

Final

Oregon Energy Assistance Program Evaluation

Prepared for:

Bob Repine, Director
Oregon Housing and Community Services

Prepared by:

M. Sami Khawaja, Ph.D.
Sharon Baggett, Ph.D.
Quantec, LLC

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Executive Summary

Program Summary

The Oregon Energy Assistance Program (OEA or the Program) is designed to provide cash assistance to low-income households to offset the costs of electric energy. The Program is funded through a meter charge to PacifiCorp and Portland General Electric (the Companies) customers in Oregon and is administered by Oregon Housing and Community Services (OHCS). The Program was funded at \$5 million annually in 2000, increasing to \$10 million in subsequent years.

According to Oregon Revised Statute (ORS) 757.612 (7) (d):

The Housing and Community Services Department, in consultation with the federal Advisory Committee on Energy, shall determine the manner in which funds collected under this subsection will be allocated by the department to energy assistance program providers for the purpose of providing low-income bill payment and crisis assistance, including programs that effectively reduce service disconnections and related costs to retail electricity consumers and electric utilities. Priority assistance shall be directed to low-income electricity consumers who are in danger of having their electricity service disconnected.

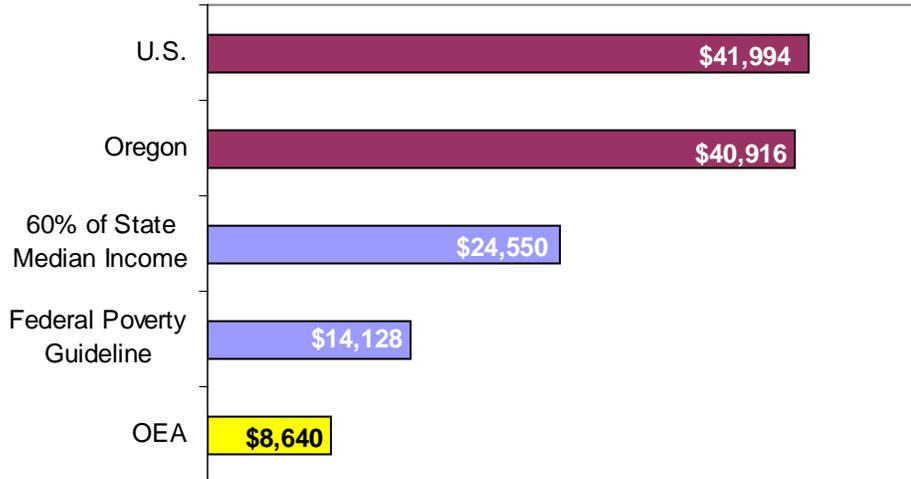
The Program is delivered through 17 contracted agencies. Eligible clients may receive regular and crisis payments, with priority given to those at risk of disconnection.

Client Eligibility

Customers are eligible if they have electric service from either Company and their household is at or below 60% of the state's median income with priority assistance directed toward clients who are past due on their bills or in danger of disconnection.

As shown in Figure ES.1, the median income levels of participants are very low, well below the 60% of state median income (SMI) required for assistance.

**Figure ES.1
Comparison of Median Household Income**



Evaluation Approach

OHCS contracted with Quantec to evaluate OEA for the 2001 and January through June of the 2002 Program years. The evaluation objectives are to assess the quality of the delivered services, to estimate impacts on arrears, number of disconnects, and to assess Program cost effectiveness. To assess delivered services we conducted:

- In-depth interviews with six key stakeholders
- Telephone interviews with 15 representatives of the contracted agencies that deliver the Program
- Fifty telephone interviews with Program participants, chosen randomly from 2001 and 2002 participants

Additional analysis was completed on Program data and participant billing history (PacifiCorp only) from October 1999 to October 2002 for a random sample of 1,000 Program participants.

Evaluation Results

Participant and Program Characteristics

The Program served 26,411 households (60% PGE customers, 40% PacifiCorp) during the 18 months (January 2001 through June 2002) evaluated. Key characteristics of Program recipients include:

- More than half (57%) of participants are renters.

- 26% live in some type of subsidized housing.
- Almost 40% live in multiple-unit housing with more than four units; 11% live in mobile or manufactured homes.
- The mean household size is 2.96 people.
- Median annual income is \$8,640, and 75% of participants' incomes fall below \$15,000 per year.

Program Payment Characteristics

The payment levels increased from 2001 to 2002, reflecting the increase in energy costs and the subsequent increase in funding.

- In 2001, average payment was \$219 (maximum allowable was \$250); in 2002, \$268 (maximum allowable was \$300). Average payment over the 18-month period analyzed was \$240.
- Together, those receiving payment with “past due” status and those having received a 15-day shutoff notice account for more than half of all participants.
- 2,124 (8%) participants received payments in both 2001 and during the first six months of 2002.

OHCS Role

OHCS is charged with implementing the Program and ensuring that priority is given to customers at risk of disconnection. In addition, OHCS is given fiduciary responsibility for disbursing funds and monitoring implementation of services.

Goals

The Program was envisioned as one that would supplement the assistance provided by the federal Low Income Energy Assistance Program (LIEAP).

Beyond the statutory requirement, and growing out of SB1149, are broad goals for the Program. When asked about these, interviewees generated two recurring goals:

- Reduce energy burden for low-income customers
- Reduce arrears and service terminations

Interviewees identified several key elements of the Program that have contributed to its effectiveness. These included:

- Using the same eligibility criteria and intake process as LIEAP allows direct comparison, eases implementation, and provides one-stop energy assistance to clients.

- Most agency staff reported that reducing arrearages and service terminations was the main goal; as such, the Program is effective.
- All of the agency staff said the Program was “very effective” in filling a gap not covered by other energy assistance programs.

Delivery Mechanism

The Program was not designed to offer comprehensive services to clients. However, many of the interviewees see a real strength in the Program’s administration through the contracted agencies precisely because of their extensive experience in providing a variety of services to the target population. But for many of the services that could be provided to clients to assist with their energy needs, such as weatherization and energy education, staff report they often do not have time to adequately educate clients and that the waiting list for weatherization services is extremely long.

Staffing and Training

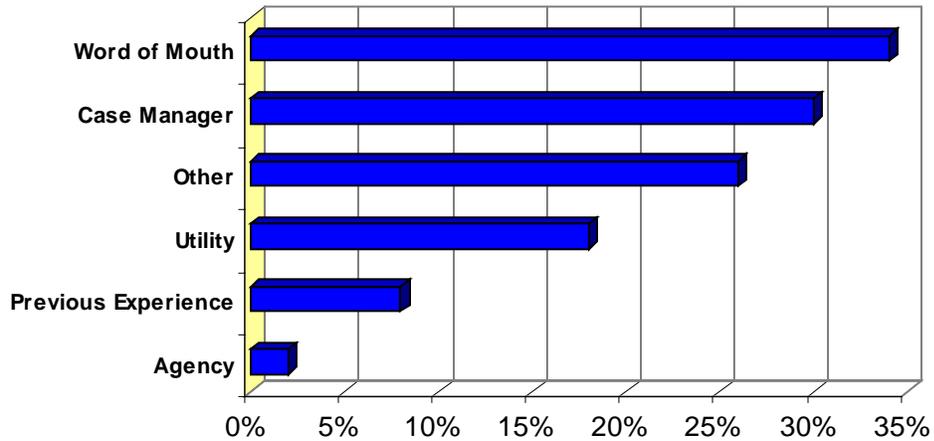
The contracted agencies have largely used existing staff to implement the Program. OHCS staff believes that some of contracted agencies had to learn how to adequately staff the Program, were reluctant to hire, and in some cases waited until they were behind to hire and train new employees.

Agency staff interviewed report high levels of satisfaction with the training and support provided by OHCS staff for the OEA.

Marketing. All of the agencies interviewed said they do outreach for the Program, posting flyers in service agencies, attending service fairs, communicating about the Program with other agencies and services, and public service announcements in local media. Of the two utilities, only PGE markets the Program through bill inserts.

As shown in Figure ES.2, surveyed participants reported that they most often learned about the Program through the agency case manager or by word of mouth. Agency staff members, on the other hand, report that networking with other social service agencies and word of mouth are the most effective promotional efforts, followed by newspaper ads.

Figure ES.2
Participant Source of Information about Program



Administration

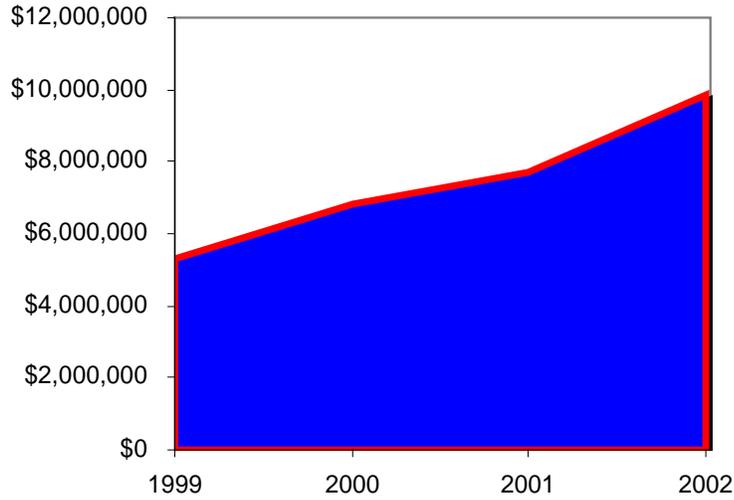
The Program administration seems straightforward but multi-layered. Agencies prepare plans, approved by OHCS, to use in guiding Program implementation and estimating budgets. The agencies have one third-party audit conducted annually. Furthermore, OHCS staff tries to conduct reviews annually. These audits focus on the agencies' performance in meeting contract requirements, e.g., allocating costs to the appropriate categories. In addition, OHCS has a program monitor who reviews implementation, although not on a routine annual schedule.

Allocation and Payment Process

Lengthy delays affecting payments to the Companies, and thus to customer accounts, are not uncommon, especially in counties with multiple contracting agencies. Agencies are required to send payment to the Companies within 45 days. The delays may also reflect seasonal demands and the changeover to the OPUS data system that occurred during this evaluation period.

Since LIEAP funds are finite and the plight of low-income families is such that there is no shortage of need for other sources of assistance, the Program was designed to expand energy assistance to needy customers. The intent of the Program was to have OEA funds supplement rather than replace LIEAP. The upward trend in LIEAP dollars allocated to PacifiCorp and PGE customers shown in Figure ES.3 indicates that it is unlikely that OEA has been used to replace LIEAP.

**Figure ES.3
LIEAP Dollars Allocated to PGE and PacifiCorp Customers**



Program Funding and Expenditures

Program funds provide for three budget categories: Administration (Indirect Costs), Program Delivery (Direct Costs), and Program Payments. Guidelines limit the amount contracting agencies can spend on Administration to 10%; the percent for Program Delivery is approved on an individual agency basis, with most averaging 14%-15% of allocations. OHCS administration cost is limited to 5%. Table ES.1 summarizes the expenditure breakdown for the 18-month period evaluated.

**Table ES.1
Summary of Program Costs**

Category	Total	Percent
OHCS Administration	\$502,040	5%
Agency Administration	\$1,008,170	10%
Program Delivery	\$1,394,533	14%
Payments	\$6,943,617	71%
<i>Total Cost</i>	<i>\$9,848,360</i>	

Client Intake. The enrollment demands on both agency and participants appear to be reasonable. Agency staff integrate the energy assistance programs during intake. Many clients are eligible for both LIEAP and OEA. In 2001, 54% of participants served by PacifiCorp and 46% of those served by PGE received both OEA and LIEAP.

- At intake, all staff said they refer clients to other services and programs if applicable.
- Forty-six percent of surveyed participants said they received information regarding other services or programs.
- 50% of surveyed participants said they did receive tips from agency staff on how to reduce energy consumption.

Satisfaction with the Program

Reported satisfaction levels among the agency staff and surveyed participants are high.

- Agency staff most frequently reported the blend with LIEAP and the flexibility of the Program as most effective aspects of the design.
- Suggestions for improving effectiveness centered on increasing funding, streamlining implementation, and incorporating the Program into a more comprehensive strategy to deal with the underlying problems of the agencies' clients.
- Seventy-eight percent of participants said they were “completely satisfied” with their experience with Program staff. However, there was dissatisfaction expressed regarding the delay in payment to their account. Eighteen (36%) of surveyed participants expressed concern about the delay; 15 of these were from the Portland Metropolitan Area counties – Multnomah, Washington, and Clackamas. Half of those citing delays reported the length of delay at four months or longer.
- Participant suggestions for improvement focused on reducing the payment delay, reducing wait for appointments, increased funding, and getting the information to more people. For many, 48%, no improvement was needed.

Other Issues

Several themes that arose during the interview process point to the need for additional training or consultation with the contractor staff delivering the Program. Specifically, agency staff commented that:

- Restrictions on eligibility to those customers who have received at least a 15-day notice of disconnection before they apply for assistance limits its effectiveness and may provide a negative incentive to clients. That is, some customers anticipating past due bills or disconnections due to loss of a job or other factors cannot take a proactive approach and apply for funds before they receive a notice regarding disconnection. This “notice” is not a requirement of the Program; if a 15-day priority exists, it may reflect a single agency's efforts to target limited funds or meet some other local

goal. In managing the Program, OHCS has allowed each agency to define the details of the Program to best fit with their way of doing business. If, however, actions taken at the agency level are not in keeping with the Program's intent, then training is needed to clarify this issue.

- Agency staff perceive that there are disparities in funding by county. All funds collected in the Company's service territory returns to the territory. In some cases where OHCS contracts with one agency serving multiple counties, the funds may be shifted from county to county based on need. The agency staff need further clarification of how the collection/allocation process occurs.

Program Impact

When a payment assistance program to low-income customers is instituted, a utility can avoid a range of potential costs to ratepayers (bad debt, arrears, collection costs, shutoff costs, etc.). The following summarize the findings of the impact assessment of the Program on these costs:

- 1) The actual arrears approximately one year after payment is made is estimated to be roughly \$340 less than it would have been had the Program not existed. Of that amount, \$207 is directly the result of applying the payment from OEA and \$133 is due to customers' ability to "catch up" and start paying part of their own outstanding arrears.
- 2) Due to the reduction in the daily account balance per participant, the Companies saved approximately \$11 per participant simply due to time value of money and reducing their need to acquire capital.
- 3) Utilities often incur significant costs in attempting to collect debt from customers. These collection activities include phone calls, letters, customer visits, and collection agencies costs. The Program reduced these costs by approximately \$190,000.
- 4) When energy costs are high, household funds are diverted from other uses including food, medical care, and rent. In some cases, high-energy bills may force occupants to move from their current dwelling either to lower energy costs or to avoid paying an energy bill. Not only are frequent moves expensive and inconvenient they have other extremely serious effects. These include increasing school dropouts and inability to hold a job. Energy assistance and weatherization programs lower the energy vulnerability of the participating low-income families and their forced mobility. Mobility can be especially hard for the elderly and families with children. We followed a conservative approach of assuming only \$700 per move and only about 15% reduction in mobility. This amounts to over \$700,000 of benefits for the Program overall.

Reduced mobility also does have a benefit to the utility. For example, when a customer moves, the utility often has to read the meter prior to assigning a new account. The benefit to the utilities is estimated at just over to \$22,000.

- 5) LIEAP requires leveraged dollars from other sources. We believe that the presence of OEA in Oregon may have provided an incentive for increased LIEAP funding. At this point, we do not have access to the data to allow an assessment of this impact.

Cost Effectiveness

This approach analyzes Program costs and benefits from the perspective of PacifiCorp and PGE as well as that of the State of Oregon in general (societal test). Cost-effectiveness analysis is customarily summarized using Benefit-Cost (B/C) Ratios. B/C ratios of 1.0 are the “breakeven points” where what you receive back in benefit is just equal to the investment. Values above 1.0 indicate profitable investment.

As Table ES.2 shows, the Program is cost effective from the societal perspective with benefit/cost ratio 1.03. From the utility perspective, the Program is slightly short of cost effectiveness with a B/C ratio of 0.96. The reader should keep in mind that there are significant other benefits that are not quantifiable or are unavailable at this time and, therefore, are not included in this analysis. Had they been included, we believe that cost effectiveness of the Program would have increased significantly. For example, Oregon LIEAP allocation increased by \$170,222, \$287,596, and \$157,603 in 2000, 2001, and 2002, respectively. OEA most definitely has caused part of this increase. However, the exact attribution to OEA is impossible to measure.

This analysis assumes that the impacts only last for one year. However, it is conceivable that the Program impacts are longer lasting than that. Unfortunately, there is very little research conducted beyond the first post-Program year. We explored several scenarios to determine impacts on cost effectiveness. We assumed that only half the impact occurs in year two and that year three experiences another 50% deterioration of impact. For years 2 and 3, the Program is cost-effective from the utility and the societal perspectives (see B/C ratios in Table ES.2 for years 2 and 3).

**Table ES.2
Cost Effectiveness Results**

	Utility	Societal/Oregon
Benefits		
Reduction in Arrears	\$8,979,892	\$8,979,892
Time Value	\$284,402	\$284,402
Reduction in Notices	\$30,954	\$30,954
Reduction in Collections	\$86,153	\$86,153
Reduction in Shutoffs	\$72,997	\$72,997
Reduction in Mobility	\$22,779	\$660,605
<i>Total Benefits</i>	<i>\$9,477,177</i>	<i>\$10,115,003</i>
Costs		
OHCS	\$502,040	\$502,040
Administration	\$1,008,170	\$1,008,170
Program Delivery	\$1,394,533	\$1,394,533
Payments	\$6,943,617	\$6,943,617
<i>Total Costs</i>	<i>\$9,848,360</i>	<i>\$9,848,360</i>
B/C Ratio		
Year 1	0.96	1.03
Year 2	1.40	1.50
Year 3	1.61	1.71

Conclusions

The Program Is Effective

- The Program is clearly meeting a need for crisis assistance.
- It targets those with very low incomes.
- It fills a gap in energy assistance, providing for crises and large arrearage problems.
- OEA provides flexibility at the agency and case manager level.
- Only a small percentage of customers were served in both Program years evaluated, indicating that the Program is serving as intended – for short-term crises.
- Evidence seems to indicate that the Program has not replaced LIEAP for the two utilities’ customers.
- Program goals are achieved in a cost-effective manner.

Given the income levels of the participants, the remaining eligible populations in the Companies' territories, and the persistence of economic challenges in Oregon, there is clearly a need to increase similar types of energy assistance.

Data Collection and Reporting Needs to be Improved

While Quantec did not conduct a quality audit of the Program database, our evaluation process revealed few data entry errors. As the contracting agencies become more proficient with the new OHCS computer database system, OPUS, we would expect to see fewer errors in data collected during intake and agency identifiers. OHCS staff acknowledges that there was not sufficient time to beta test the initial components of OPUS before its release; testing consisted of the first six months of its use by contractors.

We experienced greater difficulty with payment data. Databases used for tracking allocations, administration, delivery and payment costs contained numerous errors. Fiscal and Program databases, while serving different functions, contained contradictory data and made assessment of allocations and payments difficult. This was confounded by the delays, where actual payment dates reflect Program costs in a previous biennium or year.

OHCS has worked to improve contractor reporting through the start-up of a "help desk" and recently released an on-line and hard copy training manual for the OPUS system. OHCS is also adding an Information System position to improve reporting ability as well as developing "business views" within OPUS to assist contractors in developing reports and viewing their data for accuracy. Further, we believe that:

- Continue and speed-up implementation of reporting function improvements in OPUS, allowing contracting agencies and OHCS staff to better profile participants and plan for changes as needed.
- OHCS should conduct an audit of both fiscal and Program data to ensure adequate tracking of expenditures.

Cycle of Program Process Appears Lengthy, Cumbersome, and Requires Substantial Administrative Overhead

- The allocation process and percentages assigned for delivery, administration, and making payments has not been without problems. On the positive side, the contractors believe the administration and delivery costs are actually close to covering the true cost of implementing the Program. On the negative side, the failure to predict each month's funding availability, hinders the agencies' ability to plan for client assistance and develop realistic waiting lists. In peak need times, agencies also committed future expected funds to provide assistance at the time of actual need.

- The multi-stage process for allocation, authorization of payment vouchers, notification of Companies, batching of vouchers, and re-payment to the utilities is lengthy. This cycle is costly to the Companies, primarily due to the delays in payments from the contracted agencies.
- The process is time-consuming for staff and causes stress for customers.

OHCS delivers the program through 17 contractors; two counties, Multnomah and Lane, deliver OEA through almost 22 subcontractors. OHCS believes that the use of subcontractors is essential for serving these two counties and that contracting directly with each subcontractor would more than double their administrative costs. It would also require substantial investment to build subcontractor capacity to the levels of their respective contractors.

Given this commitment to the contractor/subcontractor approach to service delivery, OHCS is currently examining ways to shorten the payment cycle, including batch Electronic Funds Transfers (EFT), shortening the time that subcontractors (agencies) have to submit client applications to the contractors, and exploring with the Companies EFT deposit of collected meter charges.

Finally, if the Program is maintained as is (i.e., delivered through OHCS and contractor agencies), then contractors must be held to the letter of their contracts requiring 45-day payment to utilities. Since this issue is prevalent in large counties with multiple delivery sites, training and assistance should be given to resolve site-specific difficulties in meeting the deadline and the County given a timeline for improvement. Subsequently, fiscal and operations audits should ensure continued timely performance.

I. Introduction

Program Summary

The Oregon Energy Assistance Program (OEA or the Program) is designed to provide assistance to low-income households to offset the financial impact of electric energy costs. The Program, established by Senate Bill 1149 during the 1999 legislative session, began in January 2000. Income-eligible customers receive one regular assistance payment per year toward their electricity bill and, under special circumstances, may receive one additional yearly crisis payment.

The Program is funded through a meter charge on PacifiCorp and Portland General Electric (the Companies) customers in Oregon and is administered by Oregon Housing and Community Services (OHCS). The meter charge (defined in ORS 757.612, paragraph 7) started at \$0.18 per monthly bill and is currently \$0.35 per month for residential customers. Commercial rate is set at \$0.035 per kWh and is capped at \$500 by the legislation. The program was funded at \$5 million annually in 2000, increasing to \$10 million in subsequent years. Appendix E provides a summary of other states' low-income efforts.

Income Levels Targeted

The purpose of OEA is to address the difficulties that low-income families have in paying the electric bill, targeting those most at risk of disconnection (i.e., with past due status, receipt of shutoff notice). The goal is to reduce the cost associated with disconnections, both to the customer and to the utility. For low-income families, energy costs can represent a significant proportion of expenses when compared to their total income.¹ As a result, families from low-income populations often have problems with late or missed payments, significant arrearage or debt amounts, and service terminations. The realities of everyday life, such as job loss, divorce, or illness, often exacerbate these problems.

The federal government has long provided aid to eligible families with high utility bills through direct payments to energy suppliers. This assistance is provided in both emergency (under threat of service termination) and high bill situations through the Low-Income Energy Assistance Program (LIEAP). Yet LIEAP funds are finite, and the plight of low-income families is such that there is no shortage of need for other sources of assistance.

¹ Energy cost as a portion of household income is the definition of "energy burden."

According to the federal government, a family of four is in poverty if its annual earned income is \$17,650 or less. Table I.1 uses national-level data to illustrate the grave financial circumstances of such a low-income household.

**Table I.1
Poverty Facts²**

Family of four poverty income	\$17,650
Median fair market rent (rent)	\$8,256
Minimum cost to keep warm and secure (utilities)	\$1,944
Two people taking the bus to work (transportation)	\$1,500
With food stamps, minimum additional food cost	\$1,301
With some employer-provided coverage (health care)	\$1,347
With subsidies, child care cost for family earning \$15,000	\$4,200
Remaining budget	-\$898
<i>Not covered:</i> School supplies, insurance, clothes, household supplies, laundry, recreation, and much more.	

The figures in Table I.1 apply to the situation at the national level. The particular situation of low-income families in the Companies’ service territories deserves a more detailed discussion. Figures I.1 through I.3 show how the situation of those served by the Program compares to that of Oregon and the nation. The graphs show several characteristics of the Companies’ service territories that underscore the need for low-income bill assistance. As indicated, slightly larger households are served, with very low median income levels, and a higher percentage are in poverty, using all definitions.

² <http://www.nccbuscc.org/cchd/povertyusa/tour2.htm>; 2001 poverty income; family of four.

Figure I.1
Comparison of Average Number of People per Household

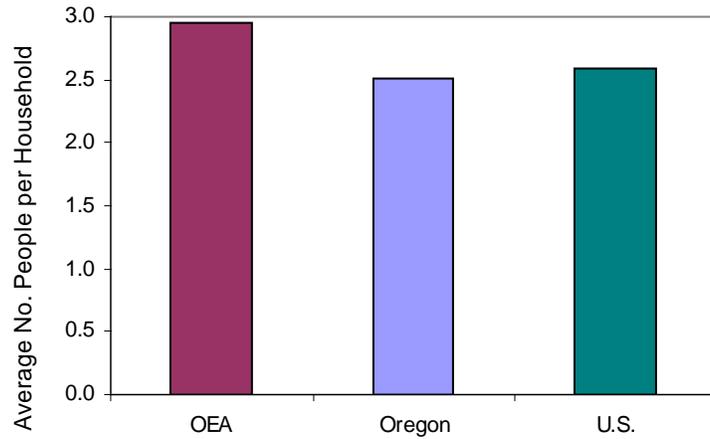
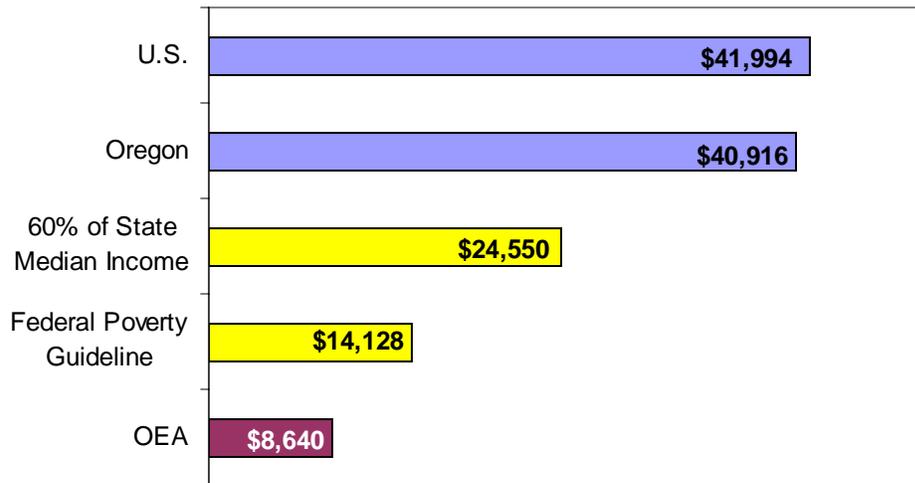
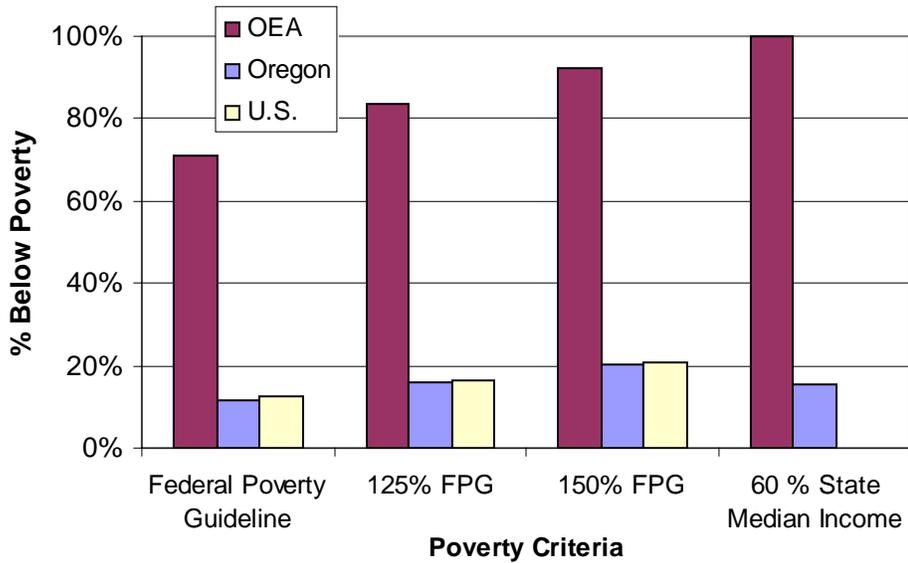


Figure I.2
Comparison of Median Household Income



Note: (Figure 3) All income levels adjusted to household size of 3, the average household size in the study population.

**Figure I.3
Comparison of Percent at Poverty Levels**



Client Eligibility

At this time, customers are eligible to participate if they receive electric service from PacifiCorp or Portland General Electric (PGE) and their household is at or below 60% of the state’s median income (SMI). OEA uses the 60% of SMI, rather than the federal poverty guidelines for eligibility, as it better represents local conditions. Customers may own or rent, and live in single-family homes, multi-family dwellings, mobile or manufactured homes, travel trailer, or other settings. Initially, the maximum payment amounts were \$250 for both Standard and Crisis payments. These amounts increased in October 2001 to a maximum of \$300 and \$500, respectively. Since Program implementation, these payments have increased due to increased energy costs and the subsequent increase in Program funding.

Program Promotion

The Program is promoted primarily by the participating contracted agencies, through case managers, community newspapers, service fairs, and through communication with other service agencies.

Program Services

OHCS administers the Program with the assistance of contractors. In some cases the county is the contractor, with multiple agencies in the county delivering the Program. In other cases, the agencies are the contractors and may serve multiple counties. Seventeen contractors have been involved in

2001 and 2002. The contractors and the counties they serve are shown in Table I.2. The primary functions of the agencies are Program outreach and enrollment of participants. Upon requesting services, staff prioritizes clients for appointments based on a set of criteria related to the immediacy of need (e.g., already disconnected versus received past due notice). During the application appointment, the client supplies income verification and additional information on the residence and the household.

**Table I.2
Community Action Agencies in OEA**

County(s) Served	Agency	County(s) Served	Agency
Baker	CCN	Lane	LCHS
Benton	CSC	Lincoln	CSC
Clackamas	CCSSD	Linn	CSC
Clatsop	CAT	Marion	MWWCAA
Coos	SWOCAC	Multnomah	AMA, HIS, IMPACT, MULTCO, NH, PA, SA, SVDePaul, VOA, WS/FH, YWCA
Columbia	CAT	Morrow	CAPECO
Coquille Tribe	SWOCAC	Polk	MWWCAA
Crook	COCAAN	Siletz Tribe	CSC, MWWCAA
Curry	SWOCAC	Sherman	MIDCOL
Douglas	UCAN	Tillamook	CAT
Jefferson	COCAAN	Umatilla, Umatilla Tribe	CAPECO
Grande Ronde Tribe	YCAP	Union	CCN
Grant	CCN	Warm Springs Tribe	MIDCOL
Gilliam	CAPECO	Wasco	MIDCOL
Hood River	MIDCOL	Wallowa	CCN
Jackson	ACCESS	Warm Springs Tribe	COCAAN
Josephine	JOCO	Washington	CAO
Klamath	KBSCC	Wheeler	CAPECO
Lake	KBSCC, LCSNW/P	Yamhill	YCAP

There are six types of authorized payments in the Program, described in Table I.3. Eligible clients, except those in subsidized housing, may receive both Standard and Crisis payments. Crisis payments are allowable in a variety of situations, such as instances where there is health endangerment or a lack of energy source to maintain life-sustaining equipment.

**Table I.3
Type of Assistance Available**

Payment Type	Definition
Regular	Total amount, based on eligibility guidelines for income and household size, payable to energy supplier
Subsidized	Applicant lives in subsidized housing and receives only one-half of a regular payment; may also apply for a full crisis payment; may not receive both
Crisis Payment	Funds specifically to address criteria such as life threatening situations, supply shortages, cost of fuel disproportionate to household income, and other situations
Roomer/Boarder/Owner	Living situation where individual makes one fixed monthly payment that includes heat and or utility cost; applicant will receive 50% of regular payment based on income and household size.
Special	Payment to cover unusual circumstances that do not fall under another category
Shutoff	Payment is being issued for a regular and a crisis payment at the same intake appointment.

The Companies collect the meter charge each month from their customers and distribute the funds to OHCS. OHCS allocates the funds to the contractors. After verifying client eligibility, the agencies notify the Companies, by fax or phone of the approved payment amount for each client. Based on the monthly allocations, the agencies batch the applications, to be sent either to their county fiscal office or OHCS. The county fiscal office or OHCS then sends a check back to the individual Company to pay toward approved customer accounts. OHCS is in the process of moving to a “large vendor program,” which would allow monthly electronic funds transfer (EFT) to the Companies.

Evaluation Methodology

OHCS contracted with Quantec to perform a third party evaluation of the performance of the Program to date. The evaluation objectives are as follows:

- Assess the process of delivering bill assistance services to PacifiCorp’s and PGE’s low-income customers in the State of Oregon
- Assess the quality of the delivered services
- Estimate Program impacts on:
 - arrears
 - number of disconnects
 - number of accounts in arrears
- Assess Program cost-effectiveness

Overall Approach

Process Evaluation

The purpose of this analysis is to assess the Program as planned and as delivered. This included the following:

- Review of available Program documents and filings
- In-depth interviews with Program staff and other interested parties
- Interviews with contractors and their staff
- Surveys with participants from Program years 2001 and 2002

Impact Evaluation

The main objective is to measure the Program impact on customers' arrears, shutoffs, disconnections, and energy consumption.

II. Data Collection

The evaluation data collection consisted of the following activities:

- Conducting interviews with Program staff and key stakeholders
- Conducting interviews with agency staff
- Conducting a survey of participants
- Collecting census data
- Collecting Program data
- Collecting participant payment history to assess Program impact on arrearage

The interviews and surveys were used to assess Program design and delivery.

Staff and Stakeholder Interviews

A key portion of the process evaluation consisted of conducting in-person, in-depth interviews with OHCS staff and representatives of stakeholder groups. These interviews were done in order to provide an assessment of the Program from some of its key implementers and advocates. Table II.1 shows the staff and stakeholders interviewed. Informal interviews were also conducted with Company representatives throughout the evaluation period.

Table II.1
Advisory Group Interviews

Name	Organization
Steve Weiss	Northwest Energy Coalition
Lynn Kittilson	Oregon Public Utility Commission
Jeffrey Puterbaugh	Oregon Housing & Community Services
Linda Marquam	Oregon Housing & Community Services
Gary Lewis	PacifiCorp
Cheri Hansen	PGE

The purpose of these interviews was to elicit the opinions from the staff and stakeholders – all experienced in the issues surrounding low-income programs – on the design and delivery of the Program, as well as its potential future. Those formally interviewed were asked to specify what they thought the Program goals were and whether these goals were reasonable. They were asked to describe the implementation of the Program from their perspective, including training, delivery, data management and other key aspects of

Program administration. They also provided their perspectives regarding the effectiveness of the Program and its future.

Agency Interviews

Quantec conducted telephone interviews with 15 representatives of Counties (two county contacts) and contracted agencies (13) that promote the Program and certify that participants are income eligible. The goal of these interviews was to gather information about the Program from those who are most involved in its day-to-day operation.

Participant Surveys

In order to provide an assessment of the Program based on the perspectives of those it was designed to serve, Quantec conducted telephone surveys with 50 Program participants, chosen randomly from all 2001 and 2002 participants.

The surveys asked participants their perspectives on the following aspects of the Program:

- Marketing
- Enrollment
- Education, information or other services provided upon enrollment
- Satisfaction with service delivery

Census Data

In order to present a general portrait of the conditions in the Companies' service territories, we assembled the most recent census data available to compare the United States, the State of Oregon, and participating counties (to represent the Companies' service territories). Among the data compiled were information on population, household size, income, poverty, and housing characteristics.

Program Data

Two primary types of Program data were assembled. These included the participant database from January 1, 2001, through June 30, 2002, and Program allocations and expenditures for the same period. The latter provided data on monthly allocations and expenditures, both by type and amount, as well as by county and CAA.

Participant Payment Data

To conduct the arrearage analysis, Quantec requested payment data from PacifiCorp and PGE for a random sample of 2001 and 2002 (through June 30) participants selected from the Program database.

In August 2002, PGE converted their customer billing system to a new computer program. Customer data prior to this date are now available only on microfiche, requiring a single-case approach to finding the monthly bills and pulling the data from each. Using such an approach, with the required sample size and the two-year history needed for an accurate calculation of pre-post Program impact was not feasible. Thus, no billing history was collected for PGE Program participants.

From PacifiCorp, Quantec collected payment history from October 1999 to October 2002 for a random sample of 1,000 Program participants.

Review of Literature

Because bill assistance programs are not unique to Oregon, we conducted a review of the literature on calculating benefit to utilities from low-income assistance programs. See Appendix A for a list of references identified and reviewed.

III. Implementation Analysis

Our findings are based on the various data-collection efforts described in Section II. This chapter is organized by evaluation objective, from an overview of who is served, how they are served (Program design), to a discussion of the Program's effects on its participants. Summaries of the various data collection efforts are presented where appropriate.

Participant Characteristics

More than 26,000 customers were served from January 1, 2001, through June 30, 2002. Table III.1 shows the percentage served by Company.

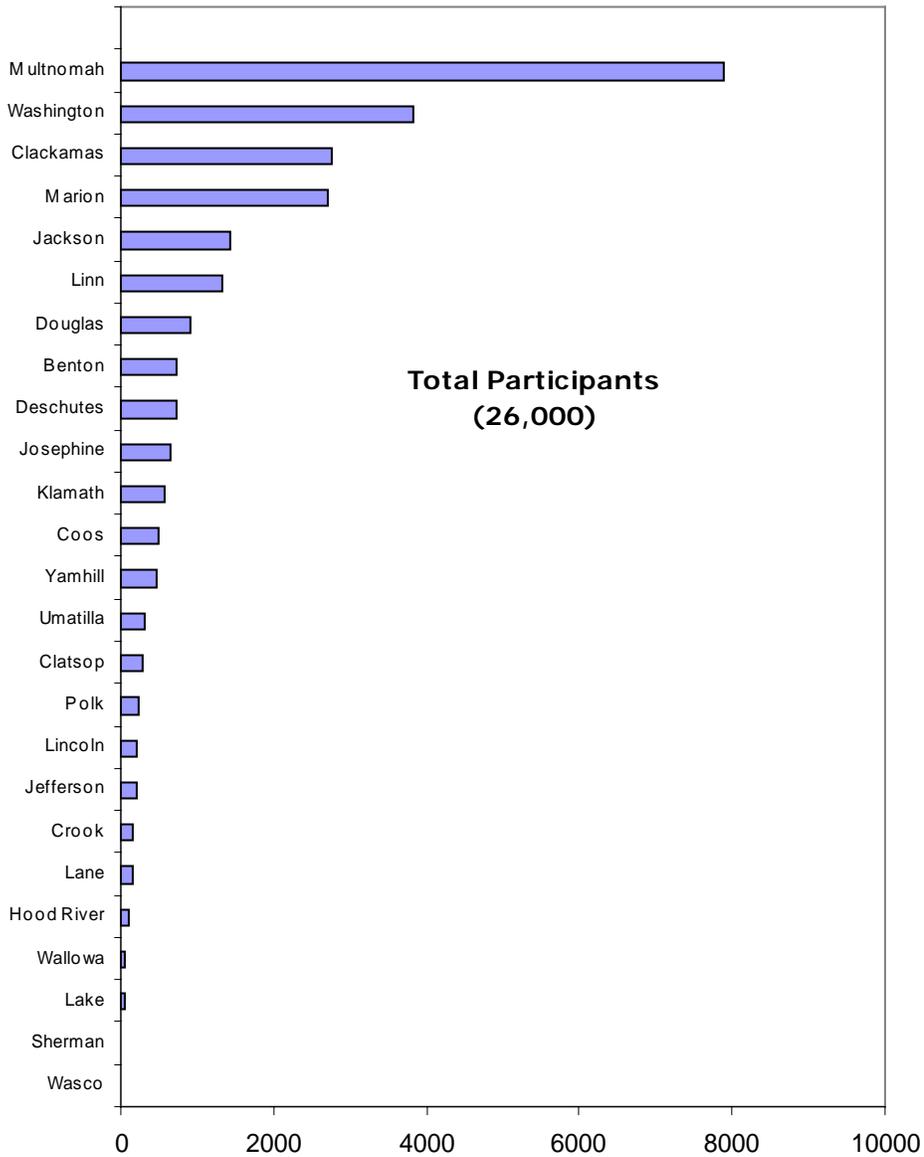
Table III.1
Number of Participants by Program Year and Company*

Company	OEA 2001		OEA 2002	
	Frequency	Percent	Frequency	Percent
PacifiCorp	6,185	42%	4,679	40%
PGE	8,543	58%	7,004	60%
<i>Total</i>	<i>14,728</i>		<i>11,683</i>	

* Participants, by utility, served by county as a percentage of the county's eligible population are included in Appendix B and gap analysis – those remaining to be served.

As indicated in Figure III.1, the majority of those served reside in the larger, metropolitan counties, with Multnomah serving the largest percentage, followed by Washington and Clackamas counties.

**Figure III.1
Distribution of Participants across Counties**



Household Characteristics

The households served by the Program, indicated in Figure III.2, are most likely to include four or fewer persons, with the median household size of three. The median income of those served, as shown in Table III.2, is only 21% of the Oregon and national median. And as Figure III.3 indicates, 75% of Program participants have an annual household income that falls below \$15,000.

Figure III.2
Distribution of Participant's Household Size

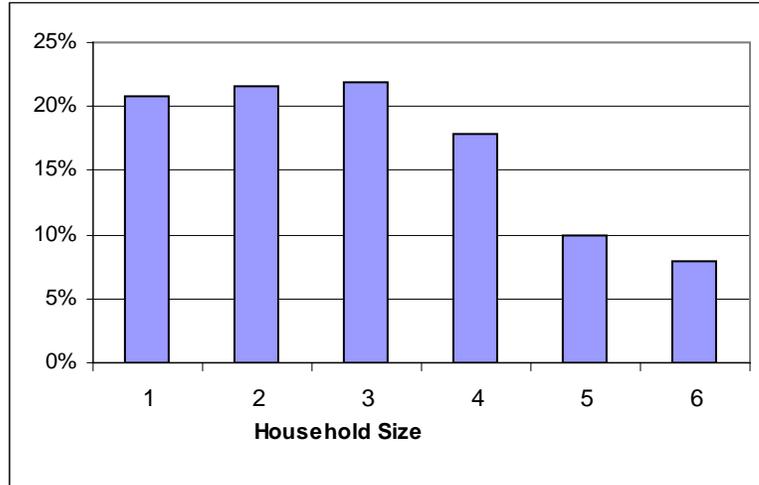
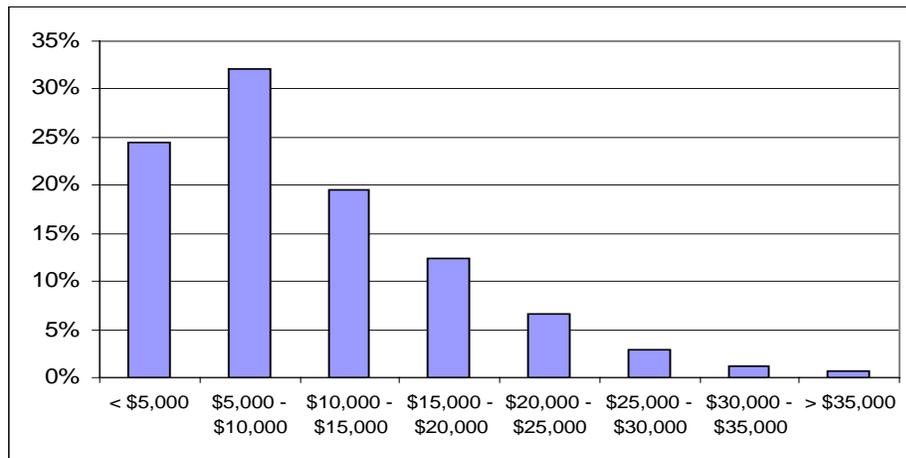


Table III.2
Participants Median Household Income and Comparison

	Annual Income
Program	\$8,640
Oregon	\$40,916
U.S.	\$41,994

Figure III.3
Distribution of Participant's Household Income



As Tables III.3, III.4, and III.5 indicate, more than half of Program participants are renters, and another quarter live in some type of subsidized housing. Almost 40% live in multiple-unit housing with more than four units; slightly more than 11% live in mobile or manufactured homes. The majority use electricity for heating.

**Table III.3
Participants by Residence Status**

Residence Status	N	%
Rent (heat not included)	14,980	56.8%
Subsidized housing (heat not included)	6,882	26.1%
Own	4,392	16.7%
Rent (heat included)	84	0.3%
Subsidized housing (heat included)	27	0.1%

**Table III.4
Participants by Residence Type**

Residence Type	N	%
Multiple Unit (over 4)	9,777	37.1%
House	9,314	35.3%
Multiple Unit (2-4)	3,827	14.5%
Mobile Home	2,442	9.3%
Manufactured Home	549	2.1%
Other	350	1.3%
Travel Trailer	91	0.3%
Hotel	15	0.1%

**Table III.5
Participants by Primary Heat**

Primary Heat	N	%*
Electric	23,668	89.7%
Natural Gas	2,227	8.4%
Oil	266	1.0%
Wood	117	0.4%
Liquid Gas	58	0.2%
Other	26	0.1%
Pellet	16	0.1%

* Total is not equal to 100% due to rounding.

Payment Characteristics

As shown in Tables III.6 and III.7, most of the participants received the standard payment, which averaged \$240 over the 18-month period analyzed. Together, those receiving payment with “past due” status and those having received a 1-5 day shutoff notice account for more than half of all participants. The maximum payment amount and the higher mean payments for shutoff statuses indicate high levels of arrearages. With the increase in Program funding in 2002, even in the first half of the year, an increase in the minimum and mean payments are in evidence (See Table III.8)

**Table III.6
Participants by Payment Type**

Payment Type	OEA 2001	OEA 2002
Crisis	12%	7%
Shut off	1%	6%
Standard*	87%	87%

* Standard combines standard payments for those in regular and subsidized housing.

**Table III.7
Payment Amount**

Year	Payment Type	Mean	Min	Max
2001	Crisis	\$182	\$10	\$500
2002	Crisis	\$211	\$19	\$500
2001	Shutoff	\$391	\$125	\$810
2002	Shutoff	\$468	\$149	\$850
2001	Standard	\$222	\$100	\$350
2002	Standard	\$259	\$125	\$350
2001	Combined Types	\$219*		
2002	Combined Types	\$268*		
2001 & 2002	Combined Types	\$240*		

* Weighted averages where weights are equal to the proportion of participants taking one payment type out of total payments.

**Table III.8
Change during 2001-2002**

Payment Type	Chg in Mean (+)	Chg in Median (+)	Chg in Min (+)
Crisis	\$29	\$25	\$9
Shutoff	\$78	\$99	\$24
Standard	\$36	\$50	\$25

The data also show that only 2,124 participants received payments in both 2001 and during the first six months of 2002. While this number may increase somewhat when the second half of 2002 is included, it is not expected to increase substantially.

Participants receiving both the standard payment, plus an additional payment in a given year, is also quite low. In 2001, 1,737 participants received two payments; through June 30, 2002, 777 had received more than one payment.

Program Design

By statute (ORS757.612) OHCS is charged with delivering funds to the contractors and ensuring that priority is given to those in danger of disconnection. Within this charge, OHCS is given responsibility for determining how implementation will occur, e.g., using similar eligibility criteria and implementation as LIEAP. The statute also indicates OHCS has fiduciary responsibility for receiving and dispensing funds and for developing implementation for services resulting from interest accrual. Beyond the statutory requirements are the underlying views of why the Program is in place. It is these views that were explored during our interviews with staff.

Goals

This review of Program design focuses on the assumptions underlying the Program, history and context of its development, and the goals, design issues, and effectiveness in achieving those goals. Nearly all of our interviews began with a discussion of the Program goals from the perspective of the interviewee and an assessment of the design. The interviews revealed two recurring goals for the Program:

- Reduce energy burden for low-income customers
- Reduce arrears and service terminations

OHCS staff also noted that, by adding OEA onto the assistance provided by the federal LIEAP, the Program is trying to cover a wider range of low-income customers and expand the outreach process. That is, while LIEAP is

targeted to seniors, the disabled, and households with children six years of age and under, a broader group of customers is eligible for OEA. And, while the agencies do the outreach for LIEAP, PGE also markets OEA through customer bills and inserts.

The Program was designed to be easily implemented alongside LIEAP, with congruent design features minimizing the need for extensive training and easing the speed of implementation. Thus, all fiscal requirements are the same and the same agencies are used to deliver the Program, thereby avoiding the need to re-contract. Additionally, the computer program for administration could be easily converted to include both LIEAP and OEA.

Several key elements of the Program were identified by interviewees as contributing to or hindering the effectiveness of the Program. These included:

- The design of the Program, using the same eligibility criteria and intake process as LIEAP, allows direct comparison. Staff believes this allows them to demonstrate the different populations served by the two programs.
- OHCS staff expressed concern that self-sufficiency may not be the right goal for OEA since its design really limits it to short-term payment assistance. Staff posed the broad question: “What would/could we do if we merged all energy funds? What levels of funding would be necessary to achieve these goals across all the programs?”

The Program’s primary mechanism for achieving its goals is the one-time per year payment applied to participants’ bills. In this sense, how the Program works to achieve its goals is fairly straightforward. Nevertheless, in the course of the interviews, several attributes of the design evoked comments from the interviewees.

Energy Burden. Respondents were somewhat in agreement that reducing energy burden is a goal of the Program. Based on the definition of energy burden and the Program’s bill reduction, such a conclusion is self-evident. The concern voiced by several interviewees, including several agency staff, was that a one-time payment, separate from any long-term approach to reducing energy costs, cannot achieve this goal. At best, it reduces energy burden temporarily.

“We are limited both by guidelines and fuel type in who we can serve. It is not addressing the fact that energy is too expensive for income. It doesn’t address the core need. And, they need to reapply every year.”

“The program is not a realistic approach to reducing energy burden. They [clients] need lifestyle change, percentage rate reductions, income assistance, and other things to reduce the burden.”

Arrears. The second goal that interviewees defined was reduction of arrears and service terminations. Most agency staff reported that reducing arrearages and service terminations was the main goal of the Program and, in this, the Program is effective. All of the agency staff said the Program was “very effective” in filling a gap not covered by other energy assistance programs.

Self Sufficiency. Stakeholders were less certain about designating self-sufficiency as a goal of the Program. As noted earlier, the Program is designed to avert crises. It is not designed as a broad intervention – using approaches such as reduced payment, combined with weatherization, education, and other forms of assistance – to achieve this larger goal for customers. Given the extremely low-income levels of Program participants, many felt that a one-time payment will not change the life circumstances that render clients unable to consistently pay utility bills.

Delivery Mechanism

Single Focus Approach. It is important to make clear that the Program was not designed to offer comprehensive services to clients. However, many of the interviewees see a real strength in the Program’s administration through the contracted agencies precisely because of their extensive experience in providing a variety of services to the target population. For example, the agencies typically provide budget counseling and weatherization. To the extent that participants receive these other services, the Program benefits from its relationship with the agencies. OEA participants, however, are only asked if they would like more information; they are not required to utilize these additional services. And, while they may be referred to weatherization, that program has had waiting lists of up to two years. Staff tries to provide energy education during intake, but, as staff pointed out, often they do not have time to do this adequately.

Staffing and Training. The agencies have largely used existing staff to implement the Program. Since OEA is a year-round program, as opposed to LIEAP, which expends funds during the winter months, some service issues arose. In some cases, agencies were reluctant to hire staff. Some had to experience delays in being able to schedule clients before hiring and training additional staff.

Agency staff interviewed report high levels of satisfaction with the training and support provided by OHCS staff for the OEA. As with Program design, the training is provided in conjunction with that for LIEAP, including fall and spring statewide meetings. Other methods for sharing updates, problem-solving, and ongoing training include:

- OHCS staff attends meetings of the League of Utilities and Social Service Agencies (LUSSA), Oregon Energy Coordinators Association

(OECA), Community Action Directors Organization (CADO), and Advisory Committee on Energy (ACE) when appropriate.

- Staff and agency personnel can also post information to the OECA and CADO websites.
- As questions or issues arise, telephone and/or on-line assistance is provided to contractors by OHCS staff members
- On-site assistance for computer database training is provided, as well as ongoing support.

Several agency staff noted that extensive training was not required because of the similarity to LIEAP. Most bring the updates or changes back from the statewide meetings and hold a training session(s) for their staff.

"We developed a training manual that incorporates the state manual plus items specific to our agency, have monthly meetings to discuss changes, errors, or problems."

Table III.9 shows the responses from staff when asked to rate the support provided by OHCS for the agencies delivering the Program. As shown, 60% rated the support as very adequate. For those giving lower ratings, reasons included confusion regarding amount of allocations and lack of a full-time program administrator in the beginning. These respondents qualified their comments, however, noting that this might be expected with a new program. The majority of respondents' comments were positive, characterizing the Program staff as very responsive and returning calls quickly.

**Table III.9
Agency Staff Rating of OEA Program Support**

Rating of Support	Frequency
Support is very adequate	9
Support is somewhat adequate	4
Support is less than adequate	1
Don't know/NA	1

OHCS Program staff emphasized that communication and problem solving occurs both ways. That is, the input gained from the agencies through processes such as the annual meetings has resulted in changes to the Program. For example, along with other adjustments, medical and student deductions were removed, a crisis payment was added for subsidized housing, the amount for crisis benefits was increased.

Marketing

Only PGE markets the Program through bill inserts and agencies inform eligible clients. All of the agencies interviewed also said they do outreach for the Program, posting flyers in service agencies, attending service fairs, communicating with other agencies and services such as Adult & Family Services or Headstart, and public service announcements in local media. Of these, agency staff felt that networking with other social service agencies and word of mouth are the most effective promotional efforts, followed by newspaper ads.

Program and agency staff, however, stated that customers do not really need to know which program they are applying for when making application for bill assistance. Rather, the agency staff decides which program to use with a given client and may be trying to balance expenditures if one program or another has too many applications. As one staff member noted, “we want the clients just to know they received utility assistance.” This approach has been effective in both “filling the slots” and, given the income levels of participants, in targeting those most at need.

Table III.10 presents the various sources through which the participant survey respondents reported having heard about the Program. As shown, the top three sources of information about the Program are unrelated to any formal marketing effort by the utilities. Participants most often said they heard of the Program by word-of-mouth, through their energy case manager, or through other sources such as another service agency or community site such as church or fair. None reported hearing about OEA through a utility notice or insert, although some learned assistance was available when phoning or visiting the utility office.

Table III.10
Participants’ Source of Information about OEA*

Source of Information	Number	%
Agency	1	2%
Case manager	15	30%
Previous Experience	4	8%
Utility (phone or visit)	9	18%
Word of Mouth	17	34%
Other (church, HEADSTART, local newspaper, FISH, Housing Authority, local information fair, domestic violence service)	13	26%

* Multiple responses possible; 7 participants cited two sources; 1 cited three.

Administration

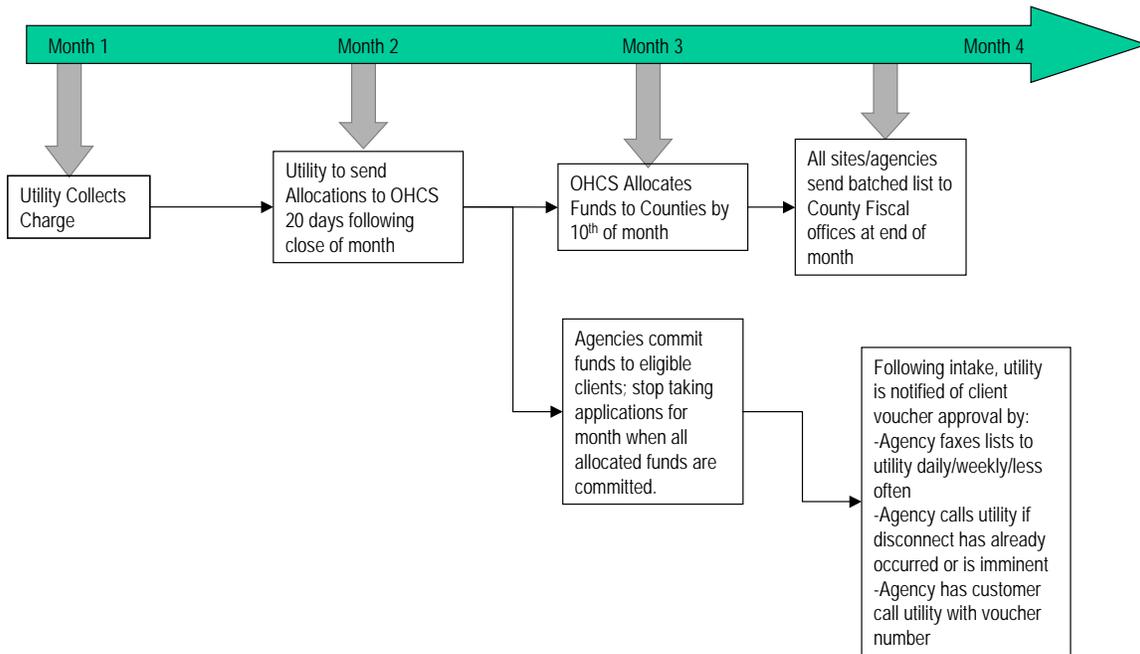
Administration of the Program seems straightforward, but multi-leveled. Each agency proposes a work plan (the Omniplan), including outlined budgets, for administering OEA and submits it to OHCS for approval. Fourteen of the 15 agency staff surveyed said they use this plan in administering the Program and that they believe they are meeting all Program requirements. Agencies are expected to provide four quarterly reports and an annual final report, including both financial and Program data.

Beyond the spring and fall training events, OHCS staff communicates with and supports the agencies by memorandum, phone, e-mail, and fax. One fiscal monitoring visit, to ensure contractual requirements are being met, is to be completed annually for each agency. Doing this annually has proven difficult since OHCS has only one auditor for all programs. To address this, the auditor is trying to combine audits by site. The agencies also contract for one outside audit annually.

Allocation and Payment Process

Figure III.4 outlines the Program administration process for allocation and payment. Our interviews revealed that there have been problems in getting the agencies to send the lists of approved vouchers to the Companies. Some do this daily, others weekly, and still others bi-weekly. Lengthy delays affecting payments to the Companies, and thus to customer accounts, have occurred in the final two phases of this process, especially in 2002. The agencies are required by contract to send payment to the Companies within 45 days. Delays in this commitment are not uncommon. In counties with multiple agencies delivering the Program, and the County acting as fiscal agent, delays are more common. The delays may also reflect seasonal demands and the changeover to the OPUS data system, the new data tracking system for energy assistance programs.

**Figure III.4
OEA Allocation and Payment Process**



Tables III.11 and III.12 show the analysis Quantec conducted, using Program data, of the lag times between the recorded client intake date (completing application), the batch date (agency or county combined applications with voucher numbers), and recorded paid date. As shown, the longer delays occurred primarily in Multnomah County, where multiple agencies are involved in service delivery.

**Table III.11
2001: Analysis of Payment Process**

Agency	Average Number of Days between . . .		
	Intake and Batched Date	Batched and Paid Date	Intake and Paid Date
ACCESS	25	57	82
CAO	20	NA*	20
CAPECO	17	177	195
CAT	51	NA*	51
CCN	40	2	42
CCSSD	26	NA*	26
COCAAN	23	9	32
CSC	62	1	63
JOCO	46	NA*	46
KBSCC	18	NA*	18
LCHS	25	17	43
LCSCA	45	NA*	45
MIDCOL	11	15	26
MWVCAA	84	15	100
SWOCAC	33	NA*	33
UCAN	23	3	26
YCAP	17	6	24
Multnomah			
AMA	64	8	72
LCSNW/FW	89	24	113
MC/EW	117	7	124
FH	33	13	46
HSI	53	8	61
IMPACT	63	8	71
MULTCO	3	11	13
NH	48	8	56
PA	83	7	89
SA	77	10	87
SV DEPAUL	77	8	84
VOA	60	8	68
WS/FH	83	11	94
WS/NH	97	8	105
YWCA	57	8	66
Average	49	18	63

* These Agencies reported same dates for Payment and Batched dates, indicating that they actually did not enter correct payment date into their database

**Table III.12
2002: Analysis of Payment Process**

Agency	Average Number of Days between . . .		
	Intake and Batched Date	Batched and Paid Date	Intake and Paid Date
ACCESS	17	12	29
CAO	114	NA*	114
CAPECO	30	55	85
CAT	31	35	66
CCN	18	22	40
CCSSD	57	12	69
COCAAN	23	34	57
CSC	30	14	44
JOCO	17	55	73
KBSCC	23	NA*	23
LCHS	20	19	39
LCSCA	10	NA*	10
MIDCOL	10	24	33
MWVCAA	141	19	160
SWOCAC	23	NA*	23
UCAN	46	12	58
YCAP	23	18	41
Multnomah			
AMA	59	12	71
IMPACT	129	6	135
LCSNW/FW	128	7	135
MC/EW	139	7	146
MULTCO	29	12	41
PA	136	7	143
SA	110	8	117
SV DEPAUL	141	6	147
VOA	70	9	80
WS/FH	116	9	125
WS/NH	125	8	134
Average	65	18	80

* Agencies missing in 2002: FH, HIS, YWCA

In addition, some agencies have spent in advance of their allocations, resulting in expenditures preceding available funds, causing the fiscal office to wait for subsequent allocations before making payments back to the Companies. Interviewees felt that the agencies spent in this way due to the clients' dire

needs, caused by the poor economy – banking on the funds to come to allow service to more clients during the winter months. Once the agencies have sent the approved lists and amounts to their county fiscal office, further delays have occurred in these offices. PGE, for example, reported working on payment issues in summer of 2002 related to intakes completed in the winter of early 2002.

Interviewees agreed that problems in OPUS, in the year following rollout, contributed to these delays. After the rollout of the new system, it took time to get all agencies to the point where staff could load the Program data easily. There were also the typical “bugs” to be worked out after conversion to a new database. One respondent also wondered at how the large counties communicate with and monitor agency performance and whether communication problems between these entities contributed to the delays. The Companies report a wide range in the payment cycle, with some agencies making payment within 30 days by summer of 2002, and others still experiencing long delays. OHCS staff believes some of the causes of this delay will improve once the EFT system is in place.

On the Company side, some errors have occurred in applying the payment to customer accounts, but these have been few. In spite of these issues, most of those interviewed characterized the relationship between OHCS and the Companies as “very close,” making communication and problem solving effective.

Program Funding and Expenditures

Program funds provide for three budget categories: Administration (Indirect Costs), Program Delivery (Direct Costs), and Program Payments. Guidelines limit the amount contracting agencies can spend on Administration to 10%; the percent for Program Delivery is approved on an individual agency basis, with most averaging 14%-15% of allocations. OHCS is limited to 5% for administration.

Table III.13 shows the breakdown of Program expenditures for the 18-month period evaluated.

Table III.13³
Program Expenditures: January 2001 – June 2002

	Amount	Percent of Total
OHCS Administration	\$502,040	5%
Agency Administration	\$1,008,170	10%
Program Delivery	\$1,394,533	14%
Payments	\$6,943,617	71%
<i>Total</i>	<i>\$9,848,360</i>	

The Program is unique in designating a specific portion of the funds to be used by the contractors for administration. We asked agency staff how the OEA Program costs compared to others they have administered. For those involved in administration, their responses are shown in Table III.14. Seven of these respondents said they expect the administrative costs to increase in the future.

Table III.14
Agency Staff Comparison of OEA to Other Programs

Comparison of Program Costs	Frequency
OEA is more expensive	1
OEA costs about the same	9
OEA is less expensive	1

Client Intake

Client intake is a critical element of the Program. The OEA Operations Manual⁴ outlines required application information, as well as minimum standards for in-office energy efficiency education to be done with clients. The agencies also have their own standards for coordinated case management.

³ Table III.13 shows the components of combined 2001 and 2002 OEA program costs. The total administration and program delivery amounts are computed by summing contracted allocations for administration and program delivery across agencies. These data were taken from fiscal and program databases provided by OHCS. The allocated amounts are based on agency specific OEA approved rates. Similarly, program costs associated with OHCS are based on 5% of total contracted allocations. The figure for program payments is a sum of the program payments authorized for participants as shown in the program database.

⁴ Oregon Energy Assistance, Energy Assistance Operations Manual, 2002. Salem, OR: Oregon Housing and Community Services.

One reason for operating the Program through the contractors was because they have the existing facilities and experience to perform the Program implementation activities efficiently. This mechanism has worked well in delivering the Program. Staff interviewed said, for example, that they integrate OEA and LIEAP through the intake process (i.e., the applications are the same and the client need not know which program is assisting them). In delivery, staff differentiates to maximize the use of both programs, but use both when the situation requires.

"Both programs are done by same staff who are aware of eligibility requirements than can cross all programs. One door, one stop, one action process."

"We use the two programs together when needed and when LIEAP is open for clients."

"If necessary, then both are used. We try not to, but those receiving one are not automatically eliminated from the other. Usually people don't know which program they are actually receiving."

As shown in Table III.15, almost half of all 2001 OEA participants also received LIEAP funds.⁵

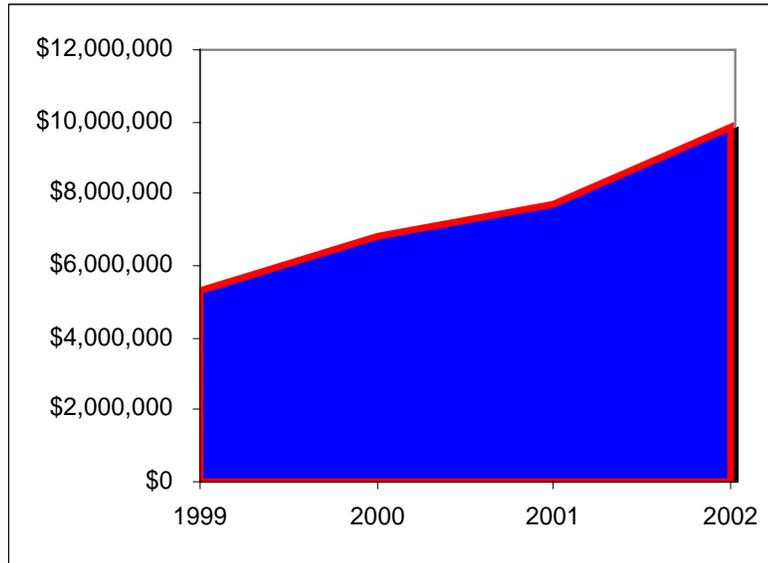
**Table III.15
Number of 2001 OEA Participants Receiving LIEAP**

Company	Total 2001 Clients	Number Receiving OEA & LIEAP
PacifiCorp	6,185	3,761
PGE	8,543	3,211
Total	14,728	6,972

The intent of the Program was to have OEA funds supplement rather than replace LIEAP. As shown in Figure III.5, LIEAP funds allocated to PGE and PacifiCorp customers have actually been increasing over the Program life indicating that it is unlikely that OEA has replaced LIEAP.

⁵ 2002 LIEAP Program does not begin until October 1, 2002, OEA data only used through June 30. Analysis of participants receiving both types of assistance could only be performed for OEA program year 2001.

Figure III. 5
LIEAP Dollars Allocated to PGE and PacifiCorp Customers



At intake, all staff said they refer clients to other services and programs if applicable. Forty-six percent of surveyed participants said they received information regarding other services or programs when they received energy assistance.

Agency staff also noted that, when they have time, they try to provide some basic energy education, such as no cost ways to reduce energy consumption, and 50% of surveyed participants said they did receive tips on how to reduce consumption from the agency staff. In some cases, as staff mentioned, the client may have already received this information from another energy program or have expressed disinterest. While we did not directly assess to what extent the agencies are meeting the minimum standards for energy education outlined in the Operations Manual, it is clear that some level of energy education is occurring.

Clients are asked, as required by the intake form, if they are interested in weatherization assistance. Staff reports that some clients have received weatherization through different energy programs, are simply uninterested, or live in multi-family housing. For these reasons, one staff person estimated that only 10%-15% of his clients are referred to the weatherization program. As noted earlier, even those who are referred may not receive assistance due to long waiting periods for this service. OHCS staff expect that with an increase in funding for weatherization services, due to the implementation of Senate Bill 1149 public purpose funds, more OEA clients in the future will be referred to and receive weatherization assistance than in the past.

Client Satisfaction

Participants expressed high levels of satisfaction with the intake process. Seventy percent of those surveyed said they had to wait for an appointment; 16% said they walked in to the agency and were seen immediately. As shown in Tables III.16 and III.17, few felt there were any difficult parts to the process, the majority felt it occurred in a timely fashion, and 96% were satisfied with the intake process overall.

Table III.16
Timeliness and Difficulty of Application

	N	%
Timely Processing of Application		
Very timely	37	74%
Somewhat timely	8	16%
Not Timely	5	10%
Difficult Parts in Application Process		
Yes	4	8%
No	46	92%

Table III.17
Participation Satisfaction with Application Process

Rating	N	%
Completely satisfied	39	78%
Somewhat satisfied	9	18%
Not very satisfied	2	4%
Not at all satisfied	0	0%

Data Management

When OEA began in 2000, OHCS used the TRACKER system, which staff acknowledged had limited capability to provide useful reports or allow real-time capability. In December 2001, OHCS began loading the new OPUS web-based system, and OHCS staff went to every agency to transfer data from the old system to the new. This process continued through March 2002. As with any new computer system, there have been problems with start-up, partially contributing to the delay in payments discussed previously in this report. The report function is also not yet fully available.

OPUS is seen as a great improvement to data management. Interviewees noted that OPUS is a real-time system, which allows the agencies, for example, to

minimize client duplication. That is, they can check to see if the client has applied for the same programs through another agency. The reporting capability, once functional, will allow staff in any agency to provide their legislator with a report within 24 hours. And, the system provides more than canned reports, so staff can customize to specific questions and issues.

Where agencies are the direct contractor to OHCS, staff enters the client intake information directly into system. Where counties, such as Multnomah County, are the contractor, the agencies send hard copies to a central office for input. This may, in some degree also contribute to the delay in payments to the Companies.

Almost all agency staff reported that they had no problems complying with the data requirements, although OHCS staff reports that one agency is still showing delays in getting data into the system. We asked agency staff if they see benefit from the reporting process. Eleven of fourteen responding said yes, with eight noting the benefits of demographic information for trend analysis and planning, and several mentioned the importance of the information for advocacy with legislative representatives, the utility companies, and others. Agency staff comments also encouraged the continued improvements in OPUS.

"It gives us a better picture of households that we're serving and those we are not. It acts as target identification for direct outreach."

"It's very helpful to look at demographics and see who is and is not being served by the program. It's also useful for bragging; it can be used as leverage when attempting to obtain other funds. "

Overall Program Satisfaction

Staff Perceptions

Reported satisfaction levels among the agency staff and surveyed participants are high. When asked about the most effective aspects of the Program and its design, staff comments centered on several key aspects, summarized in Table III.18.

Table III.18
Staff: Most Effective Aspects of OEA Program Design

Effective Aspects of Program Design*	Number
Blend with LIEAP	5
Flexibility (for agency; for staffing; for clients needs)	5
Clear program priorities eases administration	3
Simple paperwork and/or record keeping	3
Year round funding	2

* Multiple responses possible.

Other effective aspects cited include ability to respond quickly in emergency situations, agency procedure – not technically part of formal design – of going to clients’ home, ability to coordinate with other programs, and an administration budget that allows the agency to almost cover the full cost of implementation. All felt that the Program is an effective social services offering – “it works well for what it’s supposed to do.”

Suggestions for improving effectiveness centered on increasing funding, streamlining implementation, and incorporating the Program into a more comprehensive strategy to deal with the underlying problems of the agencies’ clients.

"More money. Expand to serve other utility customers, such as NW Gas, PUDs, oil, gas and propane utilities."

"Streamline the system by developing a direct link between Company and the agency."

"Examine whether this is the right strategy. Instead, ask how we can truly help."

Participants report overall satisfaction with the Program in terms of their experience with the staff, as shown in Table III.19.

**Table III.19
Participant Satisfaction with Experience with Staff**

Satisfaction with Staff	Frequency	Percent
Completely satisfied	39	78%
Somewhat satisfied	8	16%
Not very satisfied	1	2%
Not at all satisfied	2	4%

If there was any one issue where participants expressed some dissatisfaction, it was the time delay in payment to the Company, i.e., not knowing when the payment had been made. Eighteen of the surveyed respondents mentioned the delay as a problem,⁶ with some citing confusion and stress resulting from the delay as they continued to receive bills showing the arrearage covered by the Program payment. Some reported delays of six months or more as shown in Table III.20. Even these comments, however, were tempered by their appreciation for the Program.

⁶ Thirty-seven (74%) of the survey respondents were from large counties. Of these, 18 reported delays in payment; 15 (83%) of those reporting delay were in the larger metropolitan counties, Multnomah, Washington and Clackamas. Staff reports that these larger counties, with multiple agencies, have experienced some of the longer delays in processing and payment.

**Table III.20
Participant Report of Delay in Payment**

Delay in Payment	Frequency (n=18)	Percent
1-3 months	9	50%
4-6 months	8	44%
7 months or more	1	6%

Participants did identify some areas for improvement in the Program. Many of the comments for improvement focused on reducing the payment delay, while others cited the wait for an appointment as an area for improvement. Increased funding and getting the information to more people were other suggestions offered. For many, 48%, no improvement was needed.

"Maybe just let people know that the funds don't get to the energy company right away."

"It would have been nice to have the weatherization and energy use reduction information you asked if I received."

"More funds are needed and more media attention to let people know that it is available."

"We need more funding, especially after the rate increase."

"They need more flexible hours like 'after hours' for those that work."

Other Issues

Several issues were raised by agency staff that point to the need for additional training or consultation by OHCS. Specifically, agency staff commented that:

- Restrictions in OEA render it not as useful as it might be. That is, the Program is restricted to those who have received at least a 15-day notice before they apply for assistance. As staff put it, "they have to be in crisis before we can process an application." Some customers, however, know they are going to be unable to pay their bill and call for assistance, but they must wait until they receive a past due notice. In essence, staff believes this provides a negative incentive to proactively address arrears.
- Since funding for payments is based on the surcharges collected in each area, agency staff perceives that there are disparities in allocations by county. All funds collected in the Company's territory is dispersed in that territory. In some instances where the contractor serves multiple counties, funds may be moved across counties based on need. The agency staff needs further clarification of how the allocation process occurs.

IV. Impact Analysis

This chapter examines Program impact on:

- Arrearage balances
- Participants' Health and Safety
- Collection Agencies Referral
- Participants' Mobility
- Participants' Potential Homelessness
- Participants Economic and Psychology Stress
- Low Income Energy Assistance Program Fund Availability.
- Late payments
- Collection Notices
- Shutoffs
- Bad debt

When a payment assistance program to low-income customers is instituted, a utility can avoid a range of potential costs to ratepayers. This section outlines the impact that this Program has had on alleviating those costs that occur primarily due to low-income customers' inability to pay their bills.⁷

We conducted a literature review of similar studies and found that the range on some of these costs may be quite wide. Some of these are quantifiable and some are not. In this study, we use secondary research when needed.

Reduction In Arrears

Energy assistance programs can greatly reduce the energy burden of low-income customers and possibly enhance their ability to “catch up” and start making payments on their own.⁸ Most published results on arrearage reductions cover energy efficiency low-income programs. For this Program, we assessed the reduction of arrears using data obtained from PacifiCorp. Portland General Electric had a major change in their customer accounting system that did not allow for data extraction. Details of the modeling approach are presented in Appendix D.

As Table IV.1 and Figure IV.1 show, the average arrears balance immediately prior to the OEA payment was \$378. After an average payment of \$207 is

⁷ Howatt and Oppenheim (1999) report, based on a study by R. Grosse for Wisconsin Public Service Co. in 1997 that the “adoption of Customer Assistance Advisors resulted in maintenance of write-offs around 0.25 percent of revenue, compared to an industry average of 0.51 percent. In addition, disconnections dropped to 24 per 10,000 compared to an industry average of 422 (and its own previous rate of around 120 per 10,000).”

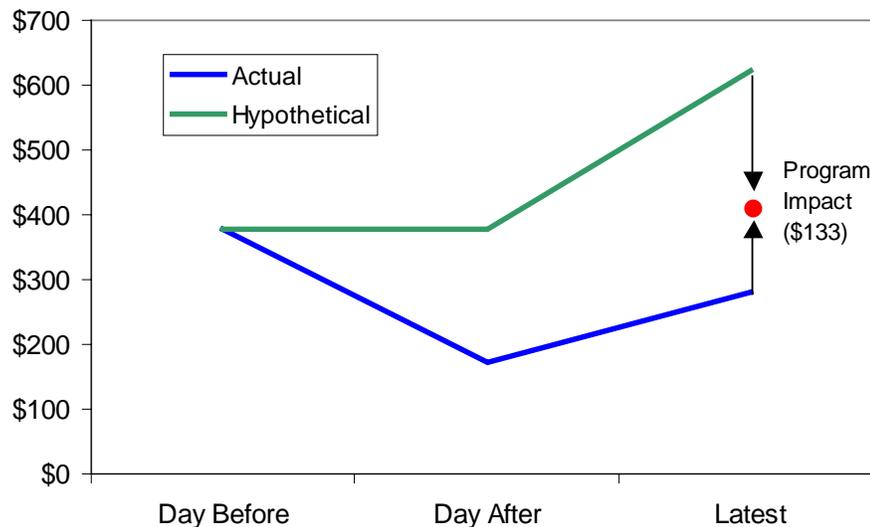
⁸ For example, in the Clark PUD experience with Bill Payment Assistance Program, they found customers increased their own payment from \$29 to \$52 monthly. Customers were “willing to pay more because they knew it was not hopeless.” (Weiss, 1998).

made by the Program, the average balance drops to \$171 immediately following payment. After some time had passed,⁹ the arrearage balance begins to climb, ultimately reaching a level of \$282. However, based on our model (see Appendix D), had the previous pattern continued (as evident from two years of pre Program data), the post participation arrears would have reached \$623. In other words, the actual arrears approximately one year after payment is estimated to be roughly \$340 below the level it would have been had the Program not existed. Of that amount, \$207 is directly the result of applying the payment from OEA and \$133 is due to customers' ability to "catch up" and start paying part of their own outstanding arrears.

**Table IV.1
Program Impact on Arrears**

Arrearage Balance	Amount
Average latest monthly arrear balance before OEA payment	\$378
Average OEA payment	\$207
Average balance the day after payment	\$171
Average latest monthly arrear balance after OEA payment	\$282
Hypothetical average balance had the Program not existed	\$623
Reduction of arrears	\$340
Annual reduction in arrears due to people "catching up"	\$133

**Figure IV.1
Program Impact on Arrears**



⁹ The exact time period varies by participant data availability. In most cases, though, it was approximately one year following receipt of payment by the utility.

One expense that all businesses experience is the time value of money. A dollar collected today is worth more than a dollar collected tomorrow. Thus when an initiative reduces the length of time it takes a corporation to collect its outstanding debts, benefits arise in accordance with the amount of debt and reduction in the time period that the debt is outstanding.

In computing the amount of late payment, we followed an approach analogous to Colton (1994b). We computed the “dollar lag day statistic,” for Program participants, which computed the amount owed to the Companies on a daily bases. The index was computed as:

$$Balance_t = Balance_{t-1} + Bill_t - Payment_t$$

where t represents a day in the analysis period and t-1 is the day before. These Balances were summed over the billing period analyzed for each participant, and an average daily balance was determined. The average daily balance declined by \$142 per person after participation in the OEA Program.

In assessing the value of this reduction in these amounts, a discount rate is needed. The debate over the appropriate rate has been around almost as long as economists have.¹⁰

Unpaid balances are usually written off and added to the utility’s rate base. If paid and paid on time, they represent a benefit to the utility and its ratepayers. We opted for the use of the utilities’ cost of capital as the appropriate rate for valuing this reduction in outstanding balances as this is the rate that represents the cost of obtaining funds for the utility. The earlier collection of debt eliminates the need for such acquirement, thus it saves the utility their weighted cost of capital. The calculations of the aggregate benefit for the utility for reducing outstanding debt are illustrated in Table IV.2. The \$142 average reduction in the daily account balance per participant over approximately a year before and after Program participation saved the companies around \$13 per participant.¹¹ However, since payments to the utilities have been experiencing two to three month delays, the \$13 annual amount was reduced to approximately \$11 over a 10 month-period.

¹⁰ Roger Colton presents the traditional arguments for the various discount rates from treasury bills, to prime rate, to company cost of capital, to consumer lending rate. (Colton 1994)

¹¹ We assumed about 9% cost of capital for both utilities.

**Table IV.2
Annual Carrying Cost Savings Due to OEA Program**

Decrease in Average Daily Balance	\$142
Decrease in Annual Carrying Cost Per Participant	\$12.92
Adjusted to 10 month-periods	\$10.77
Aggregate Decrease for all 26,411 Participants	\$284,402

Reduction in Collections Costs

Utilities often incur significant costs in attempting to collect debt from customers. These collection activities include phone calls, letters, customer visits, and collections agencies' costs.

Based on a billing analysis of 692 random PacifiCorp OEA participants, changes in several collection procedures was analyzed. These categories include: generating internal cut-off notices, past due notices, reminder notices, assignment to collection, termination (resulting in account closure) and shut-off (for a duration of two or more days).¹² Table IV.3 illustrates the decline in each of the various analyzed indices. For example, the number of cutoff notices decreases by an average of 0.63 per participant.

Aggregate programmatic impacts result from extrapolating the above results to the entire participant population of 26,411. Table IV.3 displays the extrapolated aggregate annual decline in incidents (e.g., for the Program as a whole, number of cutoff notices dropped by 16,703 annually, the product of 0.63 and 26,411). The per-incident estimated cost figures for cutoff, past due, reminder, and final notices,¹³ are then used to assess the associated cost savings.

Collection Agencies

One significant cost associated with collections is the assignment of the debt to a credit agency. In a study for conducted for Columbia Gas of Ohio¹⁴ the average commission cost was estimated at 33.5% on collecting only 20% of

¹² The analysis was based on consistent periods before and after participation. For example, if 20 months of billing data were available prior to participation and 10 months after, the analysis was truncated at 10 months pre- and post- participation. The incidence was adjusted post-analysis to yield annual values.

¹³ Colton (1994) and Howat and Oppenheim (1999).

¹⁴ Monte de Ramos (2002).

the referred debt. As Table IV.3 shows, a total of 791 fewer cases were referred to collection agencies. We estimated the *net* impact to be \$86,153.¹⁵

Shutoffs

In determining the cost savings to the utilities of reduced shutoffs, we reviewed the filed schedules with the Oregon Public Utility Commission. For both PacifiCorp and PGE, the estimated cost to reconnect a customer during business hours is \$25.¹⁶ The total savings due to the Program is estimated at \$72,997.

Table IV.3
Annual Savings Associated with OEA Participation

Incident	Annual Decline Per Participant	Aggregate Annual Decline	Per-Incident Cost	Total Cost Savings
Cutoff Notices	0.63	16,703	\$0.75	\$12,527
Final Notices	0.93	24,569	\$0.75	\$18,426
Assigned to Collection	0.03	791	\$297	\$86,153
Shutoff	0.11	2,920	\$25	\$72,997
<i>Total</i>				<i>\$190,104</i>

Other Benefits

Other benefits of low-income energy assistance programs include reduced levels of economic stress on the participating customers, reduced mobility and homelessness, and increased health and comfort.

¹⁵ The average debt of these accounts was \$297, for a total of \$234,964. Absent the Program, this amount would have been referred to an agency and approximately 20% would have been recovered (\$46,993). The collection agency would have charged about a third in commission fees, leaving \$31,328 in the Utilities accounts. How much of the decrease in the amount of referral would actually be collected is very difficult to tell at this point. We assumed that half would be collected without referral to a collection agency (\$117,482). To summarize, we estimated that the amount collected with the program to be \$117,482 and without the program to be \$31,328, for a net impact of \$86,153.

¹⁶ Schedule 91 (April 12, 2002) for PacifiCorp and Sheet 300 (January 1, 2002) for PGE. This estimate is significantly lower than other studies (Pye, 1996, Colton, 1994, and Tellus, 1995)

Reduced Mobility

When energy costs are high, household funds are diverted from other uses including food, medical care, and rent. In some cases, high energy bills may force occupants to move out of their current dwelling either to lower energy costs or to avoid paying an energy bill. In other cases, they may be evicted for inability to pay their rent or for having services disconnected. Not only are frequent moves expensive and inconvenient, they have other extremely serious effects. These include increasing school dropouts and inability to hold a job. Energy assistance and weatherization programs lower the energy vulnerability of the participating low-income families and their forced mobility.¹⁷ Mobility can be especially hard for the elderly and families with children. The value of reduced mobility can be as high as \$1,460 per household.¹⁸ In another national study, the cost of moving for low-income families was found to be between 10% and 20% of annual income.¹⁹ These costs include moving expenses, rental deposits, bank fees, telephone connections, etc.

Unfortunately, due to lack of time and funds, we did not investigate the change in mobility for this Program. However, we are certain that the value is quite significant. We decided to follow a conservative approach of assuming only \$700 per move (less than mid point of the Oak Ridge study and inline with Skumatz (1998)). Further, we assumed only about 15% reduction in mobility.²⁰

Often when a customer moves, the utility has to read the meter prior to assigning a new account. The benefit to the utilities is estimated at just over to \$22,000. The combined benefits amount to over \$660,000 of benefits.

Reduced Homelessness

Clearly a strong link exists between becoming homeless and inability to pay bills. In a study of homelessness in Philadelphia, 7.9% of persons living in emergency shelters indicated that utility termination was the reason for their homelessness. Respondents to a homelessness study in Northern Kentucky

¹⁷ Khawaja (2001). In Indiana, as a result of participating in the Residential Energy Assistance Challenge Program, the participants received energy education that lowered their energy consumption by 12.5%, reduced their mobility by 52%, and reduced school absences by 18%.

¹⁸ Oak Ridge (2002)

¹⁹ Howat and Oppendhiem (1999).

²⁰ Extremely conservative given the 52% found in Khawaja (2001). Furthermore, a study by the National Social Science and Law Center found that roughly 12% of the total population changed residences every year, while the low-income customer proportion was 23%. (Colton, 1994). We used the 23% and assumed that 15% of those, or approximately 3.5 of the total, witness reduced mobility.

indicated that utility shutoff was among the primary causes of homelessness.²¹ No further information was available on attempts to quantify this impact.

Improved Health

Avoidance of shutoff clearly has some serious health implications. High energy burden can force low-income customers into making difficult decisions regarding their very limited funds. No information is available on the monetary impact of this undoubtedly important benefit.

Decreased Stress

Life for low-income families can be extremely overwhelming. On a day-to-day basis, critical needs compete over very finite resources, and tradeoffs have to be made. Programs like this one are invaluable to people in need.

Increased LIEAP Assistance

LIEAP requires leveraged dollars from other sources. We believe that the presence of OEA in Oregon may have provided an incentive for increased LIEAP funding. At this point, we do not have access to the data to allow an assessment of this impact.

²¹ Howat and Oppendhiem (1999).

V. Cost-Effectiveness

As part of this evaluation, we conducted an analysis of the Program costs and benefits from the following perspectives.

The Companies and Ratepayers

This approach analyzes Program costs and benefits from the perspective of PacifiCorp and PGE. Program benefits include

- Reduction in arrears
- Reduction in notices
- Reduction in terminations
- Reduction in mobility
- Time value
- Reduction in collections
- Reduction in shutoffs

Program costs include administration, Program delivery, and actual payments made to participants. The payment portion of the Program is basically a transfer from ratepayers in general to low-income customers and was included as both a benefit and a cost.

Societal/Oregon

This approach examines Program benefits and costs from a larger perspective, i.e., that of the society as a whole. On the benefit side, it includes all the benefits above plus:

- Increased LIEAP funding

In addition, the reduction in mobility is measured from the participants' perspective as well as the utilities. The cost side of the equation is identical to that of the utilities.

Program Costs

Table V.1 summarizes the costs associated with the Program. The costs cover both 2001 and 2002 (January through June).

**Table V.1
Program Costs²²**

Category	Total	Percent
OHCS Administration	\$502,040	5%
Agency Administration	\$1,008,170	10%
Program Delivery	\$1,394,533	14%
Payments	\$6,943,617	71%
Total Cost	\$9,848,360	

Results

Cost-effectiveness analysis is customarily summarized using Benefit-Cost Ratios (B/C). B/C ratios of 1.0 are the “breakeven points” where what you receive back in benefit is just equal to the investment. Values above 1 indicate profitable investment (larger values indicate more profitable the investments).

As Table V.2 shows, the Program is cost effective from the societal perspective with benefit/cost ratio 1.03. From the utility perspective, the Program is slightly short of cost effectiveness with a B/C ratio of 0.96. The reader should keep in mind that there are significant other benefits that are not quantifiable or are unavailable at this time and, therefore, are not included in this analysis. Had they been included, we believe that cost effectiveness of the Program would have increased significantly. For example, as mentioned above, LIEAP requires leveraged dollars from other sources. We believe that the presence of OEA in Oregon may have provided an incentive for increased LIEAP funding. At this point, we do not have access to the data to allow an assessment of this impact. The analysis below assumes *no* impact on LIEAP at all. Just about any impact would have increased the B/C ratio to over 1.²³

This analysis assumes that the impacts only last for one year. However, it is conceivable that the Program impacts are longer lasting than that. Unfortunately, there is very little research conducted beyond the first post-Program year. We explored several scenarios to determine impacts on cost effectiveness. We assumed that only half the impact occurs in year two. Year three experiences another 50% deterioration of impact. For years 2 and 3, the Program is cost-effective from the utility and the societal perspectives.

²² Utilities also incur some administrative costs related to the Program. Estimates were not available for inclusion in the analysis. These costs are not expected to be significant.

²³ Oregon LIEAP allocation increased by \$170,222, \$287,596, and \$157,603 in 2000, 2001, and 2002, respectively. OEA most definitely has caused part of this increase. However, the exact attribution to OEA is impossible to measure.

**Table V.2
Cost Effectiveness Results**

	Utility	Societal/Oregon
Benefits		
Reduction in Arrears	\$8,979,892	\$8,979,892
Time Value	\$284,402	\$284,402
Reduction in Notice	\$30,954	\$30,954
Reduction in Collections	\$86,153	\$86,153
Reduction in Shutoffs	\$72,997	\$72,997
Reduction in Mobility	\$22,779	\$660,605
Total Benefits	\$9,477,177	\$10,115,003
Costs		
OHCS Administration	\$502,040	\$502,040
Agency Administration	\$1,008,170	\$1,008,170
Program Delivery	\$1,394,533	\$1,394,533
Payments	\$6,943,617	\$6,943,617
Total Costs	\$9,848,360	\$9,848,360
B/C Ratio		
Year 1	0.96	1.03
Year 2	1.40	1.50
Year 3	1.61	1.71

Appendix A. References

- Colton, R. (2000) Direct Testimony and Exhibits of Roger D. Colton, on behalf of Spokane Neighborhood Actions Programs, Spokane Washington before the Washington Utilities and Transportation Committee, Washington Utilities and Transportation Commission vs. Avista Corporation, Docket Nos. UE-991606/UG-991607.
- Colton, R. (1994) “Identifying Savings Arising from Low-Income Programs.” July.
- Colton, R. (1994b) “Weatherization Assistance Program Evaluation.” July.
- Howat, J. & Oppenheim, (1999). Analysis of Low-Income Benefits in Determining Cost-Effectiveness of Energy Efficiency Programs. http://www.consumerlaw.or/Energy/Energy&Utility/non_energy_benefits.htm
- Khawaja, M. (2001). Indiana REACH Evaluation. May. Portland, OR: Quantec, LLC.
- Monte de Ramos, K. (2002). Lessons Learned from Columbia Gas of Ohio’s WarmChoice Program. KMDR Research.
- Oak Ridge National Laboratory. (2002). Nonenergy Benefits from The Weatherization Assistance Program: A Summary of Findings from the Recent literature. April.
- Oppenheim, J. & Macgregor, T. (2001). The Economics Of Low-income Electricity Efficiency Investment. Prepared for Entergy Corp.
- Peters, J., McRae, M., Seiden, K., & Dimestrosky, S. (1999). Draft Report. Non-Energy Benefits accruing to New England Power Service Company From the Appliance Management Program.
- Weiss, S. (1998) “Low-Income Bill Payment Assistance Programs pay for Themselves Through Reduced Utility Costs.”

Appendix B. Gap Analysis

PGE

County	Total Customers	Total Eligible Customers	Program Participants	Remaining	% Eligible Remaining
Multnomah	220,927	37,637	6,037	31,600	84%
Washington	178,296	23,752	3,821	19,931	84%
Clackamas	134,517	18,066	2,760	15,306	85%
Marion	91,834	20,281	2,517	17,764	88%
Yamhill	20,061	3,783	475	3,308	87%
Polk	2,486	449	13	436	97%
Columbia	49	9	4	5	56%

PacifiCorp

County	Total Customers	Total Eligible Customers	Program Participants	Remaining	% Eligible Remaining
Jackson	66,293	15,918	1,426	14,492	91%
Multnomah	59,795	10,187	1,866	8,321	82%
Linn	35,955	8,714	1,331	7,383	85%
Douglas	32,563	9,156	917	8,239	90%
Josephine	31,555	9,800	646	9,154	93%
Deschutes	31,464	6,272	728	5,544	88%
Klamath	26,322	7,976	583	7,393	93%
Benton	24,766	3,816	734	3,082	81%
Coos	20,569	5,934	488	5,446	92%
Clatsop	17,566	3,966	288	3,678	93%
Umatilla	15,750	4,048	318	3,730	92%
Polk	9,930	1,794	215	1,579	88%
Marion	9,022	1,992	202	1,790	90%
Lincoln	8,914	2,371	198	2,173	92%
Jefferson	6,779	1,902	199	1,703	90%
Lane	6,428	1,363	159	1,204	88%
Crook	5,744	1,515	168	1,347	89%
Hood River	4,843	1,208	116	1,092	90%
Wallowa	3,654	1,009	64	945	94%
Lake	1,802	598	54	544	91%
Sherman	607	183	17	166	91%
Wasco	457	115	7	108	94%
Gilliam	318	82	5	77	94%

County	Total Customers	Total Eligible Customers	Program Participants	Remaining	% Eligible Remaining
Tillamook	88	23	0	23	100%
Morrow	22	6	0	6	100%

Appendix C. Interview Guides and Surveys

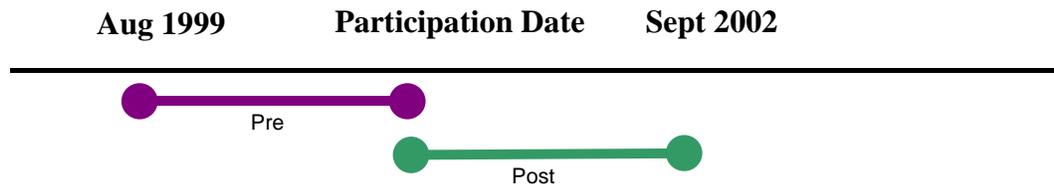
This appendix consists of the following documents, attached electronically. These will be incorporated fully into the final hard copy version of the report.

- Agency Staff Survey instrument
- State Staff Interview Guide
- OEA Participant Survey Screen Shots

Appendix D. Arrearage Analysis

The evaluation of the program impact on arrears was based on billing data for 692 randomly selected PacifiCorp OEA participants. Portland General Electric had gone through a major change in their customer accounting system, thus not allowing for long-term historical inquiries. Figure D.1 displays coverage of the data during pre and post program periods.

**Figure D.1
Data Timeline**



The following regression model was used to compare pre and post period arrears accounting for weather and rate differences:

$$\text{Arrears} = f(\text{Weather}, \text{Rates}, \text{Program Participation})$$

The regression model estimates the program impact as the difference between the actual arrears and what arrears would have been *had the program not existed*. The following section provides the mathematical details of estimating the program impacts:

$$\begin{aligned} \text{Arrears}_{it} = & \text{Constant} + \beta_1 \text{AvgDailyHDD}_{it} + \beta_2 \text{AvgDailyCDD}_{it} \\ & + \beta_3 \text{LagArrear}_{it} + \beta_4 \text{Rate}_{it} + \beta_5 \text{Period}_{it} + \varepsilon_{it} \end{aligned}$$

Arrears_{it}: Average daily arrearage calculated as the amount accumulated during each billing month divided by the number of days in the billing period for customer *i* during month *t*.

AvgDailyHDD_{it}: Average daily heating degree-days (HDD), calculated by monthly degree-days divided by the number of days in the billing period. HDD is computed as $\max \{65 - \text{average daily temperature}, 0\}$

<i>AvgDailyCDD_{it}</i> :	Average daily cooling degree-days (CDD), calculated by monthly degree-days divided by the number of days in the billing period. CDD is computed as $\max \{ \text{average daily temperature} - 65, 0 \}$
<i>LagArrear_{it}</i> :	Average daily arrearage for the previous billing period.
<i>Rate_{it}</i> :	Retail electricity rate (\$/kWh)
<i>Period_{it}</i> :	Binary variable taking a value of 1 if the monthly billing date is after participation date, and zero otherwise.

Based on the above econometric model, the interpretation of the slope coefficients as follows:

- β_1 :** Average change in the amount of average daily arrearage due to one unit change in the daily heating degree-days, assuming all other factors affecting average daily arrearage are held constant.
- β_2 :** Average change in the amount of average daily arrearage due to one unit change in the daily cooling degree-days, assuming all other factors affecting average daily arrearage are held constant.
- β_3 :** Average change in the amount of average daily arrearage due to one dollar change in the average daily arrearage corresponding to previous month, assuming all other factors affecting average daily arrearage are held constant.
- β_4 :** Average change in the amount of average daily arrearage due to one dollar change in retail electricity rate (\$/kWh), assuming all other factors affecting average daily arrearage are held constant.
- β_5 :** Average difference in the amount of average daily arrearage between pre and post program periods.

Regression Results

As the model in Table D.1 shows, the program impact (above and beyond the OEAOEA payment) is equal to \$0.365 /day, or approximately \$133 annually. Other than the rates impact with its incorrect sign (not statistically significant though), the rest of the coefficients had the expected signs.

Table D.1
Parameter Estimates

Variable	Parameter Estimate	Standard Error	t-Value	Pr > t ²⁴
Intercept	0.23579	0.53664	0.44	0.6604
LagArrear	0.00344	0.00757	0.45	0.6494
Electricity Rate	-4.21639	8.99508	-0.47	0.6355
AvgDailyHDD	0.04046	0.00443	9.14	<.0001
AvgDailyCDD	0.04656	0.01622	2.87	0.0041
Period	-0.36555	0.08002	-4.57	<.0001

²⁴ Pr > |t| values less than 0.05 indicate statistical significance at the 95% level or better.

Appendix E. Context for Low-Income Programs

Low-income energy assistance programs nationwide, whether mandated by state law or funded by private utilities, employ a variety of approaches to ensure both gas and electric services to states' low-income residents. In the wake of the recent wave of utility deregulation and restructuring, the Legislative Transition Task Force of Virginia Electric Utility Restructuring Act evaluated the structure and quantity of low-income programs offered in 33 states as of September 2000.²⁵ The following is a list and brief description of the most abundant program models:

- Low-Income Rate Discount Programs
 - Straight discounts – fixed amounts off the participant's total monthly bill
 - Customer charge waivers – fixed charges for such things as metering and billing are waived
- Discount/Credit Program Based on a Percentage of Income
 - Discounts or rate credits based on a percentage of the participant's income rather than a fixed, predetermined amount
- Bill Restructuring Programs
 - Allows participants to negotiate a personal payment plan or modify their payment plan in any way
- Percentage of Income Payment Plans (PIPP)
 - Under a PIPP, a household is obligated to pay a percentage of their energy bill (based on the household's income) while program funds pay the balance of the bill.
- Arrearage Forgiveness Programs
 - Percentages of accumulated arrears are forgiven pending consistent payment of current energy bills
- Bill Assistance Programs
 - Any form of direct monetary assistance, paid either directly to the utility or to the participant with the intent of abating the cost of energy bills

²⁵ Reference: <http://dls.state.va.us/elecutil.htm>; Legislative Transition Task Force of the Virginia Electric Utility Restructuring Act, Established by Senate Bill 1269 (2000).

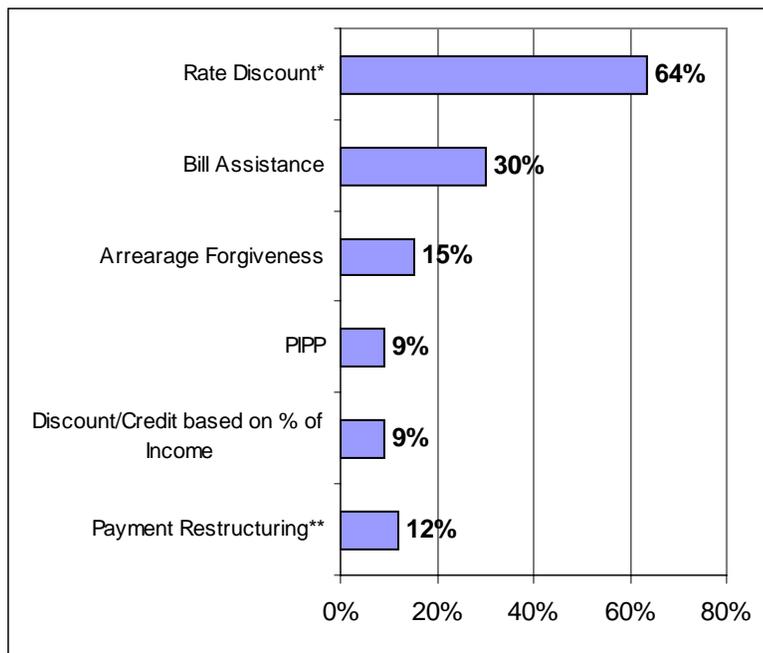
→ Weatherization Assistance

- Programs that provide free home weatherization measures and/or energy education

It is important to note that these program models are far from mutually exclusive. For example, the state of New York provides a *Low Income Customer Assistance Program* that allows low-income customers to negotiate a personal payment structure plan, as well as receive home weatherization and arrearage forgiveness. Such programs are counted in more than one of the aforementioned categories, as category designations were based on all services offered by the existing program.

Figure I.1 shows the Task Force evaluation’s findings. The most abundant program model – rate discounts for low-income customers – is offered in 64% of the 33 states reviewed. The varying frequencies of program models throughout the states are provided in the following table.

Figure I.1
Program Model Frequencies
(Based on Review of 33 States)



* Total includes discount/credit programs based on a percentage of participants' income; as such programs also constitute a more general "rate discount"

** Total also includes PIPP; as such program were also determined to constitute a specific form of payment restructuring