REPORT

ON

VERDIGRE SHARED ENERGY SAVINGS PROGRAM

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SEPTEMBER 18, 1989

A "strategic choices" town meeting was held in Verdigre on April 2, 1985, following a series of economic setbacks for the community, including a fall in land values and commodity prices; the closing of the local bank by the state banking authorities; a series of farm foreclosures by the Federal Deposit Insurance Corporation prompted by the bank's failing and their liquidation of the bank's assets; and financial pressure on local businesses through the loss of local farm and ranch income.

As an outcome of this meeting, a business task force decided to apply for Community Development Block Grant (CDBG) funds to finance the installation of energy efficiency improvements in Verdigre businesses.

The Nebraska Department of Economic Development (DED) approved the village's CDBG application in November of 1985.

A cooperative effort was begun to develop the business plan for the funds. Partners in this effort were the Department of Economic Development, the Nebraska Energy Office, the Tri-County Council of Governments (TRI-COG), Charles Hill of Peschio & Company, the Verdigre Village Board, and the townspeople of Verdigre.

The preliminary business plan was developed by the Nebraska Energy Office and discussed at a town CDBG planning meeting on December 18, 1985. Following decisions made at the December meeting, a final draft of the business plan was prepared and presented at a subsequent town meeting on February 3, 1986. The plan was approved at this town meeting and submitted to DED for their approval. (Appendix A)

On February 12, 1986, The National Bank of Neligh agreed to commit $62,000.00 of bank funds to the "Secondary Investment Pool" through its branch office in Verdigre. The village of Verdigre pledged $38,000.00 of the CDBG funds to this pool also, bringing its total to $100,000.00. This was a participation loan pool, with the village purchasing 38% of the bank's loan at zero interest. The entire loan amount from this pool was owed to the bank. The mechanism allowed the bank to make a normal return on this type of credit, while giving the borrower a below market interest rate of between 6 and 7 percent. (Appendix B) This pool was made available in conjunction with the $185,000.00 "Grant/Loan Investment Fund", which offered business owners a 60% grant and 40% no interest loan on energy efficiency improvements. The investment fund was available for any project with a 5 year simple payback or less, with the total cost not to exceed $2,000.00 or $1.30 per square foot of business space, whichever is greater. The participation loan pool was then available for business owners to fund the cost of the work which exceeded the parameters of the investment fund. The limits established for the investment fund were put into place to ensure all 42 businesses would have some chance at the grant/loan investment funding. The limitations were based on an initial survey conducted on the businesses in Verdigre, which included some walk-throughs of the buildings.

The village contracted with the TRI-COG to administer the program. A commercial weatherization office was opened in the town hall building at the end of February, 1986. The office was staffed by one person from Verdigre who was supported by the TRI-COG staff in Hartington.

The Energy Office worked with TRI-COG and developed operating procedures for the program (Appendix C). In addition, the Energy Office cooperated in the development of program documents, which would be used in conjunction with documentation required by DED and TRI-COG (Appendix D).

The Energy Office designed the format and approach for the energy audits to be conducted on the businesses (Appendix E), providing training for the auditors who would be used by the local office. Energy Office staff members also conducted some of the initial energy audits on-site with local auditors as a part of their training and participated in the presentations of the results of these energy audits along with the local program administrator.

A contractor's meeting was held on May 20, 1986, introducing and explaining the program to local contractors.

The local commercial weatherization office operated until October 1987, when the last of the projects were completed. During the term of the program, it was expanded to include any eligible non-profit business in Verdigre. It was also determined, as the program went along, that there would be sufficient funding in the investment fund to handle all the demand. No business applied to the participation loan pool, but all opted to wait for a second go around for the investment fund. All limitations for this fund were removed when it became apparent the $185,000.00 in the investment fund plus the $38,000.00 CDBG portion of the loan participation pool would cover the costs of the approved projects. In addition, the deadline date for the expenditure of CDBG funds was extended to allow for the complete utilization of the funds dedicated to the commercial sector.

With expected loan repayments, the village filed its local plan for the intended use of CDBG program income. These funds were to be used for a residential energy improvement program. (Appendix F)

One component of the commercial weatherization program was the business owner's agreement to attend a training session sponsored by TRI-COG and the Energy Office. This session was conducted to ensure the business owner's thorough understanding of the energy efficiency improvements being made and the importance of monitoring the resulting consumption patterns. These training sessions were conducted on January 29 and 30, 1987, and again on June 18, 19, and 20, 1987.

These sessions encompassed a threefold purpose. They were used to provide owners and employees of businesses participating in the program training on the effective maintenance and operation of the energy saving measures implemented through the program; to conduct a survey of the owners of eligible businesses to determine whether they would participate in the program even if a) the loan-to-grant ratio of the investment fund were changed, and if so, what change would be acceptable, and b) interest was charged on the loan portion, and if so, what rate would be acceptable, and to determine their general impressions of the program implemented, what other structure or format they have wanted to see, and why those who did not participate did not do so; and to provide required technical assistance to the program energy auditor and administrator during the sessions. Survey forms and training aids were developed for the sessions. (Appendix G)

A private contractor was hired by the Energy Office to conduct the sessions and to report on their outcome. The contractor's reports and overall comments were positive. (Appendix H)

Representatives of 27 participating businesses attended the sessions and completed the survey. 7 businesses completed the non-participants survey. The results of the program surveys were compiled by the Energy Office and conclusions ventured. (Appendix I) It appeared most who participated wanted to lower their operating costs and had a financial incentive to do so. Two-thirds of the respondents indicated they would have participated even if the investment pool had been exclusively a loan at no interest.

Since there were some business owners who applied to do work after the last training session, there were about 5 owners who did not attend a session or complete a survey. No follow up session was scheduled to catch these late applicants.

The program energy auditor and program administrator were also surveyed during the June sessions, and the results of those surveys were included in the contractor's report.

Of the 42 businesses identified in Verdigre at the outset of the program, 32 had energy audits conducted. Of these, 30 obtained financing through the investment fund to make energy efficiency improvements in their businesses. Of these, 4 businesses received two loans, completing work in the first phase of the program and coming back with a second application to do more work once it was known there would be sufficient money in the investment fund to conduct a second round.

A total of $218,450.00 was expended on improvements, with $38,550.00 of the CDBG funds going for program delivery and energy audits. In addition to this, the Energy Office provided technical assistance to the program and has the responsibility of collecting energy consumption data from businesses with outstanding loans. These soft costs have not been computed for this report. $438.00 of the amount reported as improvement costs under the CDBG program has not been identified with specific projects, which total individually $218,012.00 for the energy analysis portion of this report. These costs may be the result of change orders which were not picked up from the files during the course of the follow up review. However, this additional amount does not have any noticeable overall impact on the final findings of the analysis.

The average costs of the work done, material and labor, for the 30 projects was $7,281.66. The smallest project was $1,459.31 and the largest $20,855.57. Overall, 78% of the cost for work completed was for material and equipment, with 22% going to labor. A total of 179 identified energy conservation measures were implemented.

The Energy Office completed an analysis of the work completed on the 30 businesses, comparing estimated savings with actual, as reported by the businesses in their annual reports for the first year following project completion. (Appendix J) This analysis indicated there was an overall 4% reduction in the energy costs of the 30 businesses. This actual savings was only 8% of the overall savings estimated in the energy audits. If the 4 businesses on which the information available was too unreliable to be considered in the analysis are dropped out, the actual energy cost reduction would be 9%. This adjusted figure would be 26% of the estimate. The overall simple payback was estimated to be 5.1 years, but figures out to be 22.9 years using the adjusted actual figures. Four of the businesses changed hands after improvements were made, creating a change in operating patterns for those businesses. One of the businesses was being renovated by new owners with the plans to reopen it after being closed for a long period of time. As of the date of this report, the business had not been reopened, so there was no post improvement energy consumption data available. This fact has a definite impact on the overall energy cost savings noted in the program for all 30 participating businesses.

The most notable success story in energy dollar savings is the local implement dealer, whose energy conservation measures included the installation of a furnace which could burn used oil. The dealer's energy costs were reduced by 58%, 47% adjusted, and were 81% of the estimate, 65% adjusted. Actual dollar savings were $3,886.00. In addition, this business now purchases used oil from other sources in the village, providing a safe disposal of these waste products.

The largest reduction in energy use occurred in the Hardware Hank business, with a 321.3 MBtu reduction, 145.8 MBtu adjusted, which was a 45% savings, 20% adjusted. This was 60% of the estimate, 34% adjusted. Also of note was the retirement center, which opened a major addition after the completion of their project. With this factored out of the analysis, they would have shown a 565.3 MBtu saving, which would have been an 18% reduction in their energy use.

Another impact of the program was the reduction of wood burnt for heat in several of the businesses. At least two businesses completely discontinued the use of wood. Overall, there was a 32.7% reduction in wood burnt for fuel, totaling 23.3 cords. This reduction in wood burning undoubtedly has a positive impact on the air quality for the village during the winter months.

All feedback from participating businesses have been favorable toward the program and its economic impact on the community. Substantial improvements have been made to the existing business structures which have enhanced their continued operation with all 30 businesses which undertook work, still in existence. In addition, the loan portion of the commercial program will now go to improve the homes in Verdigre, with those dollars continuing to revolve as the residential loans are repaid.

During the Energy Office's last visit to Verdigre to collect the balance of the energy consumption data and annual reports due, which were needed to complete this report, village officials reported approximately $40,000.00 of the $87,380.00 in loans had been repaid. The residential energy improvement program had been approved by DED, but had not generated any interest from local homeowners. The village found that with the income limitations required for the program, all eligible homeowners were also eligible for the federal low income weatherization program, which had served the area well. Therefore, the village had applied to DED and received approval to operate a residential rehabilitation program with the program income. This program has five priority categories, which include all energy efficiency improvements allowed under the residential energy improvement program, along with reducing overcrowding and improvements to roofs, foundations, and electrical wiring and service. The program offers 3% loans. (Appendix K)

To date there have been no loan defaults in the commercial program. 8 of the loans have been repaid in full. The residential rehabilitation program will be announced and started with program income on hand in August of 1989.

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