

**"LINKED DEPOSITS" AS A UTILITY INVESTMENT
IN
ENERGY EFFICIENCY FOR LOW-INCOME HOUSING**

**Roger D. Colton
Fisher, Sheehan & Colton
Public Finance and General Economics
34 Warwick Road
Belmont, MA 02478**

**Michael F. Sheehan
Fisher, Sheehan & Colton
Public Finance and General Economics
33126 SW Callahan Road
Scappoose, OR 97056**

The purpose of this paper is to propose a linked deposit program as a means through which public utilities can cost-effectively invest in low-income energy efficiency improvements. Through a linked-deposit program, utilities would place long-term deposits with community-based lenders with the *proviso* that such deposits be used to finance low-interest loans to developers of low-income housing, which loans are to be used in the funding of energy efficiency improvements.

A linked deposit program has been defined as involving "special programs that use specific deposit arrangements (which often include reduced interest rates) to leverage specific types of loans or to target lending to a special type of borrower by the institution receiving the deposit."¹¹ According to this description:

* * *linked deposit programs generally allow for discretionary funds to be deposited in such a way as to support programs of particular public benefit. These programs are often characterized by below-market interest rates, flexible terms, and careful targeting to specific credit needs. A well-designed linked deposit program can therefore not only encourage financial institutions to make loans for low-cost housing, agriculture, and economic development, but can also enable these loans to be made at lower interest rates to the borrower.¹²

* * *

At a time of budget deficits and cutbacks in expenditures, public deposits provide state

¹¹ Flax-Hatch, D., "Public Deposits as Development Tools," *Economic Development & Law Center Report*, at 3 (Summer 1989).

¹² *Id.*, at 5 - 6.

and municipal governments and other public agencies with a means for pursuing public goals without collecting additional revenues.¹³¹

An effective public deposit program works by encouraging private financial institutions to seek out unfamiliar under-invested markets.¹⁴¹ Moreover, "a linked deposit program may be said to `work' if it results in increases in designated categories of bank loans in local communities."¹⁵¹

As of 1988, at least seventeen states had linked deposit programs.¹⁶¹ As of 1990, at least ten major cities were either currently operating or in the process of implementing some variety of a linked deposit program.¹⁷¹

A linked deposit program seeks to play on the mutual benefits arising to the depositor and the financial institution from pursuit of the lending program desired by the depositor. The program is based on a notion of a partnership between the government and the financial institution. According to one summary of linked deposit programs:

State and local governments are valued clients of banks. And financial institutions are being recognized by more and more governments as important players in a community's or state's economic development strategy. Therein lies the potential for a partnership.

Linked deposits are an easy-to-administer mechanism for bank-government partnerships aimed at expanding local business opportunities, improving neighborhood housing or assisting farmers. The `link' which gives the concept its name connects government funds deposited in a bank with the bank's promise to lend money to members of targeted groups.

Linked deposit programs have demonstrated their effectiveness in directing financial assistance to groups that might otherwise be unable to obtain credit. A form of public investment, these programs have also shown that they can measure up to the safety, liquidity and yield requirements of any investment of public money.¹⁸¹

¹³¹ *Id.*, at 9.

¹⁴¹ *Id.*

¹⁵¹ Campen, *The Political Economy of Linked Deposit Banking Programs*, at 2 (Dec. 1990) (citing, Boston, Chicago, Cincinnati, Cleveland, Milwaukee, Minneapolis, New York, Oakland, Pittsburgh, and San Diego) (hereafter Campen).

¹⁶¹ Reid and Hall, *Linked Deposit Programs for Small Business and Agriculture*, A Special Report of the National Association of State Treasurers, at 2 (Nov. 1988) (hereafter Reid and Hall).

¹⁷¹ *Campen, supra*, at 1.

¹⁸¹ Zehner and Valais, *Linked Deposits: Leveraging for Economic Development*, Government Finance Research

A different analyst describes linked deposit programs as follows:

* * *at this time when federal funding for housing and economic development programs is shrinking while the need for such programs continues to grow, the strategic use of public deposits as a development tool is a particularly attractive strategy. It uses public funds to advance public goals without actually spending them.¹⁹¹

Consider this identical quote minimally altered for purposes of low-income energy efficiency:

* * *at this time when federal funding for energy assistance and weatherization programs is shrinking while the need for such programs continues to grow, the strategic use of utility company deposits as an energy efficiency tool is a particularly attractive strategy. It uses utility company funds to advance energy efficiency goals without actually spending them.

From the above discussion, several conclusions can be drawn about linked deposit programs now operated by state and local governments. They "work" if they increase the desired lending. They are based on the notion of a "partnership" to be pursued for the mutual benefit of the depositor and the depository institution. They are "easy to administer." They have a "demonstrated effectiveness." They represent a "form of investment." And they "measure up" to any other investment in terms of safety, liquidity and yield requirements.

Given this brief introduction to linked deposit programs at the government level, we next turn to a closer examination of such programs to determine whether they can be adapted to public utilities in pursuit of private financing of low-income energy efficiency.

1.1 LINKED DEPOSITS AND LOW-INCOME ENERGY EFFICIENCY

This section looks at the objectives of a linked deposit program and at whether those objectives are relevant to, or can be adapted for, the provision of low-income energy efficiency.

1.1.1 Objectives of Existing Linked Deposit Programs

The objective of governmentally-implemented linked deposit programs is to correct capital gaps that harm small business or other areas of the economy. According to the Government Finance Officers Association, "state and local governments' linked deposit programs often seek to correct a shortage in available capital which has constrained the growth potential in a targeted area or among members of a

(. . .continued)

Center of the Government Financial Officers Association (undated).

¹⁹¹ *Flax-Hatch*, at 3.

targeted group.^{\10\} Other factors may exist which impair the growth of a business, GFOA notes, such as regulations, lack of training, an inviable product, or other problems. "In such cases, linked deposits may not help; *it is when credit gaps are the primary problem that linked deposit programs have provided a solution.*" (emphasis added).^{\11\} GFOA concludes that "investment experts suggest that developmental investments are appropriate for public funds (specifically pension funds) only when unjustified capital gaps exist."^{\12\}

To determine whether it is productive to review a linked deposit program within the context of low-income energy efficiency, it is thus necessary to determine whether: (1) there is a shortage in available capital which has constrained the growth in low-income energy efficiency; (2) whether "credit gaps" are the primary problem in the shortage of capital; and (3) whether the credit gaps that exist for low-income energy efficiency are "unjustified."

1.1.2 Applying these Objectives to Low-Income Energy Efficiency

The three tests for whether the objectives of existing linked deposit programs could productively be applied to low-income energy efficiency will all be met. Given these three tests, which will be discussed in detail below, the conclusion follows that a utility-based linked deposit program would be a productive investment in low-income energy efficiency.^{\13\}

1.1.2.1 Shortage of Capital

There is, indeed, a shortage of capital which constrains the growth of low-income energy efficiency in low-income housing. Given the advantages of cost-effective investments in energy efficiency improvements by owners and developers of low-income housing,^{\14\} it may at first appear that private financing of such improvements should occur irrespective of a utility's commitment of its DSM dollars in any fashion. For a variety of reasons, however, this does not occur.

Institutions involved with the development of low-income housing find several obstacles to the aggressive inclusion of energy efficiency measures within their efforts. Perhaps the most significant obstacle is the "over-improvement" of the properties in the first instance. This "over-improvement" is

^{\10\} *Id.*, at 5.

^{\11\} *Id.*

^{\12\} *Id.*

^{\13\} Remember, the National Association of State Treasurers concluded that linked deposits represent a "form of investment" and that they "measure up" to any other investment in terms of safety, liquidity and yield requirements.

^{\14\} Cost-effective is measured from the perspective of the developer or owner. By hypothesis, only cost-effective energy efficiency investments are implemented.

significant for those seeking additional debt with which to finance energy efficiency measures, even if such measures are cost-effective over the lifetime of the project.^{\15\} In those instances where a housing developer has borrowed at or in excess of traditional loan-to-value ratios, additional debt most often will *not* be provided for energy efficiency measures.^{\16\} In this regard, traditional lenders view investments in energy efficiency as additional capital investments, while not taking into account the reduced operating costs that arise as a result of the energy savings (and thus reduced bills).

According to William Duncan of the Enterprise Foundation,^{\17\} nonprofit developers experience a "significant crunch" between housing development costs and the "affordability factor." Developers, Duncan said, "are forced to make trade-offs, reduce fees, and take other measures to keep their housing affordable." Examples of these trade-offs, he said, are design standards attached by financing sources and regulations controlling the use of lead-based paints.

The two biggest problems that Duncan identified include:

1. The appraisal process for both rental and for-sale housing. When a house in a low-income neighborhood is purchased and rehabilitated, Duncan said, from a market standpoint, it is "almost always" over-improved. A property purchased for \$15,000 and improved with \$35,000 might receive a maximum appraisal of \$25,000.

^{\15\} Cost-effective means simply that the life-cycle benefits from the energy efficiency improvements on a net present value basis exceed the life-cycle costs.

^{\16\} Virtually every housing development experiences this situation. This is one reason why "soft dollars" (such as local CDBG dollars and the like) are so essential to make low-income developments financially viable in the first instance. *See generally, Gold, From the Neighborhoods to the Capital Markets: Report of the National Task Force on financing Affordable Housing* (June 1992).

^{\17\} Duncan is Director of the Enterprise Foundation's Rehabilitation Work Group.

2. Elevating the value of the home through energy efficiency improvements must not put the price of the home outside the income range for which the home is targeted. Developers often target homes for households with incomes of as little as \$15,000 - \$20,000. The developer or financier must believe that the price of the energy efficiency improvements must, when combined with the price of the underlying home, still fit that market.^{\18\}

The situation identified above can be summarized as two problems: first, there is the inability to receive additional debt financing through traditional lenders, even for cost-effective energy efficiency improvements. Second, there is the unwillingness^{\19\} of lenders to account for energy savings both in their underwriting criteria and in their evaluation of the ultimate affordability of the home.

1.1.2.2 Capital Gap as Cause of Lack of Investment

The lack of investment in low-income energy efficiency is largely caused by a gap in the provision of relevant investment capital. According to the discussion of low-income energy conservation in *Third Party Financing of Low-Income Conservation: Replacing Reliance on Government and Utility Funds*:^{\20\}

The search for new sources of capital to devote to low-income energy efficiency improvements should start with the fundamental proposition that market inefficiencies exist that prevent the devotion of 'appropriate' amounts of investment capital to the task of providing such measures. In seeking to generate new sources of financing for the provision of low-income conservation programs, the advocate is simply seeking to fill this 'capital gap.'

Third Party Financing then examined the reasons for such a capital gap. Amongst the reasons identified in the existing literature were:

1. **New opportunities**: Private sector investment in low-income residential energy conservation measures does not have a mature private industry in place. One result is that the procedures for estimating and measuring conservation savings do not have long-track records, either of success or failure.
2. **Small loans**: Low-income residential energy conservation strategies would likely entail the need for a large number of small loans. When coupled with housing rehabilitation programs, maximum investments would not likely reach substantially beyond the range of \$5,000 - \$10,000 per home.

^{\18\} It must not only fit the market in fact, it must be *perceived* to fit the market.

^{\19\} To say "unwillingness" may unfairly imply a misfeasance. These traditional lenders operate under regulatory guidelines that may restrict their discretion on such matters.

^{\20\} Roger Colton, *Third Party Financing of Low-Income Conservation: Replacing Reliance on Government and Utility Funds* (Jan. 1992).

3. **Institutional investors:** Historically, low-income residential energy conservation has been financed through publicly provided funds --including federal Weatherization Assistance Program (WAP) and oil overcharge funds-- irrespective of traditional financing criteria such as rate of return, liquidity and risk. Large institutional investors have not been asked to participate, nor have they sought out such participation.
4. **Long-lead times:** Energy conservation measures often have greater payback periods than those required in the traditional terms of commercially available capital. Traditionally accepted payback periods for conservation measures reach up to seven (7) years.
5. **Transaction and management costs:** Because of the need for large numbers of small investments, low-income residential energy conservation programs may well entail higher than average transaction and management costs.
6. **Specialization:** Because of the technical nature of determining conservation potentials, determinations of the efficacy of investment in low-income conservation/weatherization may entail specialized knowledge. Sources of repayment funds, the estimation and measurement of savings and the valuation of risk may well not fit into historical investment expertise.

The *Third Party Financing* discussion concluded that:

This list of factors can be used in two different ways. On the one hand, investors can use these factors as reasons not to become involved in financing low-income residential energy conservation measures. On the other hand, investors can use these factors as measures of the capital gap that is waiting to be filled by innovative and creative financing schemes. The list is indicative of the need for new thinking on the types of assistance to be provided, and the types of mechanisms to be used rather than being indicative of the need to avoid this investment opportunity altogether.^{121\}

It would thus appear that precisely the type of "capital gap" contemplated by the Government Finance Officers Association exists within the area of low-income energy efficiency improvements. Given the existence of the gap, it is next necessary to consider whether the gap is "unjustified."

1.1.2.3 Capital Gap as Being "Unjustified"

The capital gap that low-income energy efficiency experiences, at least within the realm of large multi-family low-income housing developments, is unjustified.^{122\} The capital gap has little to do with the

^{121\} *Id.*, at 5 - 6.

^{122\} In 1992, *Third Party Financing* stated: "Small business, housing and economic development programs share characteristics with energy efficiency programs that interfere with the generation of adequate sources of capital. The shortfalls in investment capital arise not so much because of inadequate rates of return or related reasons as

merits of implementing energy efficiency measures in such developments.^{123\} For example, a lack of relevant investment expertise is one factor that prevents adequate private capital from flowing to energy conservation. Most banks, one researcher notes, "have had little experience in making loans for energy efficiency equipment and are not familiar with how energy efficiency equipment works or how it relates to the overall operation of a facility."^{124\}

Lack of an established track record in producing results is a second factor that has been cited as interfering with the generation of adequate capital for energy conservation. This lack generates a skepticism regarding the projected results. Accordingly, banks are generally unwilling to rely upon the stream of energy savings as a source of loan repayment. Articulated problems include the difficulty in measuring the savings as well as the unreliability of the savings projections. In response to efforts to generate bank financing for one shared savings project, one bank refused even an insurance policy that would have insured the estimated energy savings that would have been realized for the transaction.

Other barriers to private bank financing of energy conservation measures exist. In pursuing an industrial conservation pilot project, one company reported several barriers that "repeatedly arose":^{125\}

- o High cost of bank loans --banks which contemplated advancing a loan seemed interested in lending at the prime interest rate plus 2 to 5 percentage points. By the time the cost of financing the points and other expenses normally incurred by the borrower in a bank loan transaction were added in, the cost of bank financing would be very expensive;
- o Short term of bank loans --most commercial banks were only interested in loans with a term of 2 to 5 years. The small size of the loans involved in such transactions limit the availability of financing because of the high transaction costs per loan;
- o Small size of the transaction --several potential financiers conceded that they were not interested in this transaction because of its small dollar size. The longer term commitment of dollars required by energy conservation measures reduces an investor's liquidity. Conversely, the resulting short term of the bank loan increases the monthly debt service cost to the person seeking financing.

A final barrier to bank financing of energy conservation equipment includes the lack of generally (. . .continued)
because of market failures and inefficiencies. Accordingly, substantial sums of capital await discovery by the aggressive and creative low-income entrepreneur." *Id.*, at 3.

^{123\} This identification of barriers to "bank financing," was largely set forth in Klepper, Sherman and Carroll, *Innovative Financing for Energy Efficiency Improvements*, at 217 - 223 (1982).

^{124\} *Id.*

^{125\} *Id.*

accepted collateral for the loan. The energy conservation measures themselves are infrequently of sufficient value to secure a bank loan. Moreover, even if the measures are sufficiently valuable, banks have posited that such measures are ill-suited to be collateral for a loan since the removal of energy conservation measures is both difficult and expensive. Moreover, there is a lack of a readily identified secondary market for such measures.^{126\}

The fact that the capital gap for low-income energy efficiency improvements may seem "unjustified" makes the existence of the gap no less real. The important lesson for now, however, is that such a capital gap is not *unique* to low-income energy efficiency. And, just as financing structures have been created to overcome those gaps for small business, economic development endeavors and the like, so, too, can the same structures be used to overcome the gap for low-income energy efficiency.^{127\}

1.1.2.4 Summary

To determine whether it is productive even to review a utility-based linked deposit program within the context of low-income energy efficiency, it is necessary to determine whether: (1) there is a shortage in available capital which has constrained the growth in low-income energy efficiency; (2) whether "credit gaps" are the primary problem in the shortage of capital; and (3) whether the capital gaps that exist for low-income energy efficiency are "unjustified." Each of these factors has been reviewed and been found to exist. Accordingly, we next turn to a review of existing programs.

2.1 EXISTING STATE AND LOCAL GOVERNMENT LINKED DEPOSIT PROGRAMS

2.1.1 The Concept and Objectives of Existing Linked Deposit Programs

"Linked deposits' is a term used to describe a variety of programs by which states utilize revenue investment to encourage private lending" in preferred sectors of the economy.^{128\} According to Reid and Hall, through these programs, "states forego some interest earnings on investments in return for commitments from private banking and lending institutions to make low-interest loans available to certain qualified borrowers."^{129\}

^{126\} *Third Party Financing*, at 3 - 4.

^{127\} In January 1992, *Third Party Financing* asserted: "Advocates for the provision of energy efficiency improvements to low-income households must become as adept at marketing investment opportunities, and at generating private and public investment capital, as advocates of economic development and small business incubation have become.* * *The existence of such market inefficiencies, and, accordingly, the existence of such capital gaps, is not uncommon. Indeed, the low-income energy advocate can be well-informed by previous analysis in the areas of small business incubation, economic development and affordable housing* * *." *Id.*, at 2, 3.

^{128\} Reid and Hall, *Linked Deposit Programs for Small Business and Agriculture*, A Special Report of the National Association of State Treasurers, at 2 (Nov. 1988).

^{129\} *Id.*

2.1.1.1 The Political and Policy Underpinnings

The political and policy underpinnings of linked deposit programs involve an effort to direct private sector lending into designated areas. According to one political economist:

Linked deposit programs attempt to use the power inherent in a government's role as a major bank customer to bring about improved bank performance in advancing such economic and social objectives as locally-based economic development, affordable housing, and non-discriminatory lending practices. [Linked deposit programs] promise to use the public sector's financial clout to promote the achievement of widely-shared public goals. This clout appears formidable --at year-end 1989, state and local government deposits totalled about \$73 billion (including \$29B in large time deposits), slightly over 2% of all deposits held by depository institutions (4.7% of all large time deposits). Moreover, because [linked deposit programs] promise to achieve their goals by influencing bank lending patterns without actually *spending* public money, they are particularly appealing in an era of fiscal crisis. (emphasis in original)^{30\}

2.1.1.2 The Financial Underpinnings

The financial (as opposed to policy) underpinning of government linked-deposit programs is that they stimulate private investment in the designated sectors of the economy:

while at the same time increasing the state's tax base. Whatever revenues the state loses from the lower return on investment, it regains in increased tax receipts in the long run. * * *The ultimate goals of linked deposit programs are economic growth and diversification.^{31\}

Reid and Hall report that one noted linked deposit program in Ohio, the "Winthrow Plan," returned "from three to four dollars return to the state for every dollar given up in investment income due to the lower interest rate on state money."^{32\} This return (of three or four dollars per each dollar of investment) is typical.^{33\}

2.1.1.3 The Programmatic Underpinnings

The programmatic objectives of a linked deposit program are several-fold. They are designed to generate additional private capital. They are designed to target that capital to desired investments.

^{30\} Campen, *The Political Economy of Linked Deposit Banking Programs*, at 1 (Dec. 1990).

^{31\} *Id.*

^{32\} *Id.*

^{33\} *Zehner and Valais*, at 2.

They are designed to make that capital more affordable to the targeted population. As one commentator states:

* * *linked deposit programs generally allow for discretionary funds to be deposited in such a way as to support programs of particular public benefit. These programs are often characterized by below-market interest rates, flexible terms, and careful targeting to specific credit needs. A well-designed linked deposit program can therefore not only encourage financial institutions to make loans for low-cost housing, agriculture, and economic development, but can also enable these loans to be made at lower interest rates to the borrower.¹³⁴⁾

In sum, Reid and Hall find, linked deposit programs can "serv(e) as a catalyst for lending activity. State funds leverage private funding when other means are not available--thereby sending private funds to the areas of greatest need."¹³⁵⁾

2.1.2 Advantages of a Linked Deposit Program

2.1.2.1 Ease of Program Administration

Both government associations who have examined linked deposit programs --these include the National Association of State Treasurers and the Government Finance Officers Association-- have noted the ease of administration as one of the primary advantages of such programs. According to the State Treasurers' examination of state linked deposit programs directed toward small business and agriculture, "perhaps the primary attraction of linked deposits for the states is the relative ease with which such a program may be implemented."¹³⁶⁾ According to this study:

In a typical linked deposit program, the state treasurer purchases certificates of deposit from eligible banks using state funds designated by the legislature. The financial institution, in turn, lends those funds to borrowers who meet eligibility criteria. In exchange for a lowered rate of return on the state's deposit,¹³⁷⁾ the bank agrees to charge a lower interest rate on linked deposit loans to borrowers.

In contrast, according to the GFOA:

Linked deposits are just one of many innovative economic development financing programs, but they are among the easiest to administer. The paperwork is minimal and

¹³⁴⁾ *Flax-Hatch*, at 6.

¹³⁵⁾ *Reid and Hall*, at 2.

¹³⁶⁾ *Reid and Hall*, at 2.

¹³⁷⁾ *Id.*

the program can be managed almost routinely within the treasury's investment function. The government does not determine the creditworthiness of loan applicants and in some programs does not review individual loans.

The linked deposit technique works without altering the relationship between borrower and lender. The bank evaluates linked deposit loan applications according to its usual procedure, and the bank retains the default risk associated with personal or commercial loans. The role of the governmental participant is merely to provide the capital for the bank to lend.* * *

Linked deposit agreements do little to change the public investment function. Common investment instruments are employed (certificates of deposits in most cases), and standard transfer processes and collateral requirements are appropriate.* * *

Several comparisons exist of the different linked deposit programs currently in place by state and local governments.¹³⁸⁾

2.1.2.2 Program Flexibility

Linked deposit programs are often noted for their flexibility in meeting the capital needs of the population or sector of the economy to which they are targeted. The state of Indiana, for example, in a program directed toward drought-stricken farmers, required financiers to waive the traditional debt-to-worth and net worth levels.¹³⁹⁾

Moreover, a linked deposit program can take innumerable forms. Flax-Hatch explains how a such a program might arise:

Generally, a special linked deposit is requested of the state treasurer by the specific bank. The request will describe the proposed loan or loan program, including the types of loans to be made, the term, points, fees, and interest rate to the borrower. The bank requests a deposit from the state treasurer at a particular rate and term with appropriate

¹³⁸⁾ See generally, Peters, Stumberg and Ward, *Legislative Sourcebook on Financial Deregulation*, at 181 - 235 (Center for Policy Alternatives: Washington D.C.) (1988) (reviewing economic development programs in Chicago, Hartford, Illinois, Iowa, Louisiana, Massachusetts, Michigan, Missouri, Montana, Ohio, Wyoming. This publication also compares program components, including: deposit amounts, eligible banks, reinvestment requirements, interest subsidies, and monitoring of results). See also, Reid and Hall, *Linked Deposit Programs for Small Business and Agriculture* (National Association of State Treasurers: Washington D.C.) (1988) (reviews programs in Alabama, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Missouri, Montana, Ohio, Oklahoma, Pennsylvania, Texas, West Virginia, and Wyoming). See also, Zehner and Valais, *Linked Deposits: Leveraging for Economic Development* (Government Finance Officers Association) (1990) (reviews programs in Pittsburgh, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Missouri, and Montana).

¹³⁹⁾ Reid and Hall, at 2.

collateralization. The bank describes how the public deposit is needed in order to make the loan or loan program work. This system may result in a wide variety of 'linked deposit' loan programs offered by different banks.^{40\}

Not only the terms to the borrowers can be flexible, but the terms on which the deposit is made can be flexible as well. For example, "there is often flexibility as to the term of the deposit, thereby allowing the state treasurer to take deposits for longer periods which can serve as an incentive for financial institutions to participate in a linked deposit program."^{41\} Stable state deposits have allowed participating financial institutions to "substantially reduce the interest rate on the loan, and thus the total development cost to the borrower."^{42\}

2.1.3 Problems with a Linked Deposit Program

2.1.3.1 Problems in Existing Programs

Several major problems attend linked deposit programs. One of the biggest is the problem of substitution funding. Opponents of such programs assert that the programs involve a high rate of substitution.^{43\}

Persons borrowing in the linked deposit program could otherwise have secured loans at regular commercial rates, but instead, chose to use the cheaper rates obtainable in linked deposit programs. If a borrower could already qualify for commercial loans, why should he or she be eligible for reduced rates?^{44\}

One banking analyst is skeptical about the effectiveness of linked deposit programs in this regard. According to University of Massachusetts professor Jim Campen:

To the extent that capital markets operate efficiently to direct loanable funds to areas of greatest effective demand* * *, simply shifting public funds from one set of banks to another will be ineffective in changing ultimate capital flows. Either the new depositors will pass the funds along to other financial institutions, who will in turn channel them to the borrowers who would ultimately have received the loans anyway. Or, if the new depositories do make increased loans in the target categories, this lending will displace

^{40\} *Flax-Hatch*, at 6.

^{41\} *Id.*

^{42\} *Id.*

^{43\} *Reid and Hall*, at 2.

^{44\} *Id.*

loans that would otherwise have been made by other lenders.⁴⁵⁾

Under these circumstances, either there is no benefit generated by the linked deposit program, or there, in fact, is an affirmative harm as attention is diverted from the unmet needs.

2.1.3.2 Applicability of These Problems to Low-Income Energy Efficiency

The disadvantages that Campen identified relating to linked deposit programs generally do not seem readily transferable to low-income energy efficiency improvements as structured below.

Neither objection discussed above considers the lack of capital flowing to low-income energy efficiency improvements at present. The reason for pursuing a utility-based linked deposit program in the first place is because capital is *not* flowing to low-income housing developers to implement energy efficiency improvements. Accordingly, the problems identified, or the lack of effectiveness, seems inapplicable at best.

The inapplicability of Campen's objections to a government-funded linked deposit program to a utility program arises because of a significant different in the objectives sought. The types of programs Campen reviewed involved a range of financial institutions agreeing to make additional housing and other loans to the low-income community within the government's territory. Under such a program, it is not difficult to imagine the barriers to monitoring the extent of the marginal loans that are engendered by the agreement.⁴⁶⁾ It is even less difficult to imagine the difficulties in monitoring the extent of displacement lending or substitution lending because of the range of institutions involved.

However, monitoring the extent of loans made specifically for energy efficiency improvements by community-based financial institutions such as community development credit unions or community development loan funds involves a smaller population of financial institutions making more discrete loans. The monitoring would be easier and the objective setting, against which institutions would be measured, would be clearer.

⁴⁵⁾ *Campen*, at 2.

⁴⁶⁾ "Marginal loans," in this context, means loans that would not have been made *but for* the linked deposit program. It is not intended to reflect upon the relative riskiness of the loans supported by the linked deposit program.

3.1 CHOOSING THE PARTNERS IN A UTILITY-BASED LINKED DEPOSIT PROGRAM

3.1.1 Why Community-Based Financial Institutions as Depositories

Community-based financial institutions should serve as the prototype institution with whom utilities should work to implement a utility-based linked deposit program for low-income energy efficiency. Several advantages arise from working with community-based financial institutions in this respect. First, these institutions are tied closely to the communities which are plagued by the problems associated with high energy bills and will thus be directly benefitted by a program to reduce those energy bills. Second, these institutions may have the greatest flexibility to meet the varying needs of developers who will seek to take advantage of the linked deposit lending.

3.1.1.1 *Community-Based Solutions to Community-Based Problems*

The involvement of community-based financial institutions in financing energy efficiency would help bring a new tool to bear on community problems such as housing abandonment and homelessness. Moreover, the resources of these institutions would be brought to bear on the health and safety problems associated with inability-to-pay home utility bills.

3.1.1.1.1 *Housing Abandonment:* Facilitating the commitment of private resources to financing low-income energy efficiency would promote the general welfare of the community. For example, research has found a discernible connection between the loss of utility service and housing abandonment. Utility terminations are "clearly a precipitating factor in housing abandonment," recent research in Philadelphia has found. According to a joint study by the Philadelphia Energy Coordinating Agency and Temple University's Institute for Public Policy Studies (ECA/IPPS),⁴⁷⁾ over five years, an average of 32 percent of the homes of residential electric customers in that city became abandoned within one year following termination. The average percentage was found to be slightly lower for gas terminations: 22.4 percent.

The ECA/IPPS study concluded:

The evidence linking utility terminations to abandonment is strong, consistent over a five year period and across two utilities, gas and electric. The utility survey results in Philadelphia suggests a stronger relationship between the loss of electric service than of gas. The evidence also suggests that the percentage of units which have experienced termination and become vacant increases over time.

To the extent that utility bills can be reduced and/or stabilized through energy efficiency, and thus made more affordable to low-income households, these costs to the community can be reduced. Housing abandonment not only has an impact on the household, but on the neighborhood stability, on the

⁴⁷⁾ Energy Coordinating Committee and Institute for Public Policy Studies of Temple University, *An Examination of the Relationship Between Utility Terminations, Housing Abandonment and Homelessness* (June 1991).

viability of the city or town. Patches of untended and unoccupied housing will have an adverse ripple effect on the sense of safety and potential in a neighborhood or town.

3.1.1.1.2 Homelessness: There is a relationship between utility disconnections and homelessness as well. The Philadelphia research found that "the relationship between terminations and homelessness is also clearly discernible." Surveys of homeless persons and emergency shelter providers across Pennsylvania, ECA/IPPS said, "have found the loss of utility service to be a minor, but consistent contributor to homelessness. Among the dominant housing-related reasons for homelessness, utility terminations were cited as the cause 7.9% of the time." High energy prices "also undoubtedly contribute to the other, more frequently cited housing related reasons for homelessness," ECA/IPPS said, "such as 'lack of housing in income range,' and 'eviction for nonpayment.'"

This Philadelphia research is confirmed by research by the Northern Kentucky Coalition for the Homeless, which found in a recent study that the disconnection of utility service was one of the reasons consistently cited as a cause of homelessness.^{48\} Homelessness obviously damages the quality of life of the person with no home. But it also damages the larger community to experience the presence of numbers of individuals with no regular ties to a stable residence. Homeless people have more difficulty finding and keeping work, and their presence in the community is a visible reminder of the failure of the social and economic base of the community to provide a place for all its members.

3.1.1.1.3 Health Implications: There are substantial health implications associated with the loss of home heating in cold weather, which energy efficiency improvements can help avoid. A 1991 study of shutoffs in North Carolina found that seven percent (7%) of all households lost their primary heating service in that state for a variety of reasons in the last winter.^{49\} Many of these households lacked any alternative heating source when their primary heating source was out of operation. Nearly four of ten of those households (38%) having lost primary heat said that they had *no* alternative and, as a result, that they went *without* heat for some period of time during the winter because of the loss.^{50\}

A 1993 study in Washington state found similar results.^{51\} That study reported that sixty-two percent (62%) of all respondents losing their service at some time during the preceding twelve months reported using nothing while their heat was off. Of those who lost their heat during the *winter*, 51% reported using nothing while their heat was off. The next most frequent response for all shutoffs (and specifically winter shutoffs) was "other," having been selected by 15% of the respondents. In most cases "extra blankets" and "stayed at a friend's or family's house" were the responses written in.

^{48\} Northern Kentucky Coalition for the Homeless (with technical assistance by Applied Information Resources), *Homelessness and Low-Cost Housing in Northern Kentucky: An Analysis and a Strategic Action Plan* (July 1990).

^{49\} Colton and Levinson, *Energy and Poverty in North Carolina: Combining Public and Private Resources to Solve a Public and Private Problem* (1991).

^{50\} *Id.*, at 62.

^{51\} Sheehan, *et. al*, *An Assessment of Low-Income Energy Needs in Washington State*, at 108 (Nov. 1993).

Therefore, not just a majority, but a substantial majority (62% + 15% = 77%), of those who lost their heat had absolutely no heat in their homes for the duration of time that their heat was off.^{52\}

Loss of a household's primary heat source presents serious risks both in terms of the cold as well as the dangerous side effects such as fire and carbon monoxide poisoning resulting from using unsafe heating sources. According to the National Center for Health Statistics, approximately 60,000 lives are lost annually by problems associated with cold weather including fires, carbon monoxide poisoning, pneumonia, influenza and other infectious diseases and of course hypothermia."^{53\}

Moreover, these dangerous tradeoffs between health and energy affect not only the vulnerable elderly, but young children as well. A study by Boston City Hospital of 7,367 children found that "the number of malnourished, low-weight children jumped dramatically following the coldest winter months."^{54\}

In fact, the elderly are one of the most vulnerable populations to these health impacts. Hypothermia is a more serious danger than people are commonly aware, particularly for the elderly. Over 2.5 million older Americans are at risk of developing hypothermia during the winter season each year according to the National Institute on Aging.^{55\} The proceedings of the Federal Council on the Aging, *Accidental Hypothermia: Facts and Myths*, states:

Hypothermia, literally a drop in the body's internal temperature, is a potentially fatal cold weather hazard for older Americans. While usually associated with outdoor recreation or the homeless, most victims of hypothermia are the elderly who die in their own homes in seemingly normal temperatures.^{56\}

In discussing which elderly people are most vulnerable to death resulting from hypothermia, a Congressional Committee, the Select Committee on Aging, wrote in their report to Congress:

Low fixed incomes, poverty and the increased cost of fuel heating and cooling the home create conditions in which many of the most vulnerable members of our communities are forced to make dangerous tradeoffs between energy and health. Energy conservation programs which encourage elderly people to reduce room temperature below 70 degrees F, directly endangers the health and safety of those who

^{52\} The North Carolina study did not consider the "other" category in its analysis.

^{53\} Select Committee on Aging, House of Representatives, *Deadly Cold: Health Hazards Due to Cold Weather*, at 2 (1984).

^{54\} Diego Ribadeneira, "BCH Study Illustrates Poor's Painful Choice," *The Boston Globe*, at 1 (September 8, 1992).

^{55\} *Id.*

^{56\} Federal Council on the Aging, *Accidental Hypothermia: Facts and Myths*, at iv (Washington D.C.).

are vulnerable to hypothermia.* * * These individuals may try and minimize their fuel costs by keeping the temperature in the home or apartment as low as possible rather than a minimum of 65 degrees. In the worst case inability to pay for fuel energy could result in a termination of service and severe risk during a cold spell.^{157\}

The Select Committee found that these deaths related to cold weather are preventable. In the "Suggestions for Reform" section, the Select Committee for Aging, as one of its recommendations, advised the following: "health organizations should work closely with gas and electric companies to prevent gas and electric shutoffs to residential customers. Shutoffs during the winter time should not be allowed without adequate warning and notification of a responsible health department."

3.1.1.1.4 Safety Implications: Finally, in contrast to the households who had absolutely nothing to rely upon when their heat was shutoff as discussed above, the remaining 23 percent in Washington state generated heat by using another fuel source, whether it was a portable heater, the kitchen stove, or a fireplace.^{158\} Households which experienced loss of home heat between April and November were more likely to use a fireplace or portable electric heater. Similarly, in North Carolina, even those households who didn't lack heat altogether faced major disruptions in their ability to keep warm. Of those households losing their primary fuel last winter, nearly one in four (24%) used either portable kerosene heaters or portable electric heaters as their (expensive and very dangerous) replacement source of heat. A nearly equal proportion of the households losing their primary source of heat relied upon either their cooking stove or their fireplace (20%) as their primary heating source.^{159\}

There are serious safety implications with the use of these alternative sources of home heating. Home heating equipment is the leading cause of all residential fires, although space heaters account for only a small number of them. However, fires caused by electric space heaters are five times more likely to result in a fatality than the average house fire, and ten times more likely to result in a fatality than all fires. Half the deaths and one-third the injuries from electric space heaters occur when family members are asleep and the heater is unattended.^{160\}

3.1.2 Why Low-Income Housing Developers as Borrowers

A utility-based linked deposit program is targeted to low-income housing developers in an effort to minimize lost opportunities for low-income energy efficiency improvements in such developments. Lost opportunities arise when the accomplishment of some given task precludes the future

^{157\} Select Committee on Aging, House of Representatives, *Deadly Cold: Health Hazards Due to Cold Weather*, at 2 (1984).

^{158\} *Sheehan et al.*, at 108.

^{159\} *Colton and Levinson*, at 63.

^{160\} *Efficient, Inexpensive Space Heaters Also Pose Deadly Danger*, *Washington Post*, at p. C-01 (January 20, 1989).

accomplishment of additional work at that same dwelling.

Decisions made by low-income housing developers represent decisions that will hold for the useful life of the measures. Accordingly, if a developer installs a relatively inefficient furnace or hot water heater, or fails to install the most cost-effective level of insulation, it is not likely that a utility will soon revisit that home to install more energy efficient measures. The opportunity to install high efficiency measures is lost at the time of the developer's initial decision.

Moreover, "low-income housing developers" encompasses a wide range of for-profit and non-profit institutions using a wide range of public and private dollars. Consider as just one example the extent to which public Community Development Block Grant (CDBG) funds go into low-income housing. A recent study by the National Association of Housing and Redevelopment Officials (NAHRO) found that roughly 31 percent of all CDBG funds requested in small cities were for housing development and housing rehabilitation projects.⁶¹ Similarly, large cities reported requests for housing and rehabilitation projects in 1991 representing more than 50 percent of the cost of all funding proposals submitted. "Overall," NAHRO found, "housing-related activities occupied the lion's share of funding requests in 1991, representing 44 percent of total requests" for CDBG funds. Utilities should seek to ensure that these dollars are spent with the highest cost-effective energy efficiency improvements as one component of the project.

4.1 OUTLINING THE STRUCTURE OF A UTILITY-BASED LINKED DEPOSIT PROGRAM

Given the discussion above, the broad outlines of a utility-based linked-deposit program would include the following components:

1. A utility would place long-term deposits with a community-based financial institution.
 - a. For purposes of this linked deposit program, a "community-based financial institution is defined to include Community Development Loan Funds (CDLFs) and/or Community Development Credit Unions;
 - b. For purposes of this linked deposit program, the term of a "long-term deposit" will be subject to negotiation, but will be defined at a minimum to include deposits of such length that they will be considered "equity" for purposes of the CDLF/CDCU capital structure.
2. The deposits will include purchases of certificates of deposit, or other financial instruments negotiated by the respective institutions.
3. The utility will agree to accept a return four percent (4%) below the market rate of return otherwise available on a deposit of similar risk and term.
4. In return for accepting below market interest rates, the community-based financial institution

⁶¹ *The NAHRO Community Development Research Project: A Final Report*, at 7 - 9 (Sept. 1992).

will agree to lend these deposits to not-for-profit housing developers for the installation of energy efficiency improvements with a direct passthrough of the lower interest rate.

5. Loans will be directed to not-for-profit low-income multi-family housing developments.
6. A "low-income" development is defined consistent with the federal Weatherization Assistance Program (WAP) definition; however, any projects receiving low-income housing funds will be conclusively presumed to be a "low-income housing development" irrespective of WAP guidelines.
7. Loans will be made only for the incremental investment in energy efficiency not otherwise installed because of Code requirements or common standards of the low-income housing construction trade serving the area.
8. The cost-effectiveness of the installation of any particular energy efficiency measure will be determined from the perspective of the developer. The particular measures to be installed will be decided in consultation with energy efficiency auditors chosen from a list agreed to in advance by the utility, the financial institution and the housing developer.
9. The energy efficiency measures subject to debt financing will include all measures found to be cost-effective from the perspective of the customer. These might include heating, non-heating and water efficiency improvements.
10. Whether the lower interest rate accepted by the utility is "cost-effective" from the perspective of the utility will be determined by comparing interest rates from the investments that otherwise would have been made to the sum of three components: (a) the interest rate provided by the financial institution; (b) the utility's traditional avoided costs; and (c) the utility's avoided credit and collection costs.
11. As part of the loan process, the financial institution will agree to waive traditional underwriting criteria for the extent of the energy efficiency loan made through the linked deposit program, including, but not being limited to, loan-to-value ratios. Moreover, in calculating debt-to-operating income ratios, the financial institution will consider reasonable estimates of the energy cost reductions generated by the energy efficiency investment.
12. The utility may make further Demand Side Management (DSM) investments as it deems cost-effective, whether such investments come through direct installation of DSM measures, the provision of loan guarantees,⁶²⁾ or other.
13. The linked deposit program will be coordinated with the state implementation of the federally-funded Weatherization Assistance Program (WAP) and other similar efforts to the maximum

⁶²⁾ See, Colton, *Loan Guarantees as a Utility "Investment" in Low-Income Energy Efficiency* (Nov. 1993).

extent practicable.

5.1 SUMMARY AND CONCLUSIONS

Developing creative financing for low-income energy efficiency improvements should be no more difficult than the development of creative financing for small business development, economic development projects, community reinvestment, agricultural preservation or a host of other socially worthwhile projects. Indeed, proponents of low-income energy efficiency can, and should, take guidance from the efforts undertaken in these other areas. Proponents of economic development and the like have been active for many more years than proponents of low-income energy efficiency.

One particularly attractive prospect for a utility's involvement in low-income energy efficiency is through a linked deposit program. Through such a program, a utility can pursue its goal of promoting low-income energy efficiency without spending its own money. Such a program, in other words, would *use* utility funds without actually spending them. Moreover, according to government associations --these include the National Association of State Treasurers and the Government Finance Officers Association-- linked deposit programs are amongst the easiest programs to initiate and administer. In addition, the risks involved with linked deposit programs are small, if not non-existent.

Linked deposit programs have become common tools to promote economic development, reinvestment in distressed communities, and small business incubation. State and local governments deposit funds with local financial institutions with the *proviso* that the desired sectors of the economy receive increased debt capital as a result. The linked deposits, in the words of one analyst, serve to encourage private financial institutions to seek out unfamiliar under-invested markets.

Development and pursuit of a utility-based linked deposit program to finance energy efficiency improvements in low-income housing is worth consideration.