs available to renters/landlords and commercial buildings. Neither of these groups are currently eligible for these conservation programs.

Using State and Local Funding Sources Not Currently Being Used For Energy Conservation

Even if some or all of the utility recommendations mentioned above are adopted, there will still be the problem of a lack of financing available to those consumers who heat with fuels other than electricity and natural gas. It's important that programs be developed for these people, especially in places like Missoula where wood smoke is such a problem.

Many of the innovative energy financing programs that are being tried in communities around the country have received their initial funding from large federal demonstration grants. The Reagan Administration, however, has significantly decreased the amount of federal aid available to states and localities. One result is that it will be much more difficult for local governments to receive energy grants during this administration.

There are a number of promising state and local funding sources that could potentially be used to help finance conservation loan programs. Sources of state money include pension funds, the coal tax trust fund, DNRC's loan program, and state Board of Housing programs. There are legislative and administrative hurdles that must be overcome before any of these options can be utilized, however. The state

legislature must both authorize an expansion of DNRC's loan program to include funding for conservation projects, as well as approve any new expenditure of coal tax money. Administrative policy decisions are needed from the Board of Housing and Board of Investments, respectively, to approve using state housing bonds or pension funds to purchase conservation loans.

Communities may choose to rely primarily on local funding methods, while working to influence the necessary changes at the state level. There are several sources of money already on hand in most communities, such as the government's idle cash and revenue sharing, that could be used to leverage commitments from lenders to set up revolving loan funds. This local money is probably being used for other purposes, though. Therefore government officials must decide if a one-time authorization of a portion of these funds to help capitalize an energy conservation program is justified.

One advantage of local financing is that control over the program remains in the community. The community will have more leeway to respond to specific local needs, without being dependent on funding decisions, and subject to program limitations, that arise when utility, state or federal money is involved. This latter point is especially important for those Montana communities that would like to establish conservation programs for rental property and commercial buildings or to help combat pollution from wood smoke. A locally financed and locally controlled program could target these specific areas, none of which are currently eligible for state or utility financing.

Three basic components of a successful loan program. Although loan programs of any sort will be less effective in stimulating widespread conservation than will the utility rate-basing approach, there are three basic aspects of a community loan program that will increase its chances of being successful.

1) Monthly payments must be affordable to potential borrowers. Loan terms of from ten to fifteen years, combined with favorable interest rates, will make it possible for most borrowers to repay loans with their energy savings.

2) Active lender involvement is important. Lenders are the most qualified people to operate a financing program. They must be allowed to make a reasonable profit for their efforts and they need adequate security in the event of loan defaults.

3) Marketing and public education are essential. An aggressive marketing and community education campaign must be waged to publicize the program in order to gain widespread public participation.

Chapter VI

RECOMMENDATIONS

The following is a list of five recommendations that will help facilitate the establishment of effective energy conservation financing programs in Montana communities. I argue that utility financing of conservation is the best approach. However, because utility financing programs are not available to people who heat with fuels other than electricity or natural gas, communities may wish to pursue one or more of the local and state funding options in addition to, or in lieu of, utility programs.

1). Utility Financing - Changing the Current Approach

Montana's utilities are the most logical source of financing for conservation programs. They have access to capital, the infrastructure necessary to operate a financing program, the authority to earn a rate of return on their conservation investments, and residential auditing capability.

Conservation is cost-effective and should be treated as a resource. Utilities should be aggressively investing in conservation when the life-cycle cost of conservation proves to be less expensive than acquiring additional energy supplies from other sources.

The current utility no-interest loan programs in Montana are suffering from poor public participation. There are several changes that can be made in these financing programs that will greatly increase public participation. These changes are:

- Having utilities rate-base their conservation investments. Rate-basing will unquestionably lead to the highest conservation penetration rates of any financing approach. With utilities financing cost-effective conservation measures and then spreading the costs among all ratepayers, conservation will be affordable to all consumers, regardless of income level. By adding their conservation expenses into their rate-bases, utilities will be able to earn a rate of return on these investments.

- Lengthening the terms of the current MPC and MDU loan programs. This will result in lower monthly loan payments, which will be more attractive to potential borrowers.

- Adding rental housing and commercial buildings to the existing programs. These structures are not presently included in the current programs.

- Combining the current utility loan programs with the low-income weatherization program administered by the state. Utility loans should be used to finance the conservation work, with the weatherization money being used to pay back the loans. This would stretch the weatherization funds much further and would allow low-income households to be weatherized at a faster rate.

- Having utilities in Bonneville's service area consider signing conservation contracts with BPA. This would make ratepayers in western Montana immediately eligible for a variety of BPA-financed conservation programs. Bonneville is currently operating attractive conservation programs for residential weatherization, low-income weatherization, and local government energy management. Commercial and industrial conservation programs are in the planning stages.

2). Using Local Money To Set Up A Reserve Fund To Guarantee Conservation Loans Made By Local Lenders

Local government money could be used to act as a reserve fund to guarantee energy loans made by local lenders. The reserve fund should be able to attract loan pledges from lenders of up to five to ten times the reserve fund amount. Notes could be used to secure the loans.

There are several potential sources of local government funds that could be used in this program. These include revenue sharing monies, idle cash, and infrequently used local funds, such as cemetery monies. A conservation program may have to compete with other programs for these funds. However, setting up an interest-bearing reserve fund to guarantee loans would involve a one-time expenditure of public funds.

3). Establishing a State Secondary Market for Energy Loans

A state secondary market for energy loans could be set up to purchase conservation loans originated by local lenders. These loans could be guaranteed by local reserve funds or notes. A secondary market would allow lenders to remain liquid. This would provide an incentive for lenders to make conservation loans. The state could purchase loans made to rental housing and commercial buildings as well as owner-occupied residences. The former are not included in current federal secondary market programs.

There are several possible funding sources that could be used to establish a secondary market of this type. The Board of Housing and some state pension funds are currently buying home mortgages originated by Montana lenders. The coal tax trust fund and I-95 monies are other possible sources.

Once the state has purchased a sufficient number of energy loans, it could package and sell them on the national market.

4). Setting Up A Community Development Corporation

A locally controlled Community Development Corporation (CDC) could be established to do both rehabilitation work and energy efficiency improvements to residential and commercial buildings. These efforts would promote local economic development by creating new jobs. Community leaders may want to focus a CDC's work in the low and moderate income sections of the community.

CDC's could also serve as energy information clearinghouses. A CDC could inform citizens of available financing programs, provide information about various conservation products, make contractor referrals, offer educational programs on energy use, etc.

There are a variety of potential funding sources for an operation of this kind. Community Development Block Grants and Urban Development Action Grants are two possible federal funding sources. Private investment capital may be available from individuals or banks. Individual investors can receive several tax benefits for investing in an energy business. Banks may provide operating capital if the project appears to be potentially self-supporting and in the public's interest.

Another source of money could come from combining state low-income weatherization money with utility loan money. Utility money could be used to finance the purchase and installation of weatherization materials in homes that qualify for state energy assistance. Monthly loan payments could then be made with state weatherization money. Changes would have to be made in both the utility and state programs in order for this approach to be utilized.

5). Using the Department of Natural Resources and Conservation's Loan Program to Fund Conservation Projects

DNRC's loan program is currently limited to funding renewable energy projects. If the legislature changes the loan policy to include conservation, then local governments or CDC's could possibly obtain seed money from DNRC to establish a conservation loan program. A DNRC loan

could be used as leverage to obtain financial commitments from local lenders to participate in a loan program. DNRC money could be used to guarantee consumer conservation loans and/or write down interest rates.

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